Appendix F-2: Process Notification Letters

Appendix F-2 A: Scoping Phase

Zitholele Consulting (Pty) Ltd
Reg. No. 2000/000392/07
PO Box 6002, Halfway House, 1685
South Africa
Building 1, Magwa Crescent, Maxwell Office Park,
Cnr Allandale & Maxwell Drive, Waterfall City, Midrand
Tel 011-207-2060
Fax 086-676-9950
Email: publicprocess@zitholele.co.za

06 June 2014

Dear Stakeholder

Environmental Impact Assessment and Waste Management License Application for the proposed Retrofitting of a Flue Gas Desulphurisation (FGD) system at Medupi Power Station (DEA Ref. No.: 14/12/16/3/3/3/110)

An Integrated Environmental Impact Assessment (EIA) and Waste Water Management License (WML) Application Process are being undertaken for the proposed Retrofitting of a Flue Gas Desulphurisation (FGD) system to the Medupi Power Station. Medupi Power Station is located west of Lephalale, Limpopo Province.

The proposed operation of FGD at Medupi Power Station will produce gypsum, sludge and ash which are to be disposed of in an environmentally responsible manner. Retrofitting of FGD technology will help with the removal of sulfur dioxide from the exhaust flue gases of the Medupi Power Station operations. Each of the six (6) 800MW coal fired steam electric generating units will be retrofitted with FGD technology. Medupi Power Station currently has Environmental Authorisation for the construction of the Power Station and identified associated infrastructure. The Power Station is currently in the last phase of construction.

It is envisaged that the proposed FGD project will include the following components:

- Wastes from the FGD will be stored, handled and then disposed of at the existing ADF with the ash from the power station;
- A conveyor belt for the transportation of waste to the ash disposal facility (ADF); and access and maintenance roads to the site ADF;
- Water treatment will be carried out within a Zero Liquid Discharge plant;
- Water will be abstracted from the existing reservoir for the FGD process;
- Associated infrastructure will be constructed on site.

Zitholele Consulting (Pty) Ltd has been appointed as independent Environmental Assessment Practitioner by Eskom Holding SOC Limited to undertake the EIA, WULA and WML processes.

This letter serves to invite you to register as an Interested and/or Affected Party (I&AP) and to participate in this environmental process. To register as an I&AP, please use the registration and comment sheet enclosed in the Background Information Document. Please return the comment sheet at the latest by 07 July 2014 for this initial public notification process, although submissions and public participation will continue throughout the EIA process.

Kindly send your reply to Nicolene Venter / Bongani Dhlamini at the Public Participation Office – details are provided on the registration and comment sheet. You are also welcome to contact Zitholele Consulting on (011) 207-2060, should you require any additional information at this stage.

Yours sincerely

Nicolene Venter
Snr Public Participation Practitioner

REGISTRATION AND COMMENT SHEET **Integrated Environmental Impact Assessment and Water Use License Application for a proposed Retrofitting Flue Gas Desulphurisation (FGD) at Medupi Power Station** **(DEA Ref.No.: 14/12/16/3/3/3/110)** (inserted in the Background Information Document) **June 2014**	**EIA Public Participation Office** Nicolene Venter / Bongani Dhlamini Zitholele Consulting (Pty) Ltd P O Box 6002, Halfway House, 1685 Tel: (011) 207 2060 Fax: 086-676-9950 Email: publicprocess@zitholele.co.za

Please complete by Monday 07 July 2014 and return to the EIA Public Participation Office (as above)

TITLE		**NAME**	
SURNAME			
ORGANISATION or PROPERTY INFORMATION			
POSTAL ADDRESS			
		POSTAL CODE	
TEL NO		**FAX NO**	
CELL NO			
E-MAIL ADDRESS			

Please **formally register me as an interested and/or affected party (I&AP)** so that I may receive further information and notifications during the Environmental Impact Assessment process	**YES**	**NO**
I would like my notifications by	Letter (mail)	
	Email	
	Fax	
	Telephone	
I would like to receive documents for comment as follows:	By email	
	On CD	

In terms of Regulations GNR 543 - 546 – Government Gazette No. 33306 of 18 June 2010 ***(EIA process regulations)*** I disclose below any direct business, financial, personal or other interest that I may have in the approval or refusal of the application:

……

……

COMMENTS (please use separate sheets if you wish)

I suggest that the following issues of concern be investigated in the Environmental Impact Assessment:

……

……

……

Please register the following colleagues/friends/neighbours on the project database:

……

THANK YOU FOR YOUR CONTRIBUTION

Zitholele Consulting (Pty) Ltd
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06 June 2014

Thobela Mokgathatema

Kelo ya Seabe sa Tikologo le Kgopelo ya Laesense ya Taolo ya Ditšhila ya Tselatshepetšo ya Tsenyogape yeo e šišintšwego ya Hlwekišo ya Gase ya Tšhimini (FGD) Setešieneng sa Medupi sa Mohlagase
(DEA Ref. No.: 14/12/16/3/3/3/110)

Tshepetšo ya Kelo ya Seabe sa Tikologo yeo e kopantšwego (EIA) le Kgopelo ya Laesense ya Taolo ya Meetse a Ditšhila di tla dirwa go Tsenyogape yeo e šišintšwego ya tselatshepetšo ya Hlwekišo ya Gase ya Tšhimini (FGD) go Seteišene sa Medupi sa Mohlagase. Seteišene sa Medupi sa Mohlagase se bodikela bja Lephalale, Profenseng ya Limpopo.

Tshepedišo yeo e šišintšwego ya FGD Seteišeneng sa Medupi sa Mohlagase e tla tšweletša tšipisiamo, leraga le molora tšeo di swanetšwego go tšhollwa ka tsela ya maikarabelo a tikologo. Go tsenyagape ga theknolotši ya FGD go tla thuša ka go tloša salfa taeoksaete go tšwa go digase tša tšhimini tša ditshepedišo tša Seteišene sa Medupi sa Mohlagase. Ye nngwe le ye nngwe ya diyuniti tše tshela (6) tša 800MW tšeo di tšweletšago mohlagase wa muši wo o tukišwago ka malahla di tla tsenywa gape theknolotši ya FGD. Seteišene sa Medupi sa Mohlagase ga bjale se na le Tumelelo ya Tikologo ya go aga Seteišene sa Tikologo le sebopego seo se amanago le sona seo se laeditšwego. Seteišene sa Mohlagase ga bjale se legatong la mafelelo la kago.

Go lebeletšwe gore protšeke ye e šišintšwego ya FGD e tla akaretša dikarolwana tše di latelago:

- Ditšhila go tšwa go FGD di tla bolokwa, tša swarwa gomme tša tšhollwa lefelong leo le lego gona la ADF le molora go tšw go seteišene sa mohlagase;
- Lepanta la phetišo la tshepetšo ya ditšhila go lefelong la go tšholla molora (ADF); le phihlelelo le tlhokomelo ya ditsela go ya saeteng ya ADF;
- Tlhokomelo ya meetse e tla dirwa planting ya Go ntšha Meetse ka Lefela;
- Meetse a tla ntšhwa go tšwa letangwaneng leo le le go gona la tshepetšo ya FGD;
- Go tla agwa sebopego seo se amanago le se saeteng.

Zitholele Consulting (Pty) Ltd e thwetšwe bjalo ka Sešomi sa go ikemela ka noši sa Kelo ya Tikologo ke Eskom Holding SOC Limited go dira ditshepetšo tša EIA, WULA le WML.

Lengwalo le le go mema go tlo ingwadiša bjalo ka Mokgatlo wo o na go le Kgahlego le/goba o Amegago (E&AP) le go kgatha tema ka go tshepetšo ye ya tikologo. Go ingwadiša bjale ka I&AP, o kgopelwa go diriša ngwadišo le letlakala la ditshwaotshwao tšeo di loketšwego ka gare ga Tokumente ya Tshedimošo ya Kakaretšo. O kgopelwa go bušetša letlakala la ditshwaotshwao pele ga 07 Julae 2014 go tshepetšo ye ya mathomo ya tsebišo ya setšhaba, le ge dithomelo le bokgathatema bja setšhaba di tla tšwela pele nako ka moka ya tshepetšo ya EIA.

O kgopelwa gore o romele phetolo ya gago go Venter / Bongani Dhlamini Kantorong ya Bokgathatema bja Setšhaba – dintlha di filwe godimo ga ngwadišo le letlakala la ditshwaotshwao. O dumeletšwe gape go ikopanya le Zitholele Consulting go (011) 207-2060, ge o ka ba le tshedimošo yeo o ka e hlokago mo legatong le.

Ka boikokob etšo

Nicolene Venter
Mošomi wo Mogolo wa Bokgathatema bja Setšhaba

Nicolene Venter

From: Patiswa Mnqokoyi
Sent: 06 June 2014 04:23 PM
Subject: Environmental Authorisation for the proposed Medupi Power Station Flue Gas Desulphurisation
Attachments: BID - English.pdf; BID Map.pdf; Notification Letter - English.pdf; Comment Sheet - English.docx

Importance: High

Dear Stakeholder,

Please find attached a Notification letter, Background Information Document and Comment Sheet to announce to you the Environmental Impact Assessment (EIA) that is being undertaken on behalf of Eskom Holdings SOC Limited.

Please be so kind as to complete the attached comment sheet. Sending a completed sheet back to us will indicate that you would like to be involved and that we should send further information to you.

The documents attached are available in Sepedi should you wish to receive copies, please let us know. Alternatively you are welcome to visit our company website to download the information: http://www.zitholele.co.za/eia-for-medupi-fgd.

Please watch your local press as advertisements announcing the EIA are being published. Our team is also putting up site notices and handing out Background Information Document.

We will appreciate your assistance to "spread the word" about this EIA. Please forward this to your colleagues, other members of our organization, neighbours and friends.

Should you have any questions, please do not hesitate to contact us.

Kind Regards,

Patiswa Mnqokoyi [Cert. Public Relations and Marketing]
Divisional Administrator
Building 1, Maxwell Office Park, Magwa Crescent West, cnr Allandale Road & Maxwell Drive, Waterfall City, Midrand, RSA
T: +27 11 207 2060 **D:** +27 11 207 2074 **F:** +27 86 676 9950 **C:** +27 72 184 8653
E: patiswam@zitholele.co.za **W:** www.zitholele.co.za

Environmental Impact Assessment and Waste Management License Application for the proposed Medupi Power Station Flue Gas Desulphurisation

DEA Ref: 14/12/16/3/3/3/110

UPDATED BACKGROUND INFORMATION DOCUMENT

March 2015

This updated Background Information Document (BID) provides Interested and Affected Parties (I&APs) with information on the Environmental Impact Assessment (EIA), Waste Management License Application (WMLA) and Water Use License Application (WULA) being undertaken by Zitholele Consulting for the proposed Flue Gas Desulphurization retrofitting technology at Medupi Power Station. This document is intended to provide Interested and Affected Parties (I&APs) with:

- A concise overview of the proposed Medupi Power Station Flue Gas Desulfurization (FGD) Retrofit Project;
- Manner in which I&APs can become involved and provide input into the Environmental Authorisation (EA) Process; and
- Status quo of the various EA Processes including the EIA, WMLA and WULA Processes.

This updated BID also provides I&APs with the opportunity to:

- Register as a stakeholder in the public participation process; and
- Submit comment on and/or raise issues of concerns regarding the proposed project.

The purpose of an EIA is to identify and evaluate potential impacts, to recommend measures to avoid or reduce negative impacts and to enhance positive impacts. The licensing of waste management activities through a WMLA is the primary means by which these activities are regulated. The decision-making authority for both the EIA and WML Application is the Department of Environmental Affairs (DEA). The licensing authority for the WULA is the Department of Water and Sanitation (DWS)

Should you register as a stakeholder, you will be included in the stakeholder database and receive further documents for review and comment. **To raise your concerns and to submit comments, complete the enclosed registration sheet, write a letter, call or email the public participation office (contact details provided on the registration sheet included)**.

BACKGROUND

Eskom Holdings SOC Ltd (hereinafter Eskom), South Africa's power utility, is tasked with providing electricity in an efficient and sustainable manner. The power utility supplies the majority of South Africa's electricity as well as approximately 45% of the electricity used in Africa.

The activities carried out as part of the electricity generation and distribution processes often generate wastes in various forms (e.g. exhaust flue gases from coal fuelled power stations). The proposed Medupi Power Station Flue Gas Desulphurisation (FDG) Retrofit Project is intended to remove up to 95% of the Sulphur Dioxide (SO_2) from the exhaust flue gases released at the Medupi Power Station.

The proposed Medupi Power Station FGD Project will consists of the retrofit of FGD technology onto six (6) x 800 megawatt (MW) coal fired steam electric generating units. The proposed FGD Project will also entail the installation of a wet limestone open spray tower FGD system to each of the operating units (absorber). It is anticipated that the proposed FGD will be fully operational within 6 years from the date of commercial operation of the first generating unit. The footprint of the proposed FGD infrastructure will fall within the borders of the Limpopo Province, with the Medupi Power Generation Precinct located approximately 15km west of the town of Lephalale.

NEED FOR THE PROPOSED PROJECT

One of the by-products that are generated by the burning of pulverized coal includes flue gases. In order to comply with the provisions of the National Ambient Air Quality Standards published in Government Gazette 32816 (dated 24 December 2009), a significant reduction in SO_2 emissions is required.

Environmental Authorisation has been granted for the proposed Medupi Power Station and associated infrastructures. However, the current project will focus on the FGD retrofit which necessitates additional infrastructure within the Medupi Power Station footprint, and possibly outside of the current footprint.

The proposed FGD will essentially function to abate the gaseous emissions, specifically sulphur dioxide emissions, which are released by the Power Station. Once the FGD has been commissioned, Medupi Power Station will be able to comply with the emission standards.

It is anticipated that the proposed FGD facility (excluding any additional waste disposal facilities) will have a footprint of between 0.5 and 1 hectare, falling within the current Power Station footprint only. The facility will include associated infrastructure components which may consist of:

- Storage/stockpiling, handling and disposal of wastes: gypsum, chemical salts and chemical sludge.
- Storage/stockpiling and handling of limestone.
- Treatment of waste water within a Zero Liquid Discharge (ZLD) system.
- Services including electricity, drainage (incl. dirty water dam) and water supply in the form of power lines, pipelines, and associated infrastructure.
- Access and maintenance roads where applicable.
- Rail siding and associated infrastructure.
- Process and electrical buildings.

All of the abovementioned components, excluding potential waste disposal facilities, will be constructed and operated within the existing Medupi footprint. The Power Station was designed to be "Wet FGD ready" and the FGD infrastructure is accommodated on site.

The waste disposal facility required for the FGD waste streams was initially planned for on-site, however, the required waste disposal facilities are currently under investigation and may be located outside of the Medupi Power Station footprint.

Zitholele Consulting has been appointed by Eskom to carry out the following Environmental Authorisation (EA) Processes for the proposed FGD retrofit project:

- Environmental Impact Assessment (EIA);
- Waste Management License Application (WMLA); and
- Water Use License Application (WULA).

Subsequent to the initiation of the above processes, the project team identified additional assessments that need to be included for consideration within the environmental authorisation application. Therefore, the following will also form part of the project scope of work:

- Assessment of the aspects and impacts associated with the construction of a rail yard at the Medupi Power Station. Limestone is envisioned to be transported by rail to the Medupi Power Station. The rail yard will be located predominantly within the existing Medupi Power Station footprint.
- Investigation of the feasibility of the alternatives to dispose of the FGD wastes at on-site or off-site facility/ies. This includes engagement with both the Department of Environmental Affairs and the Department of Water and Sanitation.

The waste classification of the various waste streams has informed the selection of feasible alternatives. The selection of a preferred disposal method will rely on the outcome of discussions with the DEA Waste Directorate.

- Site selection process for one or more Waste Disposal Facilities at which to dispose the wastes that will be generated by the FGD operation. This will entail the identification of, at most, three (3) site alternatives. Each alternative will be assessed by a range of specialists and they will provide sensitivity mapping of the alternative sites. Specialists will workshop the sensitivity map with the client and with Zitholele Consulting to identify the preferred alternative with impacts of the least significance, which are most likely to respond to mitigation and management.
- Conceptual design of the required Waste Disposal Facilities will need to be carried out by appropriate civil and structural engineers. The conceptual designs will be strongly informed and directed by the specialist team working on this project. The conceptual design will need to meet with the requirements of the DEA Waste Directorate as well as with those of the DWS.

Wet FGD as preferred Technology

The preferred technology, Wet FGD, was assessed and selected as an independent investigation to the Environmental Authorisation Process. At the onset of the EA Process, the consultant was advised by Eskom to utilize Wet FGD for the environmental assessment, without allowing for an assessment of alternatives.

The Wet FGD technology was identified as the preferred technology for Medupi Power Station, by means of a techno-economical study, during the design of the Power Station. This was essential in order to ensure that the Power Station was designed to be "Wet FGD ready". This design allows for the spatial requirements of Wet FGD within the Power Station layout. The design negates any requirement for significant changes to the existing infrastructure to accommodate the Wet FGD retrofit.

As an appendix to the Final Scoping Report, a Technology Selection Study Report has been made available to the public for review. While the EA process does not investigate alternatives to Wet FGD, the process will report on the impacts of the Wet FGD on the receiving environment.

Gypsum disposal versus commercial value

It should be noted that the potential for commercial sale of industrial gypsum from the FGD process has been investigated by Eskom for both the Kusile Power Station and the Medupi Power Station. Market research has indicated that there is a limited opportunity for the reuse of industrial quality gypsum to local users. The quality of the limestone to be used in the Medupi FGD process is unknown, and therefore the gypsum quality has not yet been determined. Limestone sourcing as well as the gypsum market offtake is being investigated by Eskom in parallel and the outcome of this investigation will determine the opportunity for the sale of gypsum. While the marketability of Medupi gypsum may improve over time, the current situation requires that most, if not all, Medupi's gypsum will require disposal. It is in Eskom's best interests to continue exploring alternatives to gypsum disposal. However, at this stage, it is important that the Environmental Authorisation Process consider the worst case scenario when addressing the requirements for the possible disposal of gypsum at an appropriately engineered disposal facility.

NATIONAL ENVIRONMENTAL MANAGEMENT ACT (NEMA)

The proposed FGD facility and associated infrastructure require an Environmental Impact Assessment (EIA) in terms of the NEMA and the amended EIA regulations (Government Notice R.543 to 546, published in June 2010). The Department of Environmental Affairs (DEA) has been identified as the Competent Authority.

As per Government Notice R.543 of June 2010, Chapter 2, Regulation 6, the competent authority must consult with every government organ that administers a law relating to a matter affecting the environment relevant to that application for an environmental authorisation when considering an application.

Therefore, the DWS, the Limpopo Department of Economic Development, Environment and Tourism, Waterberg District Municipality, Roads Agency Limpopo and the Lephalale Local Municipality are commenting authorities in this process.

This process includes Scoping and Environmental Impact Report (S&EIR) Phases, which are applicable to all projects likely to have significant environmental impacts due to their nature or extent, activities associated with potentially high levels of environmental degradation, or activities for which the impacts cannot be easily predicted.

NATIONAL ENVIRONMENTAL MANAGEMENT ACT (NEMA) (CONTINUED)

In terms of Government Notice R.545 of 2010, the following listed activities require that a S&EIR be undertaken and are applicable to this proposed project:

- **Activity 3:** The construction of facilities or infrastructure for the storage, or for the storage and handling, of lime and limestone as an input into the WWTP and FGD process, respectively. The lime and limestone will be stored at a volume of more than 500 cubic meters at any one time. Storage of waste materials from the FGD process will similarly require authorization under Activity 3.

- **Activity 6:** The construction of facilities or infrastructure for the bulk transportation of waste materials using conveyors with a throughput capacity of more than 50 tons per day.
- **Activity 11:** The construction of a rail yard for purposes of transport of products to the Power Station and waste products from the Power Station.
- **Activity 15:** The physical alteration of undeveloped, vacant, or derelict land for purposes of a rail yard and associated infrastructure.

NATIONAL ENVIRONMENTAL MANAGEMENT WASTE ACT (NEM:WA)

With the proclamation of the National Environmental Management Waste Act (NEM: WA), No 59 of 2008, all waste related activities previously listed under the National Environmental Management Act (NEMA), No 107 of 1998 have been repealed and are now listed under the NEM:WA.

In terms of Government Notice R.718, **Category B** the following activities require authorisation:

Activity 1: The storage, including temporary storage, of hazardous waste in lagoons. This activity will be triggered should the sludge and/or salts require separate disposal and not be co-disposed of at the Ash Disposal Facility.

Activity 5: The treatment of sludge in lagoons. This activity will only be triggered should the preferred option of co-disposal not be supported by the waste classification assessment.

Activity 7: The disposal of any quantity of gypsum to the existing Ash Disposal Facility.

Activity 10: The construction of facilities for activities listed in this schedule.

In terms of Government Notice R.718, **Category C** the following activities require authorisation:

Activity 2: The storage, including temporary storage, of hazardous waste such as gypsum, salts and sludge from the FGD process prior to disposal on or off-site. The combined storage of hazardous waste will be more than $35m^3$ at any one time.

As described in the Regulations "*a person who wishes to commence, undertake or conduct an activity listed under this Category, must conduct an environmental impact assessment process, as stipulated in the environmental impact assessment regulations made under Section 24(5) of the NEMA as part of a waste management license application*".

Therefore the proposed development requires the submission of a Waste Management License application as well as a Scoping and Environmental Impact Report (S&EIR) to the DEA.

WATER USE LICENSE APPLICATION (WULA)

The preferred technology was identified by the client prior to the initiation of the EA process, through a technology feasibility study. The EA processes therefore address the project with Wet FGD as the preferred technology alternative. The water required for the operation of Wet FGD will be applied for within a Water Use License Application. The client has been engaging with the DWS in this regard. The DWS, as the custodian of the national water resources, has indicated that allocation of water can be supplied to Medupi Power Station FGD from the Mokolo Crocodile Water Augmentation Project (MCWAP) Phase 2.

ENVIRONMENTAL IMPACT ASSESSMENT (EIA)

An Environmental Impact Assessment (EIA) is a planning and decision-making tool undertaken in terms of the National Environmental Management Act (NEMA), Act No 107 of 1998, as amended. An EIA is a management tool that helps to identify and mitigate any potential impacts that a new development might generate on the receiving environment. The EIA takes place prior to the construction of the development.

TECHNICAL AND PUBLIC PARTICIPATION PROCESSES

An EIA has two parallel and integrated processes namely, a **technical** and a **public participation** process.

The **technical process** investigates "hard" information: facts based on scientific and technical studies, statistics or technical data. It identifies the potential negative and positive consequences of a proposed project or development at an early stage and recommends ways to enhance positive impacts and to avoid, reduce or mitigate negative impacts.

The EIA regulations require that an Environmental Management Programme (EMPr) be developed. The EMPr provides recommendations on how to operate and implement the project. The provisions of the EMPr, once approved by the competent authority, are legally binding on the developer and its contractors.

Public participation ensures that the EIA process is fair, open and transparent. It also provides stakeholders with sufficient information and gives them opportunity to contribute to the process by reviewing and commenting on the information.

The public participation process is designed to provide sufficient and accessible information to Interested and Affected Parties (I&APs) in an objective manner to assist them to:

- Raise issues of concern and make suggestions for alternatives and enhanced benefits;
- Contribute local knowledge;
- Verify that their issues have been captured and considered by the technical investigations;
- Comment on the findings of the EIA.

PHASES IN AN EIA

SCOPING PHASE

The **first phase** of an EIA is the Scoping Phase, which is conducted to gain an understanding of the potential environmental issues that are relevant to the project and to determine where further information is required, in the form of specialist studies/investigations.

The Scoping Report and Plan of Study for the EIA are submitted to the Department of Environmental Affairs (DEA) for review and approval of the proposed approach to the detailed investigation required in the next phase.

Key activities involved in the Scoping Phase include:

- Meetings with authorities to agree on process and study requirements;
- Initial public and landowner notification;
- Distribution of a DSR, including CRR for public comment;
- Convening a stakeholder meeting for the Scoping Phase;
- Distribution of the FSR for comments;
- Submission of a Final Scoping Report (FSR), including the Plan of Study for the EIA to the DEA;
- Approval of the FSR and supporting documents by DEA, at which time the project moves into the Impact Assessment Phase.

IMPACT ASSESSMENT PHASE

The **second phase** is the Impact Assessment Phase, which entails undertaking various specialist studies and compiling a Draft EIR.

As part of the assessment, an Environmental Management Programme (EMPr) will be submitted to the Department of Environmental Affairs (DEA) for their approval. By following the EMPr, Eskom and its contractors will ensure compliance to environmental regulations during the planning, construction, operation and decommissioning (if applicable) phases.

The specialist studies that have already been confirmed for the Impact Assessment Phase are:

- Waste Classification;
- Social Impact Assessment;
- Ecological Assessment for the rail yard area;
- Air Quality Assessment.

Additional assessments will be required for purposes of the site selection for potential waste disposal facilities. These studies will be confirmed as soon as the consultant has been appointed for this additional scope of work.

Key activities in the Impact Assessment Phase will include:

- Specialist studies focused on outcomes of the Scoping Phase and issues raised by stakeholders;
- Progress feedback to stakeholders;
- Compilation of a Draft EIR and EMPr indicating the potential positive and negative impacts and measures to enhance positive impacts and to reduce or avoid negative impacts;
- Environmental Impact Statement, highlighting the preferred alternative/s and reasons therefor;
- Distribution of the Draft EIR and EMPr, including Issues and Responses Report, to the public for comment;
- A stakeholder meeting in the project area to present a summary of the findings of the EIR for stakeholder comment;
- Distribution of the Final EIR and EMPr for comment; and
- Submission of the Final EIR and EMPr for DEA decision making.

DECISION-MAKING (ENVIRONMENTAL AUTHORISATION)

A decision on the applications for Environmental Authorisation, Waste Management License and Water Use License will be received from the relevant competent authority. Within legislated timeframes, Zitholele Consulting is responsible for notifying the registered I&APs of each of these decisions. Stakeholders will be notified of the DEA's decision and of the opportunity to, and process for, appeal.

Your comments are important

The purpose of an Environmental Impact Assessment is to provide the decision-making authority with sufficient information on which to base their decision to grant or refuse an Environmental Authorisation and if granted, to define conditions for the development. The contributions made by stakeholders from all sectors of society will ensure informed decision-making.

You are invited to participate freely and to submit any comments or information you feel may be useful to the EIA process. Registered interested and affected parties are entitled to comment, in writing, on all written submissions to the competent authority (Department of Environmental Affairs) and to bring to the attention of the competent authority, any issues which the party believes may be of significance to the consideration of the application.

Zitholele Consulting contact details
PO Box 6002, Halfway House, 1685
Tel: 011 207 2060
Fax: 086-676-9950

Public Participation Office:
Nicolene Venter / Tricia Njapha
Email: publicprocess@zitholele.co.za

Technical Enquiries:
Sharon Meyer-Douglas / Bongani Dhlamini
Email: sharonm@zitholele.co.za / bonganid@zitholele.co.za

Leoni Lubbe

From: Leoni Lubbe
Sent: 09 January 2015 08:56 AM
To: Tricia Njapha
Subject: DSR Comment Period Ending - Proposed Retrofitting FGD at Medupi PS

DEA REF.: 14/12/16/3/3/3/110

INTEGRATED ENVIRONMENTAL AUTHORISATION (ENVIRONMENTAL IMPACT ASSESSMENT, WASTE MANAGEMENT LICENSE AND WATER USE LICENSE APPLICATIONS): PROPOSED RETROFITTING OF THE FLUE GAS DESULPHURISATION (FGD) FACILITY AT MEDUPI POWER STATION IN LEPHALALE

- **Draft Scoping Report (DSR) review period ending**

Dear Stakeholder

This email serves to remind you that the review period for the Draft Scoping Report (DSR) for the above mentioned project ends today, **Friday, 09 January 2015** (close of business day).

The report (including all Appendices) is still available on the Zitholele website (http://www.zitholele.co.za/eia-for-medupi-fgd).

Important note: If you have comments that you would like to make but have not yet submitted, please do so before the close of business today, **Friday, 09 January 2015**.

We would like to thank those who have submitted comments on the report.

Kind regards

Nicolene Venter [Cert. Public Relations]
Senior Public Participation Practitioner
Building 1, Maxwell Office Park, Magwa Crescent West, cnr Allandale Road & Maxwell Drive, Waterfall City, Midrand, RSA
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Leoni Lubbe

From: Leoni Lubbe
Sent: 05 January 2015 09:06 AM
To: Tricia Njapha
Subject: DSR Comment Period Ending Soon - Proposed Retrofitting FGD at Medupi PS

DEA REF.: 14/12/16/3/3/3/110

INTEGRATED ENVIRONMENTAL AUTHORISATION (ENVIRONMENTAL IMPACT ASSESSMENT, WASTE MANAGEMENT LISENCE AND WATER USE LICENSE APPLICATIONS): PROPOSED RETROFITTING OF THE FLUE GAS DESULPHURISATION (FGD) FACILITY AT MEDUPI POWER STATION IN LEPHALALE

- **Draft Scoping Report (DSR) review period ending soon**

Dear Stakeholder

This email serves to remind you that the review period for the Draft Scoping Report (DSR) for the above mentioned project ends **Friday, 09 January 2015** (close of business day).

The report (including all Appendices) is still available on the Zitholele website (http://www.zitholele.co.za/eia-for-medupi-fgd).

Important note: If you have comments that you would like to make but have not yet submitted, please do so before the close of business, **Friday, 09 January 2015**.

We would like to thank those who have submitted comments on the report.

Kind regards

Nicolene Venter [Cert. Public Relations]
Senior Public Participation Practitioner
Building 1, Maxwell Office Park, Magwa Crescent West, cnr Allandale Road & Maxwell Drive, Waterfall City, Midrand, RSA
T: +27 11 207 2060 **D:** +27 11 207 2077 **F:** +27 86 676 9950
C: +27 83 377 9112
E: nicolenev@zitholele.co.za **W:** www.zitholele.co.za

Leoni Lubbe

From: Leoni Lubbe
Sent: 21 November 2014 03:03 PM
To: Tricia Njapha
Subject: DSR Comment Period Extended – Proposed Retrofitting of a FGD system At Medupi Power Station
Attachments: 12949-83-Com-001-CommentSheet Ext Review-Rev0.docx; 12949-83-Let-001-DSR Extended Review-Rev0.pdf

DEA Reference Number: 14/12/16/3/3/3/110

Dear Stakeholder

INTEGRATED AUTHORISATION (ENVIRONMENTAL IMPACT ASSESSMENT AND WASTE MANAGEMENT LICENSE APPLICATION) FOR THE PROPOSED RETROFITTING OF A FLUE GAS DESULPHURISATION (FGD) SYSTEM AT MEDUPI POWER STATION, LEPHALALE, LIMPOPO PROVINCE

- **Draft Scoping Report (DSR) – Comment Period Extended**

Dear Stakeholder

Kindly find attached communication which serves to inform you that the public review period for the Draft Scoping Report (DSR) for the above-mentioned proposed project has been extended to **Friday, 09 January 2015** (close of business day).

The report (incl. all Appendices) is still available on the Zitholele Consulting website: **http://www.zitholele.co.za/eia-for-medupi-fgd**.

Important note: If you have comments that you would like to make but have not yet submitted, please submit these before the close of business **Friday, 09 January 2015.**

We would like to thank those who have already submitted comments on the report.

Kind Regards

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E: nicolenev@zitholele.co.za **W:** www.zitholele.co.za

Leoni Lubbe

From: Leoni Lubbe
Sent: 28 October 2014 01:01 PM
To: 'L Romain'
Subject: DSR Comment Period Commencing - Proposed Retrofitting FGD at Medupi Power Station
Attachments: 12949-83-Com-001-CommentSheet-Rev0.pdf; 12949-83-Let-001-DSRPM-Rev0.pdf; 12949-83-Reply-001-ReplySheet-Rev0.pdf

DEA REF.: 14/12/16/3/3/3/110

INTEGRATED ENVIRONMENTAL AUTHORISATION (ENVIRONMENTAL IMPACT ASSESSMENT, WASTE MANAGEMENT LISENCE AND WATER USE LICENSE APPLICATIONS): PROPOSED RETROFITTING OF THE FLUE GAS DESULPHURISATION (FGD) FACILITY AT MEDUPI POWER STATION IN LEPHALALE

- **Notification of the availability of the Draft Scoping Report (DSR) for review and comment**
- **Invitation to the Public Meetings**

Dear Stakeholder

Kindly find attached letter which serves to inform you that the Draft Scoping Report (DSR) is available for public review and comment from **Monday, 27 October 2014** to **Friday, 05 December 2014**.

The attached letter also serves to invite you to attend any one of the two Public Meetings that will be held in November 2014.

The DSR can be downloaded from Zitholele's website (http://www.zitholele.co.za/eia-for-medupi-fgd).

Kind regards

Nicolene Venter [Cert. Public Relations]
Senior Public Participation Practitioner
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C: +27 83 377 9112
E: nicolenev@zitholele.co.za **W:** www.zitholele.co.za

Documents attached:

- DSR notification letter
- DSR Comment Form
- Public Meetings Registration form

Leoni Lubbe

From: Leoni Lubbe
Sent: 01 December 2014 01:11 PM
To: Tricia Njapha
Subject: DSR Notification of availability of Technology Study Report - Proposed Retrofitting FGD at Medupi PS
Attachments: App-F-Technology Study Report.pdf

DEA REF.: 14/12/16/3/3/3/110

INTEGRATED ENVIRONMENTAL AUTHORISATION (ENVIRONMENTAL IMPACT ASSESSMENT, WASTE MANAGEMENT LISENCE AND WATER USE LICENSE APPLICATIONS): PROPOSED RETROFITTING OF THE FLUE GAS DESULPHURISATION (FGD) FACILITY AT MEDUPI POWER STATION IN LEPHALALE

- **Draft Scoping Report (DSR) - Notification of availability of Technology Study Report**

Dear Interested and/or Affected Parties

You may have noticed that in the Comments and Responses Report (Appendix D8 of the Draft Scoping Report – Points 2.1; 2.2; 2.3; 2.4 and 7.2) that Zitholele Consulting indicated in some responses to comments that the 474-10175 Medupi FGD Technology Study Report is appended to the Scoping Report. Unfortunately this report was removed as an appendix prior to the Draft Scoping Report being submitted for public review.

However, please find attached the 474-10175 Medupi FGD Technology Study Report for your perusal.

Important note: Please be informed that the Medupi FGD Technology Study Report is also available on our website (http://www.zitholele.co.za/eia-for-medupi-fgd), select ***Scoping Phase/Draft Scoping Report*** then ***Appendix F***. The Technology Selection Report will be attached as an appendix to the Final Scoping Report, which will be made available to the public for review in early 2015.

We would also like to make use of this opportunity to remind you of the extension of the Draft Scoping Report's review period. The review period has been extended from Friday 05 December 2014 to **Friday 09 January 2014** (end of business day).

Please do not hesitate to contact us should you need additional information or clarification regarding the EIA being undertaken for the proposed Medupi FGD Project.

Kind regards

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E: nicolenev@zitholele.co.za **W:** www.zitholele.co.za

Leoni Lubbe

From: Leoni Lubbe
Sent: 05 January 2015 09:35 AM
Subject: DSR Comment Period Ending Soon - Proposed Retrofitting FGD at Medupi PS

DEA REF.: 14/12/16/3/3/3/110

INTEGRATED ENVIRONMENTAL AUTHORISATION (ENVIRONMENTAL IMPACT ASSESSMENT, WASTE MANAGEMENT LICENSE AND WATER USE LICENSE APPLICATIONS): PROPOSED RETROFITTING OF THE FLUE GAS DESULPHURISATION (FGD) FACILITY AT MEDUPI POWER STATION IN LEPHALALE

- **Draft Scoping Report (DSR) review period ending soon**

Dear Stakeholder

This email serves to remind you that the review period for the Draft Scoping Report (DSR) for the above mentioned project ends **Friday, 09 January 2015** (close of business day).

The report (including all Appendices) is still available on the Zitholele website (http://www.zitholele.co.za/eia-for-medupi-fgd).

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We would like to thank those who have submitted comments on the report.

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E: nicolenev@zitholele.co.za **W:** www.zitholele.co.za

Leoni Lubbe

From: Leoni Lubbe
Sent: 09 January 2015 09:43 AM
Subject: DSR Comment Period Ending - Proposed Retrofitting FGD at Medupi PS

DEA REF.: 14/12/16/3/3/3/110

INTEGRATED ENVIRONMENTAL AUTHORISATION (ENVIRONMENTAL IMPACT ASSESSMENT, WASTE MANAGEMENT LICENSE AND WATER USE LICENSE APPLICATIONS): PROPOSED RETROFITTING OF THE FLUE GAS DESULPHURISATION (FGD) FACILITY AT MEDUPI POWER STATION IN LEPHALALE

- **Draft Scoping Report (DSR) review period ending**

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C: +27 83 377 9112
E: nicolenev@zitholele.co.za **W:** www.zitholele.co.za

Leoni Lubbe

From: Leoni Lubbe
Sent: 21 November 2014 04:35 PM
To: '+27113869001@vax.co.za'; '+27114987429@vax.co.za'; '+27147621412@vax.co.za'; '+27147631351@vax.co.za'; '+27147632165@vax.co.za'; '+27147632165@vax.co.za'; '+27147632498@vax.co.za'; '+27147632722@vax.co.za'; '+27147632989@vax.co.za'; '+27147633031@vax.co.za'; '+27147633115@vax.co.za'; '+27147633364@vax.co.za'; '+27147633972@vax.co.za'; '+27147634239@vax.co.za'; '+27147635562@vax.co.za'; '+27147635655@vax.co.za'; '+27147635662@vax.co.za'; '+27147635662@vax.co.za'; '+27147635662@vax.co.za'; '+27147635795@vax.co.za'; '+27147635813@vax.co.za'; '+27147636484@vax.co.za'; '+27147690003@vax.co.za'; '+27147690064@vax.co.za'; '+27154236100@vax.co.za'; '+27866834952@vax.co.za'; Tricia Njapha
Subject: DSR Comment Period Extended – Proposed Retrofitting of a FGD system At Medupi Power Station
Attachments: 12949-83-Let-001-DSR Extended Review-Rev0.pdf; 12949-83-Com-001-CommentSheet Ext Review-Rev0.docx

Tracking:

Recipient	Delivery
'+27113869001@vax.co.za'	
'+27114987429@vax.co.za'	
'+27147621412@vax.co.za'	
'+27147631351@vax.co.za'	
'+27147632165@vax.co.za'	
'+27147632165@vax.co.za'	
'+27147632498@vax.co.za'	
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'+27147635562@vax.co.za'	
'+27147635655@vax.co.za'	
'+27147635662@vax.co.za'	
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'+27147635662@vax.co.za'	
'+27147635795@vax.co.za'	
'+27147635813@vax.co.za'	
'+27147636484@vax.co.za'	
'+27147690003@vax.co.za'	
'+27147690064@vax.co.za'	
'+27154236100@vax.co.za'	
'+27866834952@vax.co.za'	
Tricia Njapha	Delivered: 21/11/2014 04:35 PM

DEA Reference Number: 14/12/16/3/3/3/110

Dear Stakeholder

INTEGRATED AUTHORISATION (ENVIRONMENTAL IMPACT ASSESSMENT AND WASTE MANAGEMENT LICENSE APPLICATION) FOR THE PROPOSED RETROFITTING OF A FLUE GAS DESULPHURISATION (FGD) SYSTEM AT MEDUPI POWER STATION, LEPHALALE, LIMPOPO PROVINCE

- **Draft Scoping Report (DSR) – Comment Period Extended**

Dear Stakeholder

Kindly find attached communication which serves to inform you that the public review period for the Draft Scoping Report (DSR) for the above-mentioned proposed project has been extended to **Friday, 09 January 2015** (close of business day).

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We would like to thank those who have already submitted comments on the report.

Kind Regards

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E: nicolenev@zitholele.co.za **W:** www.zitholele.co.za

Leoni Lubbe

From: Leoni Lubbe
Sent: 28 October 2014 04:35 PM
To: '+27113869001@vax.co.za'; '+27114987429@vax.co.za'; '+27147631351@vax.co.za'; '+27147632165@vax.co.za'; '+27147632165@vax.co.za'; '+27147632498@vax.co.za'; '+27147632722@vax.co.za'; '+27147632989@vax.co.za'; '+27147633031@vax.co.za'; '+27147633115@vax.co.za'; '+27147633364@vax.co.za'; '+27147633972@vax.co.za'; '+27147634239@vax.co.za'; '+27147635562@vax.co.za'; '+27147635655@vax.co.za'; '+27147635662@vax.co.za'; '+27147635662@vax.co.za'; '+27147635662@vax.co.za'; '+27147635795@vax.co.za'; '+27147635813@vax.co.za'; '+27147636484@vax.co.za'; '+27147690003@vax.co.za'; '+27147690064@vax.co.za'; '+27154236100@vax.co.za'; '+27832369017@vax.co.za'; '+27866834952@vax.co.za'
Subject: DSR Comment Period Commencing - Proposed Retrofitting FGD at Medupi Power Station
Attachments: 12949-83-Let-001-DSRPM-Rev0.pdf; 12949-83-Com-001-CommentSheet-Rev0.docx; 12949-83-Reply-001-ReplySheet-Rev0.docx

DEA REF.: 14/12/16/3/3/3/110

INTEGRATED ENVIRONMENTAL AUTHORISATION (ENVIRONMENTAL IMPACT ASSESSMENT, WASTE MANAGEMENT LISENCE AND WATER USE LICENSE APPLICATIONS): PROPOSED RETROFITTING OF THE FLUE GAS DESULPHURISATION (FGD) FACILITY AT MEDUPI POWER STATION IN LEPHALALE

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- **Invitation to the Public Meetings**

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The DSR can be downloaded from Zitholele's website (http://www.zitholele.co.za/eia-for-medupi-fgd).

Kind regards

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Documents attached:

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- DSR Comment Form
- Public Meetings Registration form

Leoni Lubbe

From: Leoni Lubbe
Sent: 01 December 2014 01:52 PM
Subject: DSR Notification of availability of Technology Study Report - Proposed Retrofitting FGD at Medupi PS
Attachments: App-F-Technology Study Report.pdf

DEA REF.: 14/12/16/3/3/3/110

INTEGRATED ENVIRONMENTAL AUTHORISATION (ENVIRONMENTAL IMPACT ASSESSMENT, WASTE MANAGEMENT LISENCE AND WATER USE LICENSE APPLICATIONS): PROPOSED RETROFITTING OF THE FLUE GAS DESULPHURISATION (FGD) FACILITY AT MEDUPI POWER STATION IN LEPHALALE

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However, please find attached the 474-10175 Medupi FGD Technology Study Report for your perusal.

Important note: Please be informed that the Medupi FGD Technology Study Report is also available on our website (http://www.zitholele.co.za/eia-for-medupi-fgd), select ***Scoping Phase/Draft Scoping Report*** then ***Appendix F***. The Technology Selection Report will be attached as an appendix to the Final Scoping Report, which will be made available to the public for review in early 2015.

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Please do not hesitate to contact us should you need additional information or clarification regarding the EIA being undertaken for the proposed Medupi FGD Project.

Kind regards

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Senior Public Participation Practitioner
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C: +27 83 377 9112
E: nicolenev@zitholele.co.za **W:** www.zitholele.co.za

9 January 2015 9:51 AM
Creator: MASTER Type: Manual Full Access: Public Read Access: Public
MaxSMS: SMS sent to Network. Number: +27837753197 'DSR - Proposed FGD at Medupi PS - review period ending - Fri 09 -01-2015. Regards Nicolene 0112072060'

9 January 2015 9:51 AM
Creator: MASTER Type: Manual Full Access: Public Read Access: Public
MaxSMS: SMS sent to Network. Number: +27837753197 'DSR - Proposed FGD at Medupi PS - review period ending - Fri 09 -01-2015. Regards Nicolene 0112072060'

21 November 2014 4:05 PM
Creator: MASTER Type: Manual Full Access: Public Read Access: Public
MaxSMS: SMS sent to Network. Number: +27837753197 'Proposed Retrofitting of a FGD system at Medupi PS Project - DSR Comment Period Extended to 9Jan15. Regards, Tricia, Zitholele Consulting, 011 207 2060'

28 October 2014 4:56 PM
Creator: MASTER Type: Manual Full Access: Public Read Access: Public
MaxSMS: SMS sent to Network. Number: +27837753197 'DSR - Proposed FGD at Medupi PS available for review and comment - Mon 27-10-2014 to Fri 05-12-2014. Regards Nicolene 0112072060'

6 November 2014 7:37 AM
Creator: Nicolene Type: Manual Full Access: Public Read Access: Public
MaxSMS: SMS sent to Network. Number: +27837753197 'CANCELLATION OF PUBLIC MEETING:Pls note meeting at Marapong CommunityPublLibrary cancelled.For info pls contact Tricia 0112072060 or Nicolene 0833779112'

Leoni Lubbe

From: Leoni Lubbe
Sent: 07 November 2014 08:59 AM
To: 'Mangwako Tsheola'
Subject: DSR Comment Period Ending - Proposed Retrofitting FGD at Medupi PS Station

DEA REF.: 14/12/16/3/3/3/110

INTEGRATED ENVIRONMENTAL AUTHORISATION (ENVIRONMENTAL IMPACT ASSESSMENT, WASTE MANAGEMENT LISENCE AND WATER USE LICENSE APPLICATIONS): PROPOSED RETROFITTING OF THE FLUE GAS DESULPHURISATION (FGD) FACILITY AT MEDUPI POWER STATION IN LEPHALALE

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Leoni Lubbe

From: Leoni Lubbe
Sent: 31 October 2014 10:33 AM
To: 'Keneilwe Makwela'
Subject: DSR Comment Period Ending Soon - Proposed Retrofitting FGD at Medupi PS Station

DEA REF.: 14/12/16/3/3/3/110

INTEGRATED ENVIRONMENTAL AUTHORISATION (ENVIRONMENTAL IMPACT ASSESSMENT, WASTE MANAGEMENT LISENCE AND WATER USE LICENSE APPLICATIONS): PROPOSED RETROFITTING OF THE FLUE GAS DESULPHURISATION (FGD) FACILITY AT MEDUPI POWER STATION IN LEPHALALE

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Kind regards

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Leoni Lubbe

From: Leoni Lubbe
Sent: 09 February 2015 02:33 PM
Subject: AVAILABILITY OF KSW DRAFT MINUTES – PROPOSED RETROFITTING OF A FGD SYSTEM AT MEDUPI PS
Attachments: 12949-85-04-Min-001-KeyStakeholderWorkshop-Rev1.pdf; 12949-85-05-ROA-001-KSW-Nov 2014.pdf; 12949-85-Pre-001-Scoping Phase KSW-Rev6.pdf

Tracking:

Recipient	Delivery	Read
'Roman Crookes'		
'Ntabiseng Malebo'		
'Emile Marell'		
'Moloko Maeko'		
'Rosetta Rammutla'		
'Steven Kgobalala'		
'Candice Stephen'		
'Olga Makhalemele'		
'Lufuno Tshidzumba'		
'Carel van Heerden'		
'Nakedi Maake'		
'Patrick Seloba'		
'Rene Thijs'		
'JM Matlou'		
'Elton Lemboe'		
'Phanuel Ndlovu'		
'Sybil Nieuwoudt'		
'Phuthi Ramolobeng'		
'Joshua Hlapa'		
'Danie Moller'		
'Ishana Harripersad'		
'Kubentheran Nair'		
'Prince Khumalo'		
'Keketsi Ramahali'		
'Ian Midgley'		
'Koos Smit'		
'Benjamin Mokoka'		
'April Shiko'		
'Gerhard Human'		
'Mulalo Nethengwe'		
'Henry Nawa'		
'Theuns Blom'		
Leoni Lubbe	Delivered: 09/02/2015 02:35 PM	Read: 09/02/2015 02:59 PM
Sharon Meyer		Read: 09/02/2015 04:13 PM
Bongani Dhlamini		Read: 09/02/2015 02:37 PM
Nicolene Venter		Read: 11/02/2015 06:17 AM
'Robyn Hugo'		
'Makoma Lekalakala'		
'Oteng Radipabe'		
Sharonm@zitholele.co.za	Delivered: 09/02/2015 02:35 PM	
bonganid@zitholele.co.za	Delivered: 09/02/2015 02:35 PM	
nicolenev@zitholele.co.za	Delivered: 09/02/2015 02:35 PM	

DEA Reference Number: 14/12/16/3/3/3/110

Dear Stakeholder

INTEGRATED ENVIRONMENTAL AUTHORISATION (ENVIRONMENTAL IMPACT ASSESSMENT, WASTE MANAGEMENT LICENSE AND WATER USE LICENSE APPLICATIONS): PROPOSED RETROFITTING OF A FLUE GAS DESULPHURISATION (FGD) SYSTEM AT MEDUPI POWER STATION IN LEPHALALE

- **Availability of Draft Minutes: Key Stakeholder Workshop held on Wednesday, 05 November 2014**

Dear Stakeholder

It has been brought to our attention that the minutes were not attached to the email sent out last week.

Please find attached the draft minutes of the **Key Stakeholder Workshop (KSW)** that took place on **Wednesday, 05 November 2014** at **Mogol Club, Lephalale**.

As a reminder, should you wish to submit any comments and/or corrections, you are kindly requested to do so before
Friday, **28 February 2015**.

Kindly accept our sincere apologies for any inconvenience caused.

Kind regards

Nicolene Venter [Cert. Public Relations]
Senior Public Participation Practitioner
Building 1, Maxwell Office Park, Magwa Crescent West, cnr Allandale Road & Maxwell Drive, Waterfall City, Midrand, RSA
T: +27 11 207 2060 **D:** 011 207 2077 **F:** +27 86 676 9950 **C:** +27 83 377 9112
E: nicolenev@zitholele.co.za **W:** www.zitholele.co.za

Leoni Lubbe

From: Leoni Lubbe
Sent: 29 October 2014 05:00 PM
To: 'Schoeman'
Subject: Reminder - Stakeholder Workshop - EIA & WMLA for the proposed Retrofitting of a FGD System at Medupi Power Station, Lephalale

DEA REF.: 14/12/16/3/3/3/110

INTEGRATED AUTHORISATION (ENVIRONMENTAL IMPACT ASSESSMENT AND WASTE MANAGEMENT LICENCE APPLICATION) FOR THE PROPOSED RETROFITTING OF A FLUE GAS DESULPHURISATION (FGD) SYSTEM AT MEDUPI POWER STATION, LEPHALALE, LIMPOPO PROVINCE

- **Reminder - Key Stakeholder Workshop: Wednesday 05 November 2014**

Dear Stakeholder

This communication serves as a reminder of the Key Stakeholder Workshop scheduled to take place:

DATE: Wednesday, 05 November 2014
TIME: 14h00 – 16h00 (Registration from 13h30)
VENUE: Mogol Golf Club, Lephalale (Map attached)

Kind regards

Nicolene Venter [Cert. Public Relations]
Senior Public Participation Practitioner
Building 1, Maxwell Office Park, Magwa Crescent West, cnr Allandale Road & Maxwell Drive, Waterfall City, Midrand, RSA
T: +27 11 207 2060 **D:** +27 11 207 2077 **F:** +27 86 676 9950
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Kind regards

Nicolene Venter [Cert. Public Relations]
Senior Public Participation Practitioner
Building 1, Maxwell Office Park, Magwa Crescent West, cnr Allandale Road & Maxwell Drive, Waterfall City, Midrand, RSA
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E: nicolenev@zitholele.co.za **W:** www.zitholele.co.za

INTEGRATED ENVIRONMENTAL AUTHORISATION (ENVIRONMENTAL IMPACT ASSESSMENT, WASTE MANAGEMENT LISENCE AND WATER USE LICENSE APPLICATIONS): PROPOSED RETROFITTING OF THE FLUE GAS DESULPHURISATION (FGD) FACILITY AT MEDUPI POWER STATION IN LEPHALALE

Emails: Status of Draft minutes of KSW and PM held on 05 November 2014

(BCC Recipients listed alphabetically according to Surname)

Mr/Ms	First Name	Last Name	Company/ Organisation
Ms	Astrid	Basson	Lephalale Local Municipality
Mr	Dries	Basson	Waterberg District Municipality
Mr	Roman	Crookes	Eskom Holdings SOC Ltd
Mr	Bongani	Dhlamini	Zitholele Consulting (Pty) Ltd
Mr	Joshua	Hlapa	Lephalale Local Municipality
Ms	Robyn	Hugo	Centre for Environmental Rights
Mr	Gerhard	Human	Agri SA
Mr	Steven	Kgobalala	Department of Agriculture, Forestry and Fisheries
Mr	Sifiso	Khumalo	Eskom Holdings SOC Ltd
Ms	Makoma	Lekalakala	Earthlife Africa
Mr	Elton	Lemboe	Eskom Holdings SOC Ltd
Ms	Leoni	Lubbe	Zitholele Consulting (Pty) Ltd
Mnr	Nakedi	Maake	Marapong SANCO
Cllr	Moloko	Maeko	Lephalale Local Municipality
Ms	Olga	Makhalemele	Eskom Holdings SOC Ltd
Ms	Ntabiseng	Malebo	Eskom Holdings SOC Ltd
Mrs	JM	Matlou	Department of Agriculture, Forestry and Fisheries
Ms	Sharon	Meyer-Douglas	Zitholele Consulting (Pty) Ltd
Mr	Benjamin	Mokoka	Anglo American
Mr	Danie	Moller	Eskom Holdings SOC Ltd
Mr	Phanuel	Ndlovu	Department of Water and Sanitation
Mr	Mulalo	Nethengwe	Department of Water and Sanitation
Mrs	Sybil	Nieuwoudt	Lephalale Local Municipality
Mr	Jan	Oliver	South African National Roads Agency SOC Ltd
Mr	Bernard	Petlane	Eskom Holdings SOC Ltd
Ms	Oteng	Radipabe	Lephalale Local Municipality
Mr	Keketsi	Ramahali	Eskom Holdings SOC Ltd
Ms	Rosetta	Rammutla	Eskom Holdings SOC Ltd
Mr	Phuthi	Ramolobeng	Department of Water and Sanitation
Mr	Patrick	Seloba	Eskom Holdings SOC Ltd
Mr	April	Shiko	Lephalale Local Municipality
Ms	Lindiwe	Sibiya	Eskom Holdings SOC Ltd
Mr	Koos	Smit	Exxaro
Ms	Candice	Stephen	Eskom Holdings SOC Ltd
Ms	Filomaine	Swanepoel	Exxaro Grootegeluk
Mr	Rene	Thijs	Eskom Holdings SOC Ltd
Mr	Lufuno	Tshidzumba	Eskom Holdings SOC Ltd
Ms	Nicolene	Venter	Zitholele Consulting (Pty) Ltd
Mr	David	Verca	GP Strategies

Leoni Lubbe

From: Leoni Lubbe
Sent: 09 February 2015 02:43 PM
Subject: AVAILABILITY OF PM DRAFT MINUTES – PROPOSED RETROFITTING OF A FGD SYSTEM AT MEDUPI PS
Attachments: 12949-85-04-Min-001-PublicMeeting-Rev1.pdf; 12949-85-02-Pre-001-Scoping Phase PMs-Draft1.pdf; 12949-85-05-ROA-001-Public Meeting 1-5Nov2014.pdf

Tracking:

Recipient	Delivery	Read
'Roman Crookes'		
'Filomaine Swanepoel'		
'Ntabiseng Malebo'		
'Emile Marell'		
'Rosetta Rammutla'		
'Lindiwe Sibiya'		
'Candice Stephen'		
'Olga Makhalemele'		
'Lufuno Tshidzumba'		
'Carel van Heerden'		
'Sifiso Khumalo'		
'Patrick Seloba'		
'David Verca'		
'Sybil Nieuwoudt'		
'Danie Moller'		
'Ishana Harripersad'		
'Astrid Basson'		
'Kubentheran Nair'		
'Bernard Petlane'		
'Prince Khumalo'		
'Dries Basson'		
'Keketsi Ramahali'		
'Ian Midgley'		
'Henry Nawa'		
'Theuns Blom'		
Leoni Lubbe	Delivered: 09/02/2015 02:46 PM	
Sharon Meyer		
Bongani Dhlamini		Read: 09/02/2015 02:51 PM
Nicolene Venter		Read: 11/02/2015 06:15 AM
'Makoma Lekalakala'		
bonganid@zitholele.co.za	Delivered: 09/02/2015 02:46 PM	
Sharonm@zitholele.co.za	Delivered: 09/02/2015 02:46 PM	
nicolenev@zitholele.co.za	Delivered: 09/02/2015 02:46 PM	

DEA Reference Number: 14/12/16/3/3/3/110

Dear Stakeholder

INTEGRATED ENVIRONMENTAL AUTHORISATION (ENVIRONMENTAL IMPACT ASSESSMENT, WASTE MANAGEMENT LICENSE AND WATER USE LICENSE APPLICATIONS): PROPOSED RETROFITTING OF A FLUE GAS DESULPHURISATION (FGD) SYSTEM AT MEDUPI POWER STATION IN LEPHALALE

- **Availability of Draft Minutes: Public Meeting held on Wednesday, 05 November 2014**

It has been brought to our attention that the minutes were not attached to the email which was sent out last week.

Please find attached the draft minutes of the **Public Meeting (PM)** that took place on **Wednesday, 05 November 2014** at **Mogol Club, Lephalale**.

As a reminder, should you wish to submit any comments and/or corrections, you are kindly requested to do so before **Friday**, **28 February 2015**.

Kindly accept our sincere apologies for any inconvenience caused.

Kind regards

Nicolene Venter [Cert. Public Relations]
Senior Public Participation Practitioner
Building 1, Maxwell Office Park, Magwa Crescent West, cnr Allandale Road & Maxwell Drive, Waterfall City, Midrand, RSA
T: +27 11 207 2060 **D:** 011 207 2077 **F:** +27 86 676 9950 **C:** +27 83 377 9112
E: nicolenev@zitholele.co.za **W:** www.zitholele.co.za

Tricia Njapha

From: Patiswa Mnqokoyi
Sent: 13 October 2014 05:06 PM
To: Tricia Njapha
Subject: EIA & WML for the proposed Retrofitting of a FGD System at Medupi Power Station, Lephalale
Attachments: 12949-83-Let-001-DSRPM-Rev0.pdf; 12949-83-Com-001-CommentSheet-Rev0.docx; 12949-83-Reply-001-ReplySheet-Rev0.docx; 12949-85-Map-001-MogolGolfClub-Rev0.pdf

Importance: High

DEA Ref: 14/12/16/3/3/3/110

NOTIFICATION OF THE AVAILABILITY OF THE DRAFT SCOPING REPORT AND INVITATION TO THE PUBLIC MEETINGS

Dear Stakeholder,

Attached, please find information on the public review of the Draft Scoping Report (DSR) as well as an invitation to the Public Meeting for the proposed Retrofitting of a FGD System at Medupi Power Station, Lephalale.

- Notification letter;
- Comment Sheet;
- Reply Sheet; and
- Map to Mogol Club

Kindly use the following link to download the report from our website: http://www.zitholele.co.za/eia-for-medupi-fgd
The report will be uploaded on Friday, 24 October 2014.

Should you require further information, please do not hesitate to contact the public participation office.

EIA Public Participation Office
Tricia Njapha / Leoni Lubbe
Zitholele Consulting (Pty) Ltd
P O Box 6002, Halfway House, 1685
Tel: (011) 207 2060
Fax: 086-676-9950
Email: publicprocess@zitholele.co.za

Kind Regards,

Patiswa Mnqokoyi [Cert. Public Relations and Marketing]
Divisional Administrator
Building 1, Maxwell Office Park, Magwa Crescent West, cnr Allandale Road & Maxwell Drive, Waterfall City, Midrand, RSA
T: +27 11 207 2060 **D:** +27 11 207 2074 **F:** +27 86 676 9950 **C:** +27 72 184 8653

Nicolene Venter

From: Nicolene Venter
Sent: 22 January 2015 12:14 PM
Subject: AVAILABILITY OF PM DRAFT MINUTES – PROPOSED RETROFITTING OF A FGD SYSTEM AT MEDUPI PS

Dear Stakeholders,

This e-mail serves to inform you that the draft minutes of the Key Stakeholder Workshop (KSW) and Public Meeting (PM) held on 05 November 2014, for the Medupi FGD environmental authorisation process, are still being reviewed by Eskom. As soon as we receive the draft minutes from Eskom, these will be distributed to you for your review and comments.

Please also be informed that the draft minutes will be included in the Public Participation Appendices that form part of the Final Scoping Report and that the comments/concerns/issues raised at these meetings have been incorporated into the Comments and Responses Report.

Please do not hesitate to contact us should you need any clarification regarding this matter.

Kind Regards,

Nicolene Venter [Cert. Public Relations]
Senior Public Participation Practitioner
Building 1, Maxwell Office Park, Magwa Crescent West, cnr Allandale Road & Maxwell Drive, Waterfall City, Midrand, RSA
T: +27 11 207 2060 **D:** 011 207 2077 **F:** +27 86 676 9950 **C:** +27 83 377 9112
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Zitholele Consulting
Reg. No. 2000/000392/07

PO Box 6002 Halfway House 1685, South Africa
Building 1, Maxwell Office Park, Magwa Crescent West
c/o Allandale Road & Maxwell Drive, Waterfall City, Midrand
Tel + (27) 11 207 2060
Fax + (27) 86 674 6121
E-mail : mail@zitholele.co.za

Our Ref : 12949-83-Let-001-DSR Extended Review Period

20 November 2014

Dear Stakeholder,

INTEGRATED AUTHORISATION (ENVIRONMENTAL IMPACT ASSESSMENT AND WASTE MANAGEMENT LICENSE APPLICATION) FOR THE PROPOSED RETROFITTING OF A FLUE GAS DESULPHURISATION (FGD) SYSTEM AT MEDUPI POWER STATION, LEPHALALE, LIMPOPO PROVINCE (DEA REF.: 14/12/16/3/3/3/110

- **EXTENSION OF THE REVIEW PERIOD OF THE DRAFT SCOPING REPORT FOR WRITTEN COMMENTS**

Our original letter dated 27 October 2014 in which you were notified of the availability of the Draft Scoping Report (DSR) for review, holds reference. In the letter you were informed that the DSR was made available from Monday, 27 October 2014 to Friday, 05 December 2014. We confirm that the document is available at the venues listed below (hard copies), an electronic version downloaded from Zitholele's website (http://www.zitholele.co.za/eia-for-medupi-fgd), and is also available on CD on request via e-mail from Zitholele Consulting.

VENUE	CONTACT DETAILS
Lephalale Local Municipality, Civic Center Onverwacht, Cnr Joe Slovo and Douwater Road, Lephalale	Tel.: 014 762 1409
Marapong Community Library, 143 Chris Hani Street, Marapong	Tel.: 014 768 3927
Agri SA, NTK Building, 1 Jan Louis Botha Avenue, Lephalale	Tel.: 014 763 1888

This letter serves to inform you that the review period for the DSR has been extended to **Friday, 09 January 2015** (end of business day). The DSR is still available at the above-mentioned public places and electronic copies as per above information.

We would like to thank those who have submitted their written comments on the DSR to date. If you have not yet submitted your written comments on the DSR, we would like to **urge** you to do so at your earliest convenience. Please find attached a DSR comment form for your perusal (Appendix A).

We are looking forward to receiving your comments and meaningful contributions to the EIA process.

Nicolene Venter

Sharon Meyer-Douglas

ZITHOLELE CONSULTING (PTY) LTD

Attachment: Appendix A – Draft Scoping Report Comment Form

Zitholele Consulting
Reg. No. 2000/000392/07

PO Box 6002 Halfway House 1685, South Africa
Building 1, Maxwell Office Park, Magwa Crescent West
c/o Allandale Road & Maxwell Drive, Waterfall City, Midrand
Tel + (27) 11 207 2060
Fax + (27) 86 674 6121
E-mail : mail@zitholele.co.za

Our Ref: 12949-83-Let-001-DSR Notification

27 October 2014

Dear Stakeholder

INTEGRATED AUTHORISATION (ENVIRONMENTAL IMPACT ASSESSMENT AND WASTE MANAGEMENT LICENCE APPLICATION) FOR THE PROPOSED RETROFITTING OF A FLUE GAS DESULPHURISATION (FGD) SYSTEM AT MEDUPI POWER STATION, LEPHALALE, LIMPOPO PROVINCE (DEA REF.: 14/12/16/3/3/3/110)

- **NOTIFICATION OF THE AVAILABILITY OF THE DRAFT SCOPING REPORT AND INVITATION TO THE PUBLIC MEETINGS**

We would like to inform you that the Draft Scoping Report (DSR) will be made available for public review and comment from **Monday, 27 October 2014 to Friday, 05 December 2014.**

Hard copies of the DSR are available at the following public places:

VENUE	CONTACT DETAILS
Printed Copies	
Lephalale Local Municipality, Civic Center Onverwacht, Cnr Joe Slovo and Douwater Road, Lephalale	Tel.: 014 762 1409
Marapong Community Library, 143 Chris Hani Street, Marapong	Tel.: 014 768 3927
Agri SA, NTK Building, 1 Jan Louis Botha Avenue, Lephalale	Tel.: 014 763 1888

The DSR can also be downloaded from Zitholele's website (http://www.zitholele.co.za/eia-for-medupi-fgd), and is also available on CD on request via email from Zitholele Consulting.

You are requested to comment on the DSR in any of the following ways:

- Completing the comment sheet enclosed (Appendix A);
- Writing a letter, or producing additional written submissions;
- Sending an e-mail or phoning the public participation office; or
- Attending any one of the public meetings (see below for details).

Invitation to Public Meetings

Public Meetings will be held where a summary of the potential environmental impacts identified to date and documented in the DSR, will be presented and discussed. Your local knowledge will add value to this process by ensuring that all relevant environmental impacts have been identified for assessment in the Impact Phase of the EIA.

The **Public Meetings** will be held as follows:

DATE	TIME	VENUE
Wednesday, 05 November 2014	18:00 – 20:00 (Registration from 17h30)	Mogol Golf Club George Wessels St, Lephalale Tel: 014 763 2427
Thursday, 06 November 2014	17:00 – 19:00 (Registration from 16h30)	Marapong Community Library 143 Chris Hani Street, Marapong Tel: 014 768 3927

To ensure that we provide sufficient seating, you are kindly requested to complete the attached registration form (Appendix B) and return it to the Public Participation Office (contact details provided on the registration form – Appendix B) on or before Wednesday, 29 October 2014.

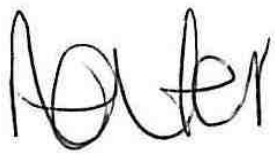
For those Interested and/or Affected Parties (I&APs) who do not have access to e-mail or fax facilities, or in easy reach of a Post Office, and wish to register their attendance for the public meetings, Zitholele Consulting has placed copies of the Public Meeting Registration Form and a Public Meeting Registration Box at the following places for your convenience:

- Lephalale Public Library, Civic Center Onverwacht, Cnr Joe Slovo and Douwater Road – Tel: 014 762 1409
- Lephalale Local Municipality, 143 Chris Hani Street, Marapong – Tel: 014 768 3927

You are kindly requested to make use of this opportunity to register your attendance at the Public Meetings, and to extend this invitation to your colleagues, friends, neighbours and family members.

We would like to express our appreciation to the stakeholders who have submitted information required for the compilation of the DSR thus far.

Kind regards



Nicolene Venter
ZITHOLELE CONSULTING (PTY) LTD

Appendix A: DSR Comment Form
Appendix B: Registration Form for Public Meeting

INTEGRATED AUTHORISATION (ENVIRONMENTAL IMPACT ASSESSMENT AND WASTE MANAGEMENT LICENCE APPLICATION) FOR THE PROPOSED RETROFITTING OF A FLUE GAS DESULPHURISATION (FGD) SYSTEM AT MEDUPI POWER STATION, LEPHALALE, LIMPOPO PROVINCE (DEA Ref.: 14/12/16/3/3/3/110) **COMMENT SHEET ON THE DRAFT SCOPING REPORT** **Available for public review from 27 October 2014 to 05 December 2014.**	**EIA Public Participation Office** Tricia Njapha / Leoni Lubbe Zitholele Consulting (Pty) Ltd P O Box 6002, Halfway House, 1685 Tel: (011) 207 2060 Fax: 086-676-9950 Email: publicprocess@zitholele.co.za ZITHOLELE CONSULTING

Please complete by <u>Friday 05 December 2014</u> and return to the EIA Public Participation Office (as above)

TITLE		**FIRST NAME**	
INITIALS		**SURNAME**	
ORGANISATION (Please do not use any acronyms)			
ADDRESS		**POSTAL CODE**	
TEL NO			
FAX NO			
CELL			
EMAIL			
SIGNATURE			
DATE			

COMMENTS (Please use separate sheets if necessary)

1. Have your questions, concerns, issues and suggestions been captured? If not, please indicate below.

.....

.....

.....

2. Of the issues already covered, do you wish to add additional aspects that have not yet been mentioned?

.....

.....

.....

3. Please tell us, did you find the Draft Scoping Report useful? Please indicate below.

YES, USEFUL	
NEED IMPROVEMENT	
NO, NOT USEFUL	

Please tell us why:

.....

.....

.....

4. Any other comments you may have:

.....

.....

THANK YOU FOR YOUR CONTRIBUTION

INTEGRATED AUTHORISATION (ENVIRONMENTAL IMPACT ASSESSMENT AND WASTE MANAGEMENT LICENCE APPLICATION) FOR THE PROPOSED RETROFITTING OF A FLUE GAS DESULPHURISATION (FGD) SYSTEM AT MEDUPI POWER STATION, LEPHALALE, LIMPOPO PROVINCE (DEA Ref.: 14/12/16/3/3/3/110) **Reply sheet to receive the Draft Scoping Report and to attend the Public Meetings on 05 & 06 November 2014**	**EIA Public Participation Office** **EIA Public Participation Office** Tricia Njapha / Leoni Lubbe Zitholele Consulting (Pty) Ltd P O Box 6002, Halfway House, 1685 Tel: (011) 207 2060 Fax: 086-676-9950 Email: publicprocess@zitholele.co.za ZITHOLELE CONSULTING

Please complete by Wednesday, 29 October 2014 and return to the EIA Public Participation Office (as above)

TITLE			
SURNAME			
ORGANISATION (Please do not use any acronyms)			
ADDRESS			
		POSTAL CODE	
TELEPHONE NO			
FAX NO			
CELL PHONE NO			
EMAIL ADDRESS			
SIGNATURE			
DATE			

REGISTRATION TO RECEIVE THE DRAFT SCOPING REPORT AND/OR TO ATTEND THE PUBLIC MEETINGS

DRAFT SCOPING REPORT I would like to receive a copy of the Draft Scoping Report (please circle the appropriate block)		
CD by mail	**YES**	**NO**
PUBLIC MEETING I would like to attend the public meeting (please circle the appropriate block)		
I will attend the Public Meeting (18:00 to 20:00) on **Wednesday, 05 November 2014** at Mogol Golf Club **(Registration from 17:30)**	**YES**	**NO**
I will attend the Public Meeting (17:00 to 19:00) on **Thursday, 06 November 2014** at Marapong Community Library **(Registration from 16:30)**	**YES**	**NO**
If you cannot attend any of the Public Meetings, would you like to receive a copy of the Minutes?	**YES**	**NO**

COMMENTS Any comments you may have at this stage (please use separate sheets if you wish)

……

……

Please ask the following of my colleagues/friends/neighbours to the Public Meetings (Please provide contact details):

……

……

……

THANK YOU FOR YOUR CONTRIBUTION

Zitholele Consulting
Reg. No. 2000/000392/07

PO Box 6002 Halfway House 1685
South Africa
Thandanani Park, Matuka Close
Halfway Gardens, Midrand
Tel + (27) 11 207 2060
Fax + (27) 86 674 6121
E-mail : mail@zitholele.co.za

Our Ref : 12949-83-Let-01-DSR Notification

28 October 2014

Department of Environmental Affairs (DEA)
Private Bag X447
Pretoria
0001

Attention: Ms Pumeza Skepe

Dear Ms Skepe

ENVIRONMENTAL IMPACT ASSESSMENT AND WASTE MANAGEMENT LICENCE APPLICATION FOR THE PROPOSED RETROFITTING OF A FLUE GAS DESULPHURISATION (FGD) SYSTEM AT MEDUPI POWER STATION - (DEA REF.: 14/12/16/3/3/3/110)

- **NOTIFICATION OF THE AVAILABILITY OF THE DRAFT SCOPING REPORT**

Eskom SOC Holding Limited (hereinafter referred to as Eskom) is the South African utility that generates, transmits and distributes electricity. Eskom supplies about 95% of the country's electricity and about 60% of the total electricity consumed in Africa. Eskom plays a major role in accelerating growth in the South African economy by providing a high-quality supply of electricity.

The Medupi Power Station Flue Gas Desulfurization (FGD) Retrofit Project consists of the retrofit of FGD systems onto six (6) 800 megawatt (MW) coal fired steam electric generating units. The proposed project is undertaken in the Limpopo Province, approximately 15km west of the town of Lephalale. The FGD Project will result in the addition of wet limestone open spray tower FGD systems to each of the operating units and will be operational within 6 years from the date of commercial operation of the first commercial generating unit.

As per Government Notice No. 33306 of June 2010, Chapter 2, (6), the Minister, MEC or competent authority (Department of Environmental Affairs - DEA) must consult with every state department that administers a law relating to a matter affecting the environment relevant to that application for an environmental authorisation when he or she considers an application. A state department consulted must submit its comments within 40 days from the date on which the Minister, MEC or competent authority requests such state department, in writing, to submit comments

With reference to the above, an Environmental Impact Assessment (EIA) is being undertaken for the proposed Retrofitting of a Flue Gas Desulphurisation (FGD) System at Medupi Power Station. We would like to inform you that Zitholele Consulting proceeded with compilation of the Draft Scoping Report (DSR) which is now finalised and available for public review and comment from **Monday 27 October 2014 to Friday 05 November 2014.**

In terms of the aforementioned, Zitholele Consulting has distributed the Draft Scoping Report for the proposed project to the relevant departments for comment on **Monday 27 October 2014**. The relevant departments and organisations that received a copy of the Draft Scoping Report are:

- Department of Water and Sanitation (DWS)
- Limpopo Economic Development, Environment and Tourism (LEDET)
- Limpopo Department of Agriculture
- Department of Agriculture Forestry and Fisheries
- Department of Roads and Transport
- Lephalale Local Municipality
- Waterberg District Municipality
- South African Heritage Resource Agency (SAHRA) – (Report Uploaded to SAHRIS website)
- South African National Biodiversity Institute (SANBI)
- Wildlife and Environmental Society of South Africa (WESSA)

In an effort to minimise delays, the Draft Scoping Report has been distributed to the aforementioned organisations with the objective of facilitating comments to assist the DEA in making an informed decision on whether to approve the Scoping Phase of the project without unforeseen delays.

Should you have any queries please don't hesitate to contact me.

Yours faithfully,

Sharon Meyer-Douglas
ZITHOLELE CONSULTING (PTY) LTD

Attachments : 2 x Hard copies of Draft Scoping Report
2 x CD's of Draft Scoping Report

Zitholele Consulting
Reg. No. 2000/000392/07

PO Box 6002 Halfway House 1685, South Africa
Building 1, Maxwell Office Park, Magwa Crescent West
c/o Allandale Road & Maxwell Drive, Waterfall City, Midrand
Tel + (27) 11 207 2060
Fax + (27) 86 674 6121
E-mail : mail@zitholele.co.za

Our Ref : 12949-Let-002-DAFF FS FSR

11 June 2015

Department of Agriculture Forestry and Fisheries (Limpopo)
Private Bag X9487
POLOKWANE
0700

Attention: Mr Sereme Ntsoane

Dear Mr Ntsoane

ENVIRONMENTAL IMPACT ASSESSMENT AND WASTE MANAGEMENT LICENSE APPLICATION FOR THE PROPOSED MEDUPI POWER STATION FLUE GAS DESULPHURISATION (Ref No: EMS/23(ii), 3, 15/14/11, NEAS Ref: FSP/EIA/0000379/2014)

- **NOTIFICATION OF THE AVAILABILITY OF THE FINAL SCOPING REPORT**

As per Section 24O(2) & (3) of the National Environmental Management Act, 1998 (Act 107 of 1998) the applicant/EAP is required to inform the State Departments of the commencement date of the 40 day commenting period, or 60 days in the case of the Department of Water Affairs for waste management activities which also require a licence in terms of the National Water Act, 1998 (Act 36 of 1998).

In terms of the aforementioned regulation, Zitholele Consulting distributed the Final Scoping Report (FSR) for the above-mentioned proposed project to the DEA for review on **Thursday 11 June 2015**. The public review period for the FSR will be from **Friday 12 June 2015 to Wednesday, 22 July 2015.** The relevant departments and organisations that received a copy of the FSR are:

- Department of Water and Sanitation
- Limpopo Economic Development, Environment and Tourism
- Department of Roads and Transport
- Lephalale Local Municipality
- Waterberg District Municipality
- South African Heritage Resource Agency (SAHRA) – (Report Uploaded to SAHRIS website)

In an effort to minimise delays, the FSR has been distributed to the aforementioned organisations with the objective of facilitating comments to assist the DEA in making an informed decision when it comes to the issuing of the Environmental Authorisation for this proposed project without unforeseen delay.

Please submit your comments to the DEA and Zitholele Consulting on or by **Wednesday 22 July 2015**. You can submit your comments by post, fax or email as follows:

Ms Mmatlala Rabothatha
Department of Environmental Affairs
Case Officer: Integrated Environmental Authorisations
Private Bag X447
Pretoria
0001
Fax: 012 320 7539
E-mail: mrabothatha@envirnment.gov.za

You are also requested to send a copy to Zitholele Consulting at above-mentioned postal address or e-mail us at publicprocess@zitholele.co.za or fax us on 086 676 9950.

Should you have any queries please do not hesitate to contact me.

Yours faithfully

Nicolene Venter
ZITHOLELE CONSULTING (PTY) LTD

Attachments : 1 x CD of the FSR

Zitholele Consulting
Reg. No. 2000/000392/07

PO Box 6002 Halfway House 1685, South Africa
Building 1, Maxwell Office Park, Magwa Crescent West
c/o Allandale Road & Maxwell Drive, Waterfall City, Midrand
Tel + (27) 11 207 2060
Fax + (27) 86 674 6121
E-mail : mail@zitholele.co.za

Our Ref : 12949-Let-002-DAFF FS FSR

11 June 2015

Department of Agriculture Forestry and Fisheries (Limpopo)
Private Bag X9487
POLOKWANE
0700

Attention: Mr Jacky Phosa

Dear Mr Phosa

ENVIRONMENTAL IMPACT ASSESSMENT AND WASTE MANAGEMENT LICENSE APPLICATION FOR THE PROPOSED MEDUPI POWER STATION FLUE GAS DESULPHURISATION (Ref No: EMS/23(ii), 3, 15/14/11, NEAS Ref: FSP/EIA/0000379/2014)

- **NOTIFICATION OF THE AVAILABILITY OF THE FINAL SCOPING REPORT**

As per Sect6ion 24O(2) & (3) of the National Environmental Management Act, 1998 (Act 107 of 1998) the applicant/EAP is required to inform the State Departments of the commencement date of the 40 day commenting period, or 60 days in the case of the Department of Water Affairs for waste management activities which also require a licence in terms of the National Water Act, 1998 (Act 36 of 1998).

In terms of the aforementioned regulation, Zitholele Consulting distributed the Final Scoping Report (FSR) for the above-mentioned proposed project to the DEA for review on **Thursday 11 June 2015**. The public review period for the FSR will be from **Friday 12 June 2015 to Wednesday, 22 July 2015.** The relevant departments and organisations that received a copy of the FSR are:

- Department of Water and Sanitation
- Limpopo Economic Development, Environment and Tourism
- Department of Roads and Transport
- Lephalale Local Municipality
- Waterberg District Municipality
- South African Heritage Resource Agency (SAHRA) – (Report Uploaded to SAHRIS website)

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Department of Environmental Affairs
Case Officer: Integrated Environmental Authorisations
Private Bag X447
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Should you have any queries please do not hesitate to contact me.

Yours faithfully

Nicolene Venter
ZITHOLELE CONSULTING (PTY) LTD

Attachments : 1 x CD of the FSR

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Reg. No. 2000/000392/07

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Building 1, Maxwell Office Park, Magwa Crescent West
c/o Allandale Road & Maxwell Drive, Waterfall City, Midrand
Tel + (27) 11 207 2060
Fax + (27) 86 674 6121
E-mail : mail@zitholele.co.za

Our Ref : 12949-Let-002-DRT FSR

11 June 2015

Department of Roads and Transport
Private Bag X20801
Bloemfontein
9300

Attention: Mr Joseph Tshikonelo

Dear Mr Tshikonelo

ENVIRONMENTAL IMPACT ASSESSMENT AND WASTE MANAGEMENT LICENSE APPLICATION FOR THE PROPOSED MEDUPI POWER STATION FLUE GAS DESULPHURISATION (Ref No: EMS/23(ii), 3, 15/14/11, NEAS Ref: FSP/EIA/0000379/2014)

- **NOTIFICATION OF THE AVAILABILITY OF THE FINAL SCOPING REPORT**

As per Section 24O(2) & (3) of the National Environmental Management Act, 1998 (Act 107 of 1998) the applicant/EAP is required to inform the State Departments of the commencement date of the 40 day commenting period, or 60 days in the case of the Department of Water Affairs for waste management activities which also require a licence in terms of the National Water Act, 1998 (Act 36 of 1998).

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Department of Environmental Affairs
Case Officer: Integrated Environmental Authorisations
Private Bag X447
Pretoria
0001
Fax: 012 320 7539
E-mail: mrabothatha@envirnment.gov.za

You are also requested to send a copy to Zitholele Consulting at above-mentioned postal or e-mail us at publicprocess@zitholele.co.za or fax us on 086 676 9950.

Should you have any queries please do not hesitate to contact me.

Yours faithfully

Nicolene Venter
ZITHOLELE CONSULTING (PTY) LTD

Attachments : 1 x CD of the FSR

Zitholele Consulting
Reg. No. 2000/000392/07

PO Box 6002 Halfway House 1685, South Africa
Building 1, Maxwell Office Park, Magwa Crescent West
c/o Allandale Road & Maxwell Drive, Waterfall City, Midrand
Tel + (27) 11 207 2060
Fax + (27) 86 674 6121
E-mail : mail@zitholele.co.za

Our Ref : 12949-Let-002-DWS FSR

11 June 2015

Department of Water & Sanitation (Limpopo Province)
Private Bag X528
BLOEMFONTEIN
9300

Attention: Ms Martha Komape

Dear Ms Komape

ENVIRONMENTAL IMPACT ASSESSMENT AND WASTE MANAGEMENT LICENSE APPLICATION FOR THE PROPOSED MEDUPI POWER STATION FLUE GAS DESULPHURISATION (Ref No: EMS/23(ii), 3, 15/14/11, NEAS Ref: FSP/EIA/0000379/2014)

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In terms of the aforementioned regulation, Zitholele Consulting distributed the Final Scoping Report (FSR) for the above-mentioned proposed project to the DEA for review on **Thursday 11 June 2015**. The public review period for the FSR will be from **Friday 12 June 2015 to Wednesday, 12 August 2015.** The relevant departments and organisations that received a copy of the FSR are:

- Limpopo Economic Development, Environment and Tourism (LEDET)
- Department of Agriculture Forestry and Fisheries
- Department of Roads and Transport
- Lephalale Local Municipality
- Waterberg District Municipality
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In an effort to minimise delays, the FSR has been distributed to the aforementioned organisations with the objective of facilitating comments to assist the DEA in making an informed decision when it comes to the issuing of the Environmental Authorisation for this proposed project without unforeseen delay.

Please submit your comments to the DEA and Zitholele Consulting on or by **Wednesday 12 August 2015**. You can submit your comments by post, fax or email as follows:

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Department of Environmental Affairs
Case Officer: Integrated Environmental Authorisations
Private Bag X447
Pretoria
0001
Fax: 012 320 7539
E-mail: mrabothatha@envirnment.gov.za

You are also requested to send a copy to Zitholele Consulting at above-mentioned postal address or e-mail us at publicprocess@zitholele.co.za or fax us on 086 676 9950.

Should you have any queries please do not hesitate to contact me.

Yours faithfully

Nicolene Venter
ZITHOLELE CONSULTING (PTY) LTD

Attachments : 1 x CD of the FSR

Zitholele Consulting
Reg. No. 2000/000392/07

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c/o Allandale Road & Maxwell Drive, Waterfall City, Midrand
Tel + (27) 11 207 2060
Fax + (27) 86 674 6121
E-mail : mail@zitholele.co.za

Our Ref : 12949-Let-002-LEDET FSR

11 June 2015

Limpopo Economic Development, Environment & Tourism
Private Bag X9484
POLOKWANE
0699

Attention: EIM Central Administrations Office

Dear Ms CP Masepi

ENVIRONMENTAL IMPACT ASSESSMENT AND WASTE MANAGEMENT LICENSE APPLICATION FOR THE PROPOSED MEDUPI POWER STATION FLUE GAS DESULPHURISATION (Ref No: EMS/23(ii), 3, 15/14/11, NEAS Ref: FSP/EIA/0000379/2014)

- **NOTIFICATION OF THE AVAILABILITY OF THE FINAL SCOPING REPORT**

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- Department of Agriculture Forestry and Fisheries
- Department of Roads and Transport
- Lephalale Local Municipality
- Waterberg District Municipality
- South African Heritage Resource Agency (SAHRA) – (Report Uploaded to SAHRIS website)

In an effort to minimise delays, the FSR has been distributed to the aforementioned organisations with the objective of facilitating comments to assist the DEA in making an informed decision when it comes to the issuing of the Environmental Authorisation for this proposed project without unforeseen delay.

Please submit your comments to the DEA and Zitholele Consulting on or by **Wednesday 22 June 2015**. You can submit your comments by post, fax or email as follows:

Ms Mmatlala Rabothatha
Department of Environmental Affairs
Case Officer: Integrated Environmental Authorisations
Private Bag X447
Pretoria
0001
Fax: 012 320 7539
E-mail: mrabothatha@envirnment.gov.za

You are also requested to send a copy to Zitholele Consulting at above-mentioned postal address or e-mail us at publicprocess@zitholele.co.za or fax us on 086 676 9950.

Should you have any queries please do not hesitate to contact me.

Yours faithfully

Nicolene Venter
ZITHOLELE CONSULTING (PTY) LTD

Attachments : 1 x CD of the FSR

Zitholele Consulting
Reg. No. 2000/000392/07

PO Box 6002 Halfway House 1685, South Africa
Building 1, Maxwell Office Park, Magwa Crescent West
c/o Allandale Road & Maxwell Drive, Waterfall City, Midrand
Tel + (27) 11 207 2060
Fax + (27) 86 674 6121
E-mail : mail@zitholele.co.za

Our Ref : 12949-Let-002-WATERBERG DM FSR

11 June 2015

Waterberg District Municipality
Private Bag X1018
MODIMOLLE
0510

Attention: Mr MS Mabotja

Dear Mr Mabotja

ENVIRONMENTAL IMPACT ASSESSMENT AND WASTE MANAGEMENT LICENSE APPLICATION FOR THE PROPOSED MEDUPI POWER STATION FLUE GAS DESULPHURISATION (Ref No: EMS/23(ii), 3, 15/14/11, NEAS Ref: FSP/EIA/0000379/2014)

- **NOTIFICATION OF THE AVAILABILITY OF THE FINAL SCOPING REPORT**

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In terms of the aforementioned regulation, Zitholele Consulting distributed the Final Scoping Report (FSR) for the above-mentioned proposed project to the DEA for review on **Thursday 11 June 2015**. The public review period for the FSR will be from **Friday 12 June 2015 to Wednesday, 22 July 2015.** The relevant departments and organisations that received a copy of the FSR are:

- Department of Water and Sanitation (DWS)
- Limpopo Economic Development, Environment and Tourism (LEDET)
- Department of Agriculture Forestry and Fisheries
- Department of Roads and Transport
- Lephalale Local Municipality
- South African Heritage Resource Agency (SAHRA) – (Report Uploaded to SAHRIS website)

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Please submit your comments to the DEA and Zitholele Consulting on or by **Wednesday 22 June 2015**. You can submit your comments by post, fax or email as follows:

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Department of Environmental Affairs
Case Officer: Integrated Environmental Authorisations
Private Bag X447
Pretoria
0001
Fax: 012 320 7539
E-mail: mrabothatha@envirnment.gov.za

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Should you have any queries please do not hesitate to contact me.

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Nicolene Venter
ZITHOLELE CONSULTING (PTY) LTD

Attachments : 1 x CD of the FSR

Zitholele Consulting
Reg. No. 2000/000392/07

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Building 1, Maxwell Office Park, Magwa Crescent West
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Tel + (27) 11 207 2060
Fax + (27) 86 674 6121
E-mail : mail@zitholele.co.za

Our Ref : 12949-83-Let-002-FSR Notification

11 June 2015

Department of Environmental Affairs
Integrated Environmental Authorisations
Private Bag X447
Pretoria
0001

Attention: Mr Herman Alberts

Dear Mr Alberts

ENVIRONMENTAL IMPACT ASSESSMENT AND WASTE MANAGEMENT LICENSE APPLICATION FOR THE PROPOSED MEDUPI POWER STATION FLUE GAS DESULPHURISATION (DEA REF.: 14/12/16/3/3/3/110)

- **SUBMISSION OF THE FINAL SCOPING REPORT**

This letter serves to notify the Department of Environmental Affairs (DEA) of the submission of the enclosed 2 x Hard Copies (Colour) and 2 x CD's containing the Final Scoping Report to the Department for review. The Final Scoping Report will be made available for public review and comment from **Friday 12 June 2015 to Wednesday 22 July 2015 2015.**

In terms of the aforementioned, Zitholele Consulting has distributed the Final Scoping Report for the proposed project to the relevant State Departments and Organs of State for comment on **Thursday 11 June 2015**. The relevant State Departments and Organs of State that received a copy of the Final Scoping Report are:

- Department of Agriculture, Forestry & Fisheries (Limpopo)
- Department of Economic Development, Environment and Tourism (Limpopo)
- Department of Roads & Transport (Limpopo)
- Department of Water & Sanitation (Limpopo)
- Waterberg District Municipality
- Lephalale Local Municipality
- South African Heritage Resource Agency (SAHRA) – (Report Uploaded to SAHRIS website)

In an effort to minimise delays, the Final Scoping Report has been distributed to the aforementioned organisations with the objective of facilitating comments to assist the DEA in making an informed decision on whether to approve the Scoping Phase of the project without unforeseen delays.

Should you have any queries please do not hesitate to contact me.

Yours faithfully,

Tania Oosthuizen
ZITHOLELE CONSULTING (PTY) LTD

Attachments : 2 x Colour Hard copies of Final Scoping Report
2 x CDs of Final Scoping Report

Tricia Njapha

From: Tricia Njapha
Sent: 15 June 2015 05:28 PM
Cc: Nicolene Venter; Tania Oosthuizen
Subject: EIA & WML APPLICATION FOR MEDUPI FGD
Attachments: 12949-83-Let-001-I&AP FSR NotificationLetter-Rev0.pdf; 12949-83-Let-001-FSR CommentSheet-Rev0.pdf

Importance: High

Tracking:

Recipient	Delivery	Read
[redacted]	Delivered: 15/06/2015 05:28 PM	Read: 15/06/2015 05:30 PM
	Delivered: 15/06/2015 05:28 PM	Read: 15/06/2015 05:31 PM

Recipient	Delivery	Read
[redacted]		

Recipient	Delivery	Read
[redacted]		

Recipient	Delivery	Read
[redacted]		

Recipient	Delivery	Read
[redacted]		

Recipient	Delivery	Read
[redacted]	Delivered: 15/06/2015 05:28 PM	

DEA REFERENCE NUMBER: 14/12/16/3/3/3/110

Dear Stakeholder,

INTEGRATED AUTHORISATION (ENVIRONMENTAL IMPACT ASSESSMENT AND WASTE MANAGEMENT LICENCE APPLICATION) FOR THE PROPOSED RETROFITTING OF A FLUE GAS DESULPHURISATION (FGD) SYSTEM AT MEDUPI POWER STATION, LEPHALALE, LIMPOPO PROVINCE

- **NOTIFICATION OF THE AVAILABILITY OF THE FINAL SCOPING REPORT**

This communication serves to inform you that the Final Scoping Report (FSR) for the above-mentioned project is now available for Public Review from **Friday 12 June 2015 to Monday 13 July 2015.**

The FSR (incl. all Appendices) is available on the Zitholele Website at: http://www.zitholele.co.za/eia-for-medupi-fgd.

Kindly find attached for your attention the following documents:

- The Notification Letter; and
- A FSR Comment Sheet

If you have comments that you would like to submit, kindly do so on or before **Monday 13 July 2015** by returning the attached Comment Sheet or by contacting the Public Participation Office on (011) 207 2060 or fax us on 086 656 9950 or email us at publicprocess@zitholele.co.za.

We look forward to receiving your comments.

Kind regards,

Tricia Njapha
Public Participation Practitioner
Building 1, Maxwell Office Park, Magwa Crescent West, cnr Allandale Road & Maxwell Drive, Waterfall City, Midrand, RSA
T: +27 11 207 2060 **D:** +27 11 088 8454 **F:** +27 86 206 7720/+27 86 676 9950 **C:** +27 83 420 1597 **E:** trician@zitholele.co.za **W:** www.zitholele.co.za

Zitholele Consulting
Reg. No. 2000/000392/07

PO Box 6002 Halfway House 1685, South Africa
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c/o Allandale Road & Maxwell Drive, Waterfall City, Midrand
Tel + (27) 11 207 2060
Fax + (27) 86 674 6121
E-mail : mail@zitholele.co.za

Our Ref: 12949-83-Let-002-FSR Notification

12 June 2015

Dear Stakeholder

INTEGRATED AUTHORISATION (ENVIRONMENTAL IMPACT ASSESSMENT AND WASTE MANAGEMENT LICENCE APPLICATION) FOR THE PROPOSED RETROFITTING OF A FLUE GAS DESULPHURISATION (FGD) SYSTEM AT MEDUPI POWER STATION, LEPHALALE, LIMPOPO PROVINCE (DEA REF.: 14/12/16/3/3/3/110)

- **NOTIFICATION OF THE AVAILABILITY OF THE FINAL SCOPING REPORT**

With reference to our letter dated 27 October 2014, you were notified of the availability of the Draft Scoping Report (DSR) for public review and the review period for the DSR was from Monday, 27 October 2014 to Friday, 05 December 2014.

The Final Scoping Report (FSR) has been updated with the comments received and was submitted to the Department of Environmental Affairs (DEA), the competent authority, on **Thursday 11 June 2015**. The DEA will, in consultation with the commenting authorities, notify Zitholele Consulting whether they accept the FSR and approve the Plan of Study for the EIA.

The review period for the FSR will be from **Friday 12 June 2015** to **Monday 13 July 2015.**

Hard copies of the FSR are available at the following public places:

VENUE	CONTACT DETAILS
Printed Copies	
Lephalale Local Municipality, Civic Center Onverwacht, Cnr Joe Slovo and Douwater Road, Lephalale	Tel.: 014 762 1409
Marapong Community Library, 143 Chris Hani Street, Marapong	Tel.: 014 768 3927
Agri SA, NTK Building, 1 Jan Louis Botha Avenue, Lephalale	Tel.: 014 763 1888

The FSR can also be downloaded from Zitholele's website (http://www.zitholele.co.za/eia-for-medupi-fgd).
The FSR is also available on CD on request via email from Zitholele Consulting.

You are requested to comment on the FSR in any of the following ways:

- Completing the comment sheet enclosed (Appendix A);
- Writing a letter, or producing additional written submissions;
- Sending an e-mail or phoning the public participation office; or

Kindly send your reply to Tricia Njapha or Nicolene Venter at the Public Participation Office on fax number 086 676 9950 or e-mail us on publicprocess@zitholele.co.za. You are also welcome to contact Zitholele Consulting on (011) 207 2060.

We would like to express our appreciation to the stakeholders who have submitted information required for the compilation of the FSR thus far.

Kind regards

Nicolene Venter
ZITHOLELE CONSULTING (PTY) LTD

Appendix A: FSR Comment Sheet

INTEGRATED AUTHORISATION (ENVIRONMENTAL IMPACT ASSESSMENT AND WASTE MANAGEMENT LICENCE APPLICATION) FOR THE PROPOSED RETROFITTING OF A FLUE GAS DESULPHURISATION (FGD) SYSTEM AT MEDUPI POWER STATION, LEPHALALE, LIMPOPO PROVINCE
(DEA Ref.: 14/12/16/3/3/3/110)

COMMENT SHEET ON THE FINAL SCOPING REPORT

Available for public review from
Friday 12 June 2015 to Monday 13 July 2015

EIA Public Participation Office
Tricia Njapha / Nicolene Venter
Zitholele Consulting (Pty) Ltd
P O Box 6002, Halfway House, 1685
Tel: (011) 207 2060
Fax: 086-676-9950
Email: publicprocess@zitholele.co.za

Please complete by Monday 13 July 2015 and return to the EIA Public Participation Office (as above)

TITLE		**FIRST NAME**	
INITIALS		**SURNAME**	
ORGANISATION (Please do not use any acronyms)			
ADDRESS			
		POSTAL CODE	
TELEPHONE NO			
FAX NO			
CELL PHONE NO			
E-MAIL ADDRESS			
SIGNATURE			
DATE			

COMMENTS (Please use separate sheets if necessary)

1. Have your questions, concerns, issues and suggestions been captured? If not, please indicate below.

.....

.....

3. Please tell us, did you find the Final Scoping Report useful? Please indicate below.

YES, USEFUL	
NEED IMPROVEMENT	
NO, NOT USEFUL	

Please tell us why:

.....

.....

.....

THANK YOU FOR YOUR CONTRIBUTION

Nicolene Venter

From: Nicolene Venter
Sent: 15 July 2015 08:08 AM
To: Tania Oosthuizen; Sharon Meyer (Sharonm@zitholele.co.za)
Cc: Bongani Dhlamini; Tricia Njapha
Subject: MEDUPI FGD: Final Scoping Report - Notification of Review Period Ended
Attachments: 12949-83-Let-001-I&AP FSR NotificationLetter-Rev0.pdf; 12949-83-Let-001-FSR CommentSheet-Rev0.pdf

Importance: High

DEA REFERENCE NUMBER: 14/12/16/3/3/3/110

Dear Stakeholder,

INTEGRATED AUTHORISATION (ENVIRONMENTAL IMPACT ASSESSMENT AND WASTE MANAGEMENT LICENCE APPLICATION) FOR THE PROPOSED RETROFITTING OF A FLUE GAS DESULPHURISATION (FGD) SYSTEM AT MEDUPI POWER STATION, LEPHALALE, LIMPOPO PROVINCE

- **NOTIFICATION: FINAL SCOPING REPORT REVIEW PERIOD ENDED**

This communication serves to inform you that the public review period for the **Final Scoping Report (FSR)** for the above-mentioned proposed project ended on **Monday, 13 July 2015** (close of business day).

The report (incl. all Appendices) is still available on the Zitholele Consulting website: : http://www.zitholele.co.za/eia-for-medupi-fgd.

We would like to thank those who have submitted comments on the report.

Kind Regards,

Nicolene Venter [Cert. Public Relations]
Senior Public Participation Practitioner
Building 1, Maxwell Office Park, Magwa Crescent West, cnr Allandale Road & Maxwell Drive, Waterfall City, Midrand, RSA
T: +27 11 207 2060 **D:** +27 11 207 2077 **F:** +27 86 676 9950 **C:** +27 83 377 9112
E: nicolenev@zitholele.co.za **W:** www.zitholele.co.za

From: Tricia Njapha
Sent: 15 June 2015 05:28 PM
Cc: Nicolene Venter; Tania Oosthuizen
Subject: EIA & WML APPLICATION FOR MEDUPI FGD
Importance: High

DEA REFERENCE NUMBER: 14/12/16/3/3/3/110

Dear Stakeholder,

INTEGRATED AUTHORISATION (ENVIRONMENTAL IMPACT ASSESSMENT AND WASTE MANAGEMENT LICENCE

APPLICATION) FOR THE PROPOSED RETROFITTING OF A FLUE GAS DESULPHURISATION (FGD) SYSTEM AT MEDUPI POWER STATION, LEPHALALE, LIMPOPO PROVINCE

- **NOTIFICATION OF THE AVAILABILITY OF THE FINAL SCOPING REPORT**

This communication serves to inform you that the Final Scoping Report (FSR) for the above-mentioned project is now available for Public Review from **Friday 12 June 2015 to Monday 13 July 2015.**

The FSR (incl. all Appendices) is available on the Zitholele Website at: http://www.zitholele.co.za/eia-for-medupi-fgd.

Kindly find attached for your attention the following documents:

- The Notification Letter; and
- A FSR Comment Sheet

If you have comments that you would like to submit, kindly do so on or before **Monday 13 July 2015** by returning the attached Comment Sheet or by contacting the Public Participation Office on (011) 207 2060 or fax us on 086 656 9950 or email us at publicprocess@zitholele.co.za.

We look forward to receiving your comments.

Kind regards,

Tricia Njapha
Public Participation Practitioner
Building 1, Maxwell Office Park, Magwa Crescent West, cnr Allandale Road & Maxwell Drive, Waterfall City, Midrand, RSA
T: +27 11 207 2060 **D:** +27 11 088 8454 **F:** +27 86 206 7720/+27 86 676 9950 **C:** +27 83 420 1597 **E:** trician@zitholele.co.za **W:** www.zitholele.co.za

Zitholele Consulting
Reg. No. 2000/000392/07

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Our Ref: 12949-83-Let-002-FSR Notification

12 June 2015

Dear Stakeholder

INTEGRATED AUTHORISATION (ENVIRONMENTAL IMPACT ASSESSMENT AND WASTE MANAGEMENT LICENCE APPLICATION) FOR THE PROPOSED RETROFITTING OF A FLUE GAS DESULPHURISATION (FGD) SYSTEM AT MEDUPI POWER STATION, LEPHALALE, LIMPOPO PROVINCE (DEA REF.: 14/12/16/3/3/3/110)

- **NOTIFICATION OF THE AVAILABILITY OF THE FINAL SCOPING REPORT**

With reference to our letter dated 27 October 2014, you were notified of the availability of the Draft Scoping Report (DSR) for public review and the review period for the DSR was from Monday, 27 October 2014 to Friday, 05 December 2014.

The Final Scoping Report (FSR) has been updated with the comments received and was submitted to the Department of Environmental Affairs (DEA), the competent authority, on **Thursday 11 June 2015**. The DEA will, in consultation with the commenting authorities, notify Zitholele Consulting whether they accept the FSR and approve the Plan of Study for the EIA.

The review period for the FSR will be from **Friday 12 June 2015** to **Monday 13 July 2015.**

Hard copies of the FSR are available at the following public places:

VENUE	CONTACT DETAILS
Printed Copies	
Lephalale Local Municipality, Civic Center Onverwacht, Cnr Joe Slovo and Douwater Road, Lephalale	Tel.: 014 762 1409
Marapong Community Library, 143 Chris Hani Street, Marapong	Tel.: 014 768 3927
Agri SA, NTK Building, 1 Jan Louis Botha Avenue, Lephalale	Tel.: 014 763 1888

The FSR can also be downloaded from Zitholele's website (http://www.zitholele.co.za/eia-for-medupi-fgd).
The FSR is also available on CD on request via email from Zitholele Consulting.

You are requested to comment on the FSR in any of the following ways:

- Completing the comment sheet enclosed (Appendix A);
- Writing a letter, or producing additional written submissions;
- Sending an e-mail or phoning the public participation office; or

Kindly send your reply to Tricia Njapha or Nicolene Venter at the Public Participation Office on fax number 086 676 9950 or e-mail us on publicprocess@zitholele.co.za. You are also welcome to contact Zitholele Consulting on (011) 207 2060.

We would like to express our appreciation to the stakeholders who have submitted information required for the compilation of the FSR thus far.

Kind regards

Nicolene Venter
ZITHOLELE CONSULTING (PTY) LTD

Appendix A: FSR Comment Sheet

INTEGRATED AUTHORISATION (ENVIRONMENTAL IMPACT ASSESSMENT AND WASTE MANAGEMENT LICENCE APPLICATION) FOR THE PROPOSED RETROFITTING OF A FLUE GAS DESULPHURISATION (FGD) SYSTEM AT MEDUPI POWER STATION, LEPHALALE, LIMPOPO PROVINCE
(DEA Ref.: 14/12/16/3/3/3/110)

COMMENT SHEET ON THE FINAL SCOPING REPORT

Available for public review from
Friday 12 June 2015 to Monday 13 July 2015

EIA Public Participation Office
Tricia Njapha / Nicolene Venter
Zitholele Consulting (Pty) Ltd
P O Box 6002, Halfway House, 1685
Tel: (011) 207 2060
Fax: 086-676-9950
Email: publicprocess@zitholele.co.za

Please complete by Monday 13 July 2015 and return to the EIA Public Participation Office (as above)

TITLE		**FIRST NAME**	
INITIALS		**SURNAME**	
ORGANISATION (Please do not use any acronyms)			
ADDRESS			
		POSTAL CODE	
TELEPHONE NO			
FAX NO			
CELL PHONE NO			
E-MAIL ADDRESS			
SIGNATURE			
DATE			

COMMENTS (Please use separate sheets if necessary)

1. Have your questions, concerns, issues and suggestions been captured? If not, please indicate below.

.....

.....

3. Please tell us, did you find the Final Scoping Report useful? Please indicate below.

YES, USEFUL	
NEED IMPROVEMENT	
NO, NOT USEFUL	

Please tell us why:

.....

.....

.....

THANK YOU FOR YOUR CONTRIBUTION

Appendix F-2 B: EIR Phase

Zitholele Consulting
Reg. No. 2000/000392/07

PO Box 6002 Halfway House 1685, South Africa
Building 1, Maxwell Office Park, Magwa Crescent West
c/o Allandale Road & Maxwell Drive, Waterfall City, Midrand
Tel + (27) 11 207 2060
Fax + (27) 86 674 6121
E-mail : mail@zitholele.co.za

Our Ref: 12949-83-Let-003-FSR Acceptance Letter

07 September 2015

Dear Stakeholder

INTEGRATED AUTHORISATION (ENVIRONMENTAL IMPACT ASSESSMENT AND WASTE MANAGEMENT LICENCE APPLICATION) FOR THE PROPOSED RETROFITTING OF A FLUE GAS DESULPHURISATION (FGD) SYSTEM AT MEDUPI POWER STATION, LEPHALALE, LIMPOPO PROVINCE (DEA REF.: 14/12/16/3/3/3/110)

- **ACCEPTANCE OF THE FINAL SCOPING REPORT; AND**
- **AVAILABILITY OF SCREENING REPORT FOR REVIEW AND COMMENT**

With reference to our letter dated 12 June 2015, you were notified of the submission of the Final Scoping Report (FSR) to the Department of Environmental Affairs (DEA), the competent authority. The FSR public review period was from **Friday 12 June 2015 to Monday 13 July 2015**. We thank all the stakeholders who submitted comments on the FSR and these will be responded to and included in the Comments and Responses Report (CRR) that forms part of the Draft Environmental Impact Report (DEIR).

This letter serves to inform you that the FSR has been accepted by the DEA and that the DEA approved the Plan of Study for the EIA Phase. A copy of the DEA's letter is attached to this letter and can also be downloaded from our website (http://www.zitholele.co.za/eia-for-medupi-fgd).

As you may recall, interested and affected parties (I&APs) were informed at the public meetings held in November 2014 of the possible inclusion to the scope of the environmental application of rail / road transport of the flue gas desulphurisation (FGD) waste to an on- or off-site facility. It was established that an off-site facility needs to be sourced for the FGD waste. During the period that the FSR was with the DEA for evaluation and decision-making, Zitholele Consulting embarked on a site selection process and a Screening Report has been drafted. The Screening Report is available for your review and comment from **Tuesday, 08 September 2015** to **Thursday, 08 October 2015**.

AVAILABILITY OF SCREENING REPORT

Hard copies of the Screening Report are available at the following public places:

VENUE	CONTACT DETAILS
Printed Copies	
Lephalale Local Municipality, Civic Center Onverwacht, Cnr Joe Slovo and Douwater Road, Lephalale	Tel.: 014 762 1409
Marapong Community Library, 143 Chris Hani Street, Marapong	Tel.: 014 768 3927
Agri SA, NTK Building, 1 Jan Louis Botha Avenue, Lephalale	Tel.: 014 763 1888

The Screening Report can also be downloaded from Zitholele's website (http://www.zitholele.co.za/eia-for-medupi-fgd). The Screening Report is also available on CD by request via email to Zitholele Consulting at the contact details provided below.

Zitholele Consulting, is currently working on the Draft Environmental Impact Report (DEIR). During the DEIR public review period (anticipated release date is February 2017). Public Meetings will be held to present a summary of the content of the DEIR. Registered I&APs on the project database will be notified of the availability of the draft EIR for comment and

inputs, and the report will also be made available on the Zitholele Consulting website (as per website link above) and on CD upon written request.

For any queries, please contact Nicolene Venter or Tricia Njapha at the Public Participation Office on fax number 086 676 9950 or e-mail us on publicprocess@zitholele.co.za. You are also welcome to contact Zitholele Consulting on (011) 207 2060.

Kind regards

Nicolene Venter
ZITHOLELE CONSULTING (PTY) LTD

Appendix A: Department of Environmental Affairs' Final Scoping Report Acceptance Letter

Zitholele Consulting
Reg. No. 2000/000392/07

PO Box 6002 Halfway House 1685, South Africa
Building 1, Maxwell Office Park, Magwa Crescent West
c/o Allandale Road & Maxwell Drive, Waterfall City, Midrand
T : 011 207 2060 **F** : 086 674 6121 **E** : mail@zitholele.co.za

Our Ref : 12949-83-Let-001-Project Status Update 14 July 2016

Dear Stakeholder

INTEGRATED ENVIRONMENTAL AUTHORISATION (ENVIRONMENTAL IMPACT ASSESSMENT AND WASTE MANAGEMENT LICENCE APPLICATION) FOR THE PROPOSED RETROFITTING OF A FLUE GAS DESULPHURISATION (FGD) SYSTEM AT MEDUPI POWER STATION, LEPHALALE, LIMPOPO PROVINCE (DEA REF.: 14/12/16/3/3/3/110)

- **NOTIFICATION OF PROJECT STATUS**

This letter serves as an update on the project progress regarding the integrated Environmental Authorisation process.

The Scoping Phase of this process was completed in July 2015, with acceptance of the Final Scoping Report by the Department of Environmental Affairs (DEA). The Environmental Impact Assessment process, however, has been placed on hold. Zitholele Consulting is awaiting a decision from Eskom Holdings SOC Ltd with regards to the structure of the Integrated Environmental Authorisation Application going forward. This decision is being made in order to expedite the application for the Flue Gas Disposal retrofit infrastructure, while possibly addressing the authorisation and licensing of required disposal facilities separately.

On establishment and confirmation of the way forward, Zitholele Consulting will send out notification to all project Registered Interested and Affected Parties notifying them thereof.

Should you have any further queries, please do not hesitate to contact the Public Participation Office on Tel: (011) 207 2060 or Fax us on (086) 676 9950 or alternatively, you can email Tricia Njapha on trician@zitholele.co.za.

Kind regards

Tricia Njapha
ZITHOLELE CONSULTING (PTY) LTD
Attachments : None
Z:\Projects\12949 - Medupi FGD\8 Stakeholder Engagement\83 Notification & Newsletters\003 DEIR\Project Status\12949-83-Let-001-Project Status-Rev1.docx

Zitholele Consulting
Reg. No. 2000/000392/07

PO Box 6002 Halfway House 1685, South Africa
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c/o Allandale Road & Maxwell Drive, Waterfall City, Midrand
T : 011 207 2060 **F** : 086 674 6121 **E** : mail@zitholele.co.za

Our Ref: 12949-83-Let-001-Flue Gas Cooler Report 08 June 2016

Dear Stakeholder,

ENVIRONMENTAL IMPACT ASSESSMENT AND WASTE MANAGEMENT LICENCE APPLICATION FOR THE PROPOSED RETROFITTING OF A FLUE GAS DESULPHURISATION (FGD) SYSTEM AT MEDUPI POWER STATION, LEPHALALE, LIMPOPO PROVINCE (DEA REF.: 14/12/16/3/3/3/110)

- **NOTIFICATION OF THE AVAILABILITY OF THE "PRE-SCREENING OF FLUE GAS COOLING OPTIONS BASED ON TECHNO-ECONOMIC ASSESSMENT FOR MEDUPI POWER STATION WFGD RETROFIT PROJECT" REPORT**

We would like to take this opportunity to inform you an electronic copy of Eskom's "Pre-Screening of Flue Gas Cooling Options based on the Techno-Economic Assessment for Medupi Power Station WFGD Retofit Project" Report is available on Zitholele Consulting's website (http://www.zitholele.co.za/eia-for-medupi-fgd - *scroll down to **3. Impact Phase**, expand **Flue Gas Cooler Report**, and click on the PDF*).

A hard copy of this Report will also be included as an Appendix to the Draft Environmental Impact Report (DEIR) and will be available for review during the review period of the DEIR.

Should you wish to receive a hard copy of the Flue Gas Cooler Report before the availability of the DEIR, you are kindly requested to submit your request, in writing, Nicolene Venter or Tricia Njapha at the Public Participation Office on fax number 086 676 9950 or e-mail us on publicprocess@zitholele.co.za. Should you not be able to submit your request in writing, you are also welcome to contact Zitholele Consulting on (011) 207 2060.

Kind regards

Nicolene Venter
ZITHOLELE CONSULTING (PTY) LTD

Sharon Meyer-Douglas
ZITHOLELE CONSULTING (PTY) LTD

Nicolene Venter
Z:\Projects\12949 - Medupi FGD\8 Stakeholder Engagement\83 Notification & Newsletters\003 DEIR\Flue Gas Cooler Report\12949-83-Let-001-FlueGasCoolerReport NotificationLetter-Rev0.docx

Zitholele Consulting
Reg. No. 2000/000392/07

PO Box 6002 Halfway House 1685, South Africa
Building 1, Maxwell Office Park, Magwa Crescent West
c/o Allandale Road & Maxwell Drive, Waterfall City, Midrand
T : 011 207 2060 **F** : 086 674 6121 **E** : mail@zitholele.co.za

Our Ref : 12949-83-Let-002-Updated Screening Report 13 April 2016

Dear Stakeholder

ENVIRONMENTAL IMPACT ASSESSMENT AND WASTE MANAGEMENT LICENCE APPICATION FOR THE PROPOSED RETROFITTING OF A FLUE GAS DESULPHURISATION (FGD) SYSTEM AT MEDUPI POWER STATION, LEPHALALE, LIMPOPO PROVINCE (DEA REF.: 14/12/16/3/3/3/110)

- **NOTIFICATION OF THE AVAILABILITY OF THE UPDATED SCREENING REPORT**

Our letter dated 07 September 2015, in which you were notified of the availability of the Screening Report for public review and comment, refers. The Screening Report was made available for public review and comment from **Tuesday, 08 September 2015 to Thursday, 08 October 2015.**

We would like to take this opportunity to inform you that the Updated Screening Report has been compiled to address the comments received from stakeholders, and also to screen a new potential site, and is now being made available for your review and comments.

The review period for the Updated Screening Report will be from **Thursday, 14 April 2016 to Monday, 16 May 2016.**

Hard copies of the Updated Screening Report are available at the following public places:

VENUE	CONTACT DETAILS
Printed Copies	
Lephalale Local Municipality, Civic Center Onverwacht, Cnr Joe Slovo and Douwater Road, Lephalale	Tel.: 014 762 1409
Marapong Community Library, 143 Chris Hani Street, Marapong	Tel.: 014 768 3927
Agri SA, NTK Building, 1 Jan Louis Botha Avenue, Lephalale	Tel.: 014 763 1888

The report can be downloaded from Zitholele's website (http://www.zitholele.co.za/eia-for-medupi-fgd). The report is also available on CD on request via email from Zitholele Consulting.

You are requested to comment on the Updated Screening Report in any of the following ways:

- Written submission;
- Email submission;
- Telephonic engagement with the Zitholele public participation office.

Kindly send your comments to Tricia Njapha or Nicolene Venter at the Public Participation Office on fax number 086 676 9950 or e-mail us on publicprocess@zitholele.co.za. You are also welcome to contact Zitholele Consulting on (011) 207 2060.

We would like to thank all those who commented on the first Screening Report.

Yours faithfully

Nicolene Venter
ZITHOLELE CONSULTING (PTY) LTD

Sharon Meyer-Douglas

Tricia Njapha
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Zitholele Consulting
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c/o Allandale Road & Maxwell Drive, Waterfall City, Midrand
T : 011 207 2060 **F** : 086 674 6121 **E** : mail@zitholele.co.za

Our Ref : 12949-83-Let-001-Medupi EIA 05 August 2016

Dear Stakeholder

INTEGRATED ENVIRONMENTAL AUTHORISATION (ENVIRONMENTAL IMPACT ASSESSMENT AND WASTE MANAGEMENT LICENCE APPLICATION) FOR THE PROPOSED RETROFITTING OF A FLUE GAS DESULPHURISATION (FGD) SYSTEM AT MEDUPI POWER STATION, LEPHALALE, LIMPOPO PROVINCE (DEA REF.: 14/12/16/3/3/3/110)

- **NOTIFICATION OF NGT CONSULTING AS A SPECIALIST ON MEDUPI FGD EIA**

Medupi Power Station has appointed Zitholele Consulting to undertake an integrated Environmental Impact Assessment (EIA) for the proposed Flue Gas Desulphurisation (FGD) retrofit. The FGD is required in order to reduce the amount of SO_2 emitted from the power station.

The purpose of an EIA is to identify and evaluate potential impacts, to recommend measures to avoid or reduce negative impacts and to enhance positive impacts.

NGT Consulting (Pty) Ltd has been appointed by Zitholele Consulting (Pty) Ltd as the Socio-economic and Heritage Specialists on the aforementioned project. Part of their process is to conduct site investigations and to engage with local residents and land owners. Please allow Nkosinathi Tomose and Zetu Damane to discuss the project with you and record any concerns regarding social and socio-economic impacts of the project, as well as potential heritage resources that may be affected.

Should you have any further queries, please do not hesitate to contact Tricia Njapha at the Public Participation Office on Tel: (011) 207 2060 or Fax us on (086) 676 9950 or alternatively, you can email Tricia Njapha on trician@zitholele.co.za.

Kind regards

Tricia Njapha
ZITHOLELE CONSULTING (PTY) LTD
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Zitholele Consulting
Reg. No. 2000/000392/07

PO Box 6002 Halfway House 1685, South Africa
Building 1, Maxwell Office Park, Magwa Crescent West
c/o Allandale Road & Maxwell Drive, Waterfall City, Midrand
T : 011 207 2060 **F** : 086 674 6121 **E** : mail@zitholele.co.za

Our Ref : 12949-83-Let-003-DEIR Notification

19 February 2018

Dear Stakeholder

ENVIRONMENTAL IMPACT ASSESSMENT FOR THE PROPOSED RETROFITTING OF A FLUE GAS DESULPHURISATION (FGD) SYSTEM AT MEDUPI POWER STATION, LEPHALALE, LIMPOPO PROVINCE (DEA REF.: 14/12/16/3/3/3/110)

- **NOTIFICATION OF THE AVAILABILITY OF THE DRAFT ENVIRONMENTAL IMPACT REPORT AND INVITATION TO PUBLIC MEETINGS**

This letter serves to inform you that the Draft Environmental Impact Report (DEIR) will be available for public review and comment from **Monday, 19 February 2018 to Thursday, 05 April 2018.**

Hard copies of the DEIR are available at the following public places:

VENUE	CONTACT DETAILS
Printed Copies	
Lephalale Public Library, Civic Center Onverwacht, Cnr Joe Slovo and Douwater Road, Lephalale	Tel.: 014 762 1484 / 1453 / 1518
Marapong Community Library, 916 Phukubye Street, Marapong	Tel.: 073 210 8954
Lesedi Tshukudu Thusong Centre, Steenbokpan	Tel.: 082 927 2399
Agri SA, NTK Building, 1 Jan Louis Botha Avenue, Lephalale	Tel.: 014 763 1888

The DEIR is available for download from Zitholele's website (www.zitholele.co.za/environmental/) under heading "EIA for Medupi FGD" and sub-heading "DEIR – February 2018", and is also available on CD on request via email from Zitholele Consulting. The report will also be available on the Eskom website (http://www.eskom.co.za/OurCompany/SustainableDevelopment/EnvironmentalImpactAssessments/Pages/Environment_Impact_Assessments.aspx) under the heading "Medupi FGD"

You are requested to comment on the DEIR in any of the following ways:

- Completing the comment sheet enclosed (**Appendix A**);
- Writing a letter, or producing additional written submissions;
- Sending an e-mail or phoning the public participation office; or
- Attending any one of the public meetings (see below for details).

Invitation to Public Meetings

Public Meetings, where a summary of the Environmental Impact Assessment process and potential environmental impacts identified will be presented and discussed, will be held.

The **Public Meetings** are scheduled to be held as follows:

DATE	TIME	VENUE
Monday, 12 March 2018	11:00 – 13:00 (Registration from 10:30)	Community Hall, Lesedi Tshukudu Thusong Centre, Steenbokpan Enquiries Cllr Pienaar: 082 927 2399
Monday, 12 March 2018	17:00 – 19:00 (Registration from 16h30)	Marapong Community Library 143 Chris Hani Street, Marapong Tel: 014 768 3927
Tuesday, 13 March 2018	18:00 – 20:00 (Registration from 17h30)	Mogol Golf Club George Wessels St, Lephalale Tel: 014 763 2427

To ensure that we provide sufficient seating, you are kindly requested to complete the attached registration form (**Appendix B**) and return it to the Public Participation Office (contact details provided on the registration form – **Appendix B**) on or before Friday, 2 March 2018.

Interested and/or Affected Parties (I&APs) who do not have access to e-mail or fax facilities, or in easy reach of a Post Office, and wish to register their attendance for the public meetings, you are kindly requested to inform your local councillor of your attendance. A register will be available at the respective councillor's offices where your intention to attend the public meeting can be recorded.

We would like to express our appreciation to the stakeholders who have participated in this EIA process thus far.

Yours faithfully

Dr. Mathys Vosloo
ZITHOLELE CONSULTING (PTY) LTD

Appendix A: DEIR Comment Form
Appendix B: Registration Form for Public Meeting

ENVIRONMENTAL IMPACT ASSESSMENT FOR THE PROPOSED RETROFITTING OF A FLUE GAS DESULPHURISATION (FGD) SYSTEM AT MEDUPI POWER STATION, LEPHALALE, LIMPOPO PROVINCE **(DEA Ref.: 14/12/16/3/3/3/110)** **COMMENT SHEET : DEIR** **Available for public review from 19 February 2018 to 05 April 2018.**	**EIA Public Participation Office** Mathys Vosloo / Lebo Petlane Zitholele Consulting (Pty) Ltd P O Box 6002, Halfway House, 1685 Tel: 011 207 2060 Fax: 086 674 6121 Email: fgd@zitholele.co.za ZITHOLELE CONSULTING

Please complete by Friday 02 March 2018 and return to the EIA Public Participation Office (as above)

TITLE		**FIRST NAME**	
INITIALS		**SURNAME**	
ORGANISATION (Please do not use any acronyms)			
POSTAL ADDRESS		**POSTAL CODE**	
TEL NO			
FAX NO			
CELL			
EMAIL			
SIGNATURE		**DATE**	

COMMENTS (Please use separate sheets if necessary)

1. I have the following concern / questions / queries.

.....

.....

.....

.....

.....

.....

.....

.....

.....

2. I would like to receive further communication through the following means of communication.

Email		**Fax**		**SMS**		**Mail**	

Please note to ensure your contact details for the communication method chosen are correctly captured above.

3. Any other comments you may have:

.....

.....

THANK YOU FOR YOUR CONTRIBUTION

ENVIRONMENTAL IMPACT ASSESSMENT FOR THE PROPOSED RETROFITTING OF A FLUE GAS DESULPHURISATION (FGD) SYSTEM AT MEDUPI POWER STATION, LEPHALALE, LIMPOPO PROVINCE **(DEA Ref.: 14/12/16/3/3/3/110)** **Reply sheet to receive the Draft Environmental Impact Report (DEIR) and to attend the Public Meetings on 12 and/or 13 March 2018**	**EIA Public Participation Office** Mathys Vosloo / Lebo Petlane Zitholele Consulting (Pty) Ltd P O Box 6002, Halfway House, 1685 Tel: 011 207 2060 Fax: 086 674 6121 Email: fgd@zitholele.co.za

Please complete by Friday 02 March 2018 and return to the EIA Public Participation Office (as above)

TITLE		**FIRST NAME**	
INITIALS		**SURNAME**	
ORGANISATION (Please do not use any acronyms)			
POSTAL ADDRESS		**POSTAL CODE**	
TEL NO			
FAX NO			
CELL			
EMAIL			
SIGNATURE		**DATE**	

REGISTRATION TO RECEIVE THE DEIR AND/OR TO ATTEND THE PUBLIC MEETINGS

DRAFT ENVIRONMENTAL IMPACT REPORT I would like to receive a copy of the DEIR (please circle the appropriate block)		
CD by mail	**YES**	**NO**
PUBLIC MEETING I would like to attend the public meeting (please circle the appropriate block)		
I will attend the Public Meeting on **Monday, 12 March 2018** at Lesedi Tshukudu Thusong Centre, Steenbokpan from 11:00 to 13:00 **(Registration from 10:30)**	**YES**	**NO**
I will attend the Public Meeting on **Monday, 12 March 2018** at Marapong Community Library from 17:00 to 19:00 **(Registration from 16:30)**	**YES**	**NO**
I will attend the Public Meeting on **Tuesday, 13 March 2018** at Mogol Golf Club from 18:00 to 20:00 **(Registration from 17:30)**	**YES**	**NO**
If you cannot attend any of the Public Meetings, would you like to receive a copy of the Minutes?	**YES**	**NO**

Please invite my colleagues/friends/neighbours to the Public Meetings (Please provide contact details):

……

……

……

THANK YOU FOR YOUR CONTRIBUTION

Zitholele Consulting
Reg. No. 2000/000392/07

PO Box 6002 Halfway House 1685, South Africa
Building 1, Maxwell Office Park, Magwa Crescent West
c/o Allandale Road & Maxwell Drive, Waterfall City, Midrand
T : 011 207 2060 **F** : 086 674 6121 **E** : mail@zitholele.co.za

Our Ref : 12949-83-Let-003-DEIR CA/CO

19 February 2018

Department of Environmental Affairs
Integrated Environmental Authorisations
Private Bag X447
Pretoria
0001

Attention : Ms. Bongeka Ngcoliso

Dear Ms. Ngcoliso

ENVIRONMENTAL IMPACT ASSESSMENT FOR THE PROPOSED RETROFITTING OF A FLUE GAS DESULPHURISATION (FGD) SYSTEM AT MEDUPI POWER STATION, LEPHALALE, LIMPOPO PROVINCE (DEA REF.: 14/12/16/3/3/3/110)

- **SUBMISSION OF THE DRAFT ENVIRONMENTAL IMPACT REPORT FOR AUTHORITY REVIEW**

This letter serves to notify the Department of Environmental Affairs (DEA) of the submission of the enclosed 2 x Hard Copies (Colour) and 2 x CD's containing the Draft Environmental Impact Report (DEIR) to the Department for review. Please note that a hard copy of the DEIR has also been submitted to Mr. Stanley Tshitwamulomoni at the DEA Biodiversity Directorate. Should you require an additional hard copy of the report please inform us and we will deliver.

The DEIR is available for public review and comment from Monday, 19 February 2018 to Thursday, 5 April 2018, with public meetings scheduled for 12 and 13 March 2018.

In terms of the aforementioned, Zitholele Consulting distributed the Draft Environmental Impact Report (DEIR) for the proposed project to the relevant State Departments and Organs of State for comment. The relevant State Departments and Organs of State that received a copy of the DEIR are:

- Department of Agriculture, Forestry & Fisheries (Limpopo)
- Department of Economic Development, Environment and Tourism (Limpopo)
- Department of Roads & Transport (Limpopo)
- Department of Water & Sanitation (Limpopo)
- Waterberg District Municipality
- Lephalale Local Municipality
- South African Heritage Resource Agency (SAHRA) – (Report Uploaded to SAHRIS website)

ENVIRONMENTAL IMPACT ASSESSMENT FOR THE PROPOSED RETROFITTING OF A FLUE GAS DESULPHURISATION (FGD) SYSTEM AT MEDUPI POWER STATION, LEPHALALE, LIMPOPO PROVINCE (DEA REF.: 14/12/16/3/3/3/110)

In an effort to minimise delays, the DEIR has been distributed to the aforementioned organisations with the objective of facilitating the submission of comments to Public Participation Office on the aspects of the DEIR that relate to their respective mandates without unforeseen delays.

Should you have any queries please do not hesitate to contact the undersigned.

Yours faithfully

Dr. Mathys Vosloo
ZITHOLELE CONSULTING (PTY) LTD

Attachments : 1 x Colour Hard copies of DEIR
1 x CDs of DEIR

Zitholele Consulting
Reg. No. 2000/000392/07

PO Box 6002 Halfway House 1685, South Africa
Building 1, Maxwell Office Park, Magwa Crescent West
c/o Allandale Road & Maxwell Drive, Waterfall City, Midrand
T : 011 207 2060 **F** : 086 674 6121 **E** : mail@zitholele.co.za

Our Ref : 12949-83-Let-003-DEIR CA/BIO

19 February 2018

Department of Environmental Affairs
Biodiversity Directorate
Private Bag X447
Pretoria
0001

Attention : Mr. Stanley Tshitwamulomoni

Dear Mr. Tshitwamulomoni

ENVIRONMENTAL IMPACT ASSESSMENT FOR THE PROPOSED RETROFITTING OF A FLUE GAS DESULPHURISATION (FGD) SYSTEM AT MEDUPI POWER STATION, LEPHALALE, LIMPOPO PROVINCE (DEA REF.: 14/12/16/3/3/3/110)

- **SUBMISSION OF THE DRAFT ENVIRONMENTAL IMPACT REPORT FOR AUTHORITY REVIEW**

This letter serves to notify the Department of Environmental Affairs (DEA): Biodiversity Directorate of the submission of the enclosed hard copy and CD containing the Draft Environmental Impact Report (DEIR) to the Directorate for review. Please note that a copy of the DEIR has also been submitted to the DEA Case Officer, Ms. Bongeka Ngcoliso.

The DEIR will be available for public review and comment from Monday, 19 February 2018 to Thursday, 5 April 2018.

In terms of the aforementioned, Zitholele Consulting has distributed the DEIR for the proposed project to the relevant State Departments and Organs of State for comment. The relevant State Departments and Organs of State that received a copy of the DEIR are:

- Department of Agriculture, Forestry & Fisheries (Limpopo)
- Department of Economic Development, Environment and Tourism (Limpopo)
- Department of Roads & Transport (Limpopo)
- Department of Water & Sanitation (Limpopo)
- Waterberg District Municipality
- Lephalale Local Municipality
- South African Heritage Resource Agency (SAHRA) – (Report Uploaded to SAHRIS website)

In an effort to minimise delays, the DEIR has been distributed to the aforementioned organisations with the objective of facilitating the submission of comments to DEA on the aspects of the DEIR that relate to their respective mandates without unforeseen delays.

Should you have any queries please do not hesitate to contact me.

Yours faithfully

Dr. Mathys Vosloo
ZITHOLELE CONSULTING (PTY) LTD

Attachments : 1 x Colour Copy of DEIR
1 x CDs of DEIR

Zitholele Consulting
Reg. No. 2000/000392/07

PO Box 6002 Halfway House 1685, South Africa
Building 1, Maxwell Office Park, Magwa Crescent West
c/o Allandale Road & Maxwell Drive, Waterfall City, Midrand
T : 011 207 2060 **F** : 086 674 6121 **E** : mail@zitholele.co.za

Our Ref : 12949-Let-003-DEIR

19 February 2018

Department of Agriculture, Forestry and Fisheries (Limpopo)
69 Biccard Street
Polokwane
0699
Limpopo

Attention : Mr. Sereme Ntsoane

Dear Mr. Ntsoane

ENVIRONMENTAL IMPACT ASSESSMENT FOR THE PROPOSED RETROFITTING OF A FLUE GAS DESULPHURISATION (FGD) SYSTEM AT MEDUPI POWER STATION, LEPHALALE, LIMPOPO PROVINCE (DEA REF.: 14/12/16/3/3/3/110)

- **NOTIFICATION OF THE AVAILABILITY OF THE DRAFT ENVIRONMENTAL IMPACT REPORT**

As per Section 24O(2) & (3) of the National Environmental Management Act, 1998 (Act 107 of 1998) the applicant/EAP is required to inform the State Departments of the commencement date of the 40 day commenting period, or 60 days in the case of the Department of Water Affairs for waste management activities which also require a licence in terms of the National Water Act, 1998 (Act 36 of 1998).

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Please submit your comments to the DEA and Zitholele Consulting on or by **Thursday, 5 April 2018**. You can submit your comments by post, fax or email as follows:

Ms. Bongeka Ngcoliso
Department of Environmental Affairs
Case Officer: Integrated Environmental Authorisations
Private Bag X447
Pretoria
0001
Fax: 012 399 9376
E-mail: bngcoliso@environment.gov.za

You are also requested to send a copy of your comments to Zitholele Consulting at e-mail: fgd@zitholele.co.za or fax on 086 674 6121.

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Our Ref : 12949-Let-003-DEIR

19 February 2018

Department of Water & Sanitation (Limpopo Province)
49 Joubert Street
Polokwane
0700
Limpopo

Attention : Ms. Martha Komape

Dear Ms. Komape

ENVIRONMENTAL IMPACT ASSESSMENT FOR THE PROPOSED RETROFITTING OF A FLUE GAS DESULPHURISATION (FGD) SYSTEM AT MEDUPI POWER STATION, LEPHALALE, LIMPOPO PROVINCE (DEA REF.: 14/12/16/3/3/3/110)

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19 February 2018

Lephalale Local Municipality
Cnr Joe Slovo & Douwater Roads
Civic Center, Onverwacht
Lephalale
0555
Limpopo

Attention : Municipal Manager

Dear Municipal Manager `

ENVIRONMENTAL IMPACT ASSESSMENT FOR THE PROPOSED RETROFITTING OF A FLUE GAS DESULPHURISATION (FGD) SYSTEM AT MEDUPI POWER STATION, LEPHALALE, LIMPOPO PROVINCE (DEA REF.: 14/12/16/3/3/3/110)

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19 February 2018

Lephalale Local Municipality
Cnr Joe Slovo & Douwater Roads
Civic Center, Onverwacht
Lephalale
0555
Limpopo

Attention : Ms. Edith Tukakgomo

Dear Ms. Tukakgomo

ENVIRONMENTAL IMPACT ASSESSMENT FOR THE PROPOSED RETROFITTING OF A FLUE GAS DESULPHURISATION (FGD) SYSTEM AT MEDUPI POWER STATION, LEPHALALE, LIMPOPO PROVINCE (DEA REF.: 14/12/16/3/3/3/110)

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19 February 2018

Department of Agriculture, Forestry and Fisheries (Limpopo)
69 Biccard Street
Polokwane
0699
Limpopo

Attention : Mr. Sereme Ntsoane

Dear Mr. Ntsoane

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19 February 2018

Department of Agriculture, Forestry and Fisheries (Limpopo)
69 Biccard Street
Polokwane
0699
Limpopo

Attention : Mr. Jacky Phosa

Dear Mr. Phosa

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19 February 2018

Department of Roads and Transport (Limpopo)
43 Church Street
Polokwane
0700
Limpopo

Attention : Mr. Joseph Tshikonelo

Dear Mr. Tshikonelo

ENVIRONMENTAL IMPACT ASSESSMENT FOR THE PROPOSED RETROFITTING OF A FLUE GAS DESULPHURISATION (FGD) SYSTEM AT MEDUPI POWER STATION, LEPHALALE, LIMPOPO PROVINCE (DEA REF.: 14/12/16/3/3/3/110)

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19 February 2018

Department of Economic Development, Environment and Tourism (Limpopo)
Evridiki Towers Building
19 Biccard Street
Polokwane
0699
Limpopo

Attention : Mr. RV Mthombeni

Dear Mr. Mthombeni

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19 February 2018

Department of Economic Development, Environment and Tourism (Limpopo)
Evridiki Towers Building
19 Biccard Street
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0699
Limpopo

Attention : Mr. MD Nkosi

Dear Mr. Nkosi

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In terms of the aforementioned regulation, Zitholele Consulting distributed the Draft Environmental Impact Report (DEIR) for the above-mentioned proposed project to the DEA for review on **Monday, 19 February 2018**. The public review period for the DEIR will be from **Monday, 19 February 2018 to Thursday, 5 April 2018.** The relevant departments and organisations that received a copy of the DEIR are:

- Department of Water and Sanitation
- Limpopo Economic Development, Environment and Tourism
- Department of Agriculture Forestry and Fisheries
- Lephalale Local Municipality
- Waterberg District Municipality
- South African Heritage Resource Agency (SAHRA) – Report Uploaded to SAHRIS website

In an effort to minimise delays, the DEIR has been distributed to the aforementioned organisations with the objective of facilitating comments to assist the DEA in making an informed decision when it comes to the issuing of the Environmental Authorisation for this proposed project without unforeseen delay.

Please submit your comments to the DEA and Zitholele Consulting on or by **Thursday, 5 April 2018**. You can submit your comments by post, fax or email as follows:

Ms. Bongeka Ngcoliso
Department of Environmental Affairs
Case Officer: Integrated Environmental Authorisations
Private Bag X447
Pretoria
0001
Fax: 012 399 9376
E-mail: bngcoliso@environment.gov.za

You are also requested to send a copy of your comments to Zitholele Consulting at e-mail: fgd@zitholele.co.za or fax on 086 674 6121.

Should you have any queries please do not hesitate to contact me.

Yours faithfully

Dr. Mathys Vosloo
ZITHOLELE CONSULTING (PTY) LTD

Attachments : 1 x CD of the DEIR

Zitholele Consulting
Reg. No. 2000/000392/07

PO Box 6002 Halfway House 1685, South Africa
Building 1, Maxwell Office Park, Magwa Crescent West
c/o Allandale Road & Maxwell Drive, Waterfall City, Midrand
T : 011 207 2060 **F** : 086 674 6121 **E** : mail@zitholele.co.za

Our Ref : 12949-Let-003-DEIR

19 February 2018

Waterberg District Municipality
Harry Gwala Street
Modimolle
0510
Limpopo

Attention : Ms. Elizabeth Kelley

Dear Ms. Kelley

ENVIRONMENTAL IMPACT ASSESSMENT FOR THE PROPOSED RETROFITTING OF A FLUE GAS DESULPHURISATION (FGD) SYSTEM AT MEDUPI POWER STATION, LEPHALALE, LIMPOPO PROVINCE (DEA REF.: 14/12/16/3/3/3/110)

- **NOTIFICATION OF THE AVAILABILITY OF THE DRAFT ENVIRONMENTAL IMPACT REPORT**

As per Section 24O(2) & (3) of the National Environmental Management Act, 1998 (Act 107 of 1998) the applicant/EAP is required to inform the State Departments of the commencement date of the 40 day commenting period, or 60 days in the case of the Department of Water Affairs for waste management activities which also require a licence in terms of the National Water Act, 1998 (Act 36 of 1998).

In terms of the aforementioned regulation, Zitholele Consulting distributed the Draft Environmental Impact Report (DEIR) for the above-mentioned proposed project to the DEA for review on **Monday, 19 February 2018**. The public review period for the DEIR will be from **Monday, 19 February 2018 to Thursday, 5 April 2018.** The relevant departments and organisations that received a copy of the DEIR are:

- Department of Water and Sanitation (DWS)
- Limpopo Economic Development, Environment and Tourism (LEDET)
- Department of Agriculture Forestry and Fisheries
- Department of Roads and Transport
- Lephalale Local Municipality
- South African Heritage Resource Agency (SAHRA) – (Report Uploaded to SAHRIS website)

In an effort to minimise delays, the DEIR has been distributed to the aforementioned organisations with the objective of facilitating comments to assist the DEA in making an informed decision when it comes to the issuing of the Environmental Authorisation for this proposed project without unforeseen delay.

Please submit your comments to the DEA and Zitholele Consulting on or by **Thursday, 5 April 2018**. You can submit your comments by post, fax or email as follows:

Ms. Bongeka Ngcoliso
Department of Environmental Affairs
Case Officer: Integrated Environmental Authorisations
Private Bag X447
Pretoria
0001
Fax: 012 399 9376
E-mail: bngcoliso@environment.gov.za

You are also requested to send a copy of your comments to Zitholele Consulting at e-mail: fgd@zitholele.co.za or fax on 086 674 6121.

Should you have any queries please do not hesitate to contact me.

Yours faithfully

Dr. Mathys Vosloo
ZITHOLELE CONSULTING (PTY) LTD

Attachments : 1 x CD of the DEIR

Zitholele Consulting
Reg. No. 2000/000392/07

PO Box 6002 Halfway House 1685, South Africa
Building 1, Maxwell Office Park, Magwa Crescent West
c/o Allandale Road & Maxwell Drive, Waterfall City, Midrand
T : 011 207 2060 **F** : 086 674 6121 **E** : mail@zitholele.co.za

Our Ref : 12949-Let-003-DEIR

19 February 2018

Waterberg District Municipality
Harry Gwala Street
Modimolle
0510
Limpopo

Attention : Municipal Manager

Dear Municipal Manager

ENVIRONMENTAL IMPACT ASSESSMENT FOR THE PROPOSED RETROFITTING OF A FLUE GAS DESULPHURISATION (FGD) SYSTEM AT MEDUPI POWER STATION, LEPHALALE, LIMPOPO PROVINCE (DEA REF.: 14/12/16/3/3/3/110)

- **NOTIFICATION OF THE AVAILABILITY OF THE DRAFT ENVIRONMENTAL IMPACT REPORT**

As per Section 24O(2) & (3) of the National Environmental Management Act, 1998 (Act 107 of 1998) the applicant/EAP is required to inform the State Departments of the commencement date of the 40 day commenting period, or 60 days in the case of the Department of Water Affairs for waste management activities which also require a licence in terms of the National Water Act, 1998 (Act 36 of 1998).

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- Department of Agriculture Forestry and Fisheries
- Department of Roads and Transport
- Lephalale Local Municipality
- South African Heritage Resource Agency (SAHRA) – (Report Uploaded to SAHRIS website)

In an effort to minimise delays, the DEIR has been distributed to the aforementioned organisations with the objective of facilitating comments to assist the DEA in making an informed decision when it comes to the issuing of the Environmental Authorisation for this proposed project without unforeseen delay.

Please submit your comments to the DEA and Zitholele Consulting on or by **Thursday, 5 April 2018**. You can submit your comments by post, fax or email as follows:

Ms. Bongeka Ngcoliso
Department of Environmental Affairs
Case Officer: Integrated Environmental Authorisations
Private Bag X447
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Should you have any queries please do not hesitate to contact me.

Yours faithfully

Dr. Mathys Vosloo
ZITHOLELE CONSULTING (PTY) LTD

Attachments : 1 x CD of the DEIR

Zitholele Consulting
Reg. No. 2000/000392/07

PO Box 6002 Halfway House 1685, South Africa
Building 1, Maxwell Office Park, Magwa Crescent West
c/o Allandale Road & Maxwell Drive, Waterfall City, Midrand
T : 011 207 2060 **F** : 086 674 6121 **E** : mail@zitholele.co.za

Our Ref : 12949-Let-003-DEIR

19 February 2018

Waterberg District Municipality
Harry Gwala Street
Modimolle
0510
Limpopo

Attention : Ms. RM Radebe

Dear Ms. Radebe

ENVIRONMENTAL IMPACT ASSESSMENT FOR THE PROPOSED RETROFITTING OF A FLUE GAS DESULPHURISATION (FGD) SYSTEM AT MEDUPI POWER STATION, LEPHALALE, LIMPOPO PROVINCE (DEA REF.: 14/12/16/3/3/3/110)

- **NOTIFICATION OF THE AVAILABILITY OF THE DRAFT ENVIRONMENTAL IMPACT REPORT**

As per Section 24O(2) & (3) of the National Environmental Management Act, 1998 (Act 107 of 1998) the applicant/EAP is required to inform the State Departments of the commencement date of the 40 day commenting period, or 60 days in the case of the Department of Water Affairs for waste management activities which also require a licence in terms of the National Water Act, 1998 (Act 36 of 1998).

In terms of the aforementioned regulation, Zitholele Consulting distributed the Draft Environmental Impact Report (DEIR) for the above-mentioned proposed project to the DEA for review on **Monday, 19 February 2018**. The public review period for the DEIR will be from **Monday, 19 February 2018 to Thursday, 5 April 2018.** The relevant departments and organisations that received a copy of the DEIR are:

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- Department of Agriculture Forestry and Fisheries
- Department of Roads and Transport
- Lephalale Local Municipality
- South African Heritage Resource Agency (SAHRA) – (Report Uploaded to SAHRIS website)

In an effort to minimise delays, the DEIR has been distributed to the aforementioned organisations with the objective of facilitating comments to assist the DEA in making an informed decision when it comes to the issuing of the Environmental Authorisation for this proposed project without unforeseen delay.

Please submit your comments to the DEA and Zitholele Consulting on or by **Thursday, 5 April 2018**. You can submit your comments by post, fax or email as follows:

Ms. Bongeka Ngcoliso
Department of Environmental Affairs
Case Officer: Integrated Environmental Authorisations
Private Bag X447
Pretoria
0001
Fax: 012 399 9376
E-mail: bngcoliso@environment.gov.za

You are also requested to send a copy of your comments to Zitholele Consulting at e-mail: fgd@zitholele.co.za or fax on 086 674 6121.

Should you have any queries please do not hesitate to contact me.

Yours faithfully

Dr. Mathys Vosloo
ZITHOLELE CONSULTING (PTY) LTD

Attachments : 1 x CD of the DEIR

Zitholele Consulting
Reg. No. 2000/000392/07

PO Box 6002 Halfway House 1685, South Africa
Building 1, Maxwell Office Park, Magwa Crescent West
c/o Allandale Road & Maxwell Drive, Waterfall City, Midrand
T : 011 207 2060 **F** : 086 674 6121 **E** : mail@zitholele.co.za

Our Ref : 12949-83-Let-003-DEIR Notification 28 February 2018

Dear Key Stakeholder

ENVIRONMENTAL IMPACT ASSESSMENT, WASTE MANAGEMENT LICENSE VARIATION APPLICATION AND WATER USE LICENSE APPLICATION FOR THE PROPOSED RETROFITTING OF A FLUE GAS DESULPHURISATION (FGD) SYSTEM AT MEDUPI POWER STATION, LEPHALALE, LIMPOPO PROVINCE (DEA REF.: 14/12/16/3/3/3/110)

- **INVITATION TO KEY STAKEHOLDER WORKSHOP: TUESDAY, 13 MARCH 2018 AT 14H00**

This letter serves to cordially invite you to attend the Key Stakeholder Workshop to be held on:

DATE: Tuesday, 13 March 2018
TIME: 14:00 – 16:00 (Registration from 13:30 until 14:00)
VENUE: Mogol Golf Club, George Wells Street, Lephalale,
(Map Attached – Appendix A)

The Key Stakeholder Workshop is part of the Environmental Impact Assessment (EIA), Variation of existing Waste Management License Application, and Water Use License process being undertaken by Zitholele Consulting for the proposed Retrofitting of a Flue Gas Desulphurisation (FGD) System at Medupi Power Station, Lephalale, Limpopo Province.

The purpose of the workshop is to provide you, as a key stakeholder, with:

- background to the proposed project
- an overview of the Impact Assessment Phase process followed;
- feedback on the assessment of environmental impacts identified and documented in the Draft Environmental Impact Report (DEIR);
- Feedback on key issues raised during the Scoping Phase;
- an opportunity to seek clarity and raise comments and/or concerns; and
- an opportunity to liaise with the project team members.

Zitholele Consulting believes that this workshop has value in allowing you to hear other stakeholders' views and issues in context with your own, thus allowing for a more integrated approach.

We would like to remind you that the Draft Environmental Impact Report (DEIR) is available for public review and comment from Monday, 19 February 2018 to Thursday, 05 April 2018. The WML Variation Application is available for review from Monday, 5 March to 9 April 2018. Hard copies of the DEIR and WML Variation Application are available at the following public places:

VENUE	CONTACT DETAILS
Printed Copies	
Lephalale Public Library, Civic Center Onverwacht, Cnr Joe Slovo and Douwater Road, Lephalale	Tel.: 014 762 1484 / 1453 / 1518
Marapong Community Library, 916 Phukubye Street, Marapong	Tel.: 073 210 8954
Lesedi Tshukudu Thusong Centre, Steenbokpan	Tel.: 082 927 2399
Agri SA, NTK Building, 1 Jan Louis Botha Avenue, Lephalale	Tel.: 014 763 1888

The DEIR is available for download from Zitholele's website (www.zitholele.co.za/environmental/) under heading "EIA for Medupi FGD" and sub-heading "DEIR – February 2018", and is also available on CD on request via email from Zitholele Consulting. The report will also be available on the Eskom website (http://www.eskom.co.za/OurCompany/SustainableDevelopment/EnvironmentalImpactAssessments/Pages/Environment_Impact_Assessments.aspx) under the heading "Medupi FGD"

To ensure that we provide sufficient space and seating, you are kindly requested to complete the attached registration form (Appendix B) and return it to the Public Participation Office (contact details provided on the registration form included with this letter) on or before **Wednesday, 07 March 2018**.

We look forward to meeting you and are positive for a fruitful Key Stakeholder Workshop

Yours faithfully

Dr. Mathys Vosloo
ZITHOLELE CONSULTING (PTY) LTD

Appendix A: Map to venue (Mogol Golf Club)
Appendix B: Key Stakeholder Workshop Registration Form

Google Maps Mogol Golf Club, George Wells Street, Lephalale

Imagery ©2018 DigitalGlobe, Map data ©2018 AfriGIS (Pty) Ltd, Google 100 m

ENVIRONMENTAL IMPACT ASSESSMENT, WASTE MANAGEMENT LICENCE VARIATION APPLICATION AND WATER USE LICENCE APPLICATION FOR THE PROPOSED RETROFITTING OF A FLUE GAS DESULPHURISATION (FGD) SYSTEM AT MEDUPI POWER STATION, LEPHALALE, LIMPOPO PROVINCE **(DEA Ref.: 14/12/16/3/3/3/110)** **Registration Form for attendance at the Key Stakeholder Workshop**	**EIA Public Participation Office** Mathys Vosloo / Lebo Petlane Zitholele Consulting (Pty) Ltd P O Box 6002, Halfway House, 1685 Tel: 011 207 2060 Fax: 086 674 6121 Email: fgd@zitholele.co.za

Please complete by Wednesday, 07 March 2018 and return to the EIA Public Participation Office (as above)

TITLE		**FIRST NAME**			
INITIALS		**SURNAME**			
ORGANISATION (Please do not use acronyms)					
POSTAL ADDRESS				**POSTAL CODE**	
TEL NO					
FAX NO					
CELL					
EMAIL					
SIGNATURE		**DATE**			

KEY STAKEHOLDER WORKSHOP REGISTRATION I would like to attend the Key Stakeholder Workshop (please **circle** the appropriate block)		
Please register my attendance for the Key Stakeholder Workshop on **Tuesday, 13 March 2018** at 14h00 at the Mogol Golf Club, Lephalale	**YES**	**NO**
If you cannot attend the Key Stakeholder Workshop would you like to receive a copy of the Key Stakeholder Workshop Minutes	**YES**	**NO**

THANK YOU FOR YOUR REGISTRATION

Zitholele Consulting
Reg. No. 2000/000392/07

PO Box 6002 Halfway House 1685, South Africa
Building 1, Maxwell Office Park, Magwa Crescent West
c/o Allandale Road & Maxwell Drive, Waterfall City, Midrand
T : 011 207 2060 **F** : 086 674 6121 **E** : mail@zitholele.co.za

Our Ref : 12949-83-Let-006-WML Variation Notification 05 March 2018

Dear Stakeholder

APPLICATION FOR VARIATIONS TO THE EXISTING WASTE MANAGEMENT LICENSE (12/9/11/L50/5/R1) FOR THE MEDUPI POWER STATION ASH DISPOSAL FACILITY, LIMPOPO PROVINCE

- **NOTIFICATION OF THE AVAILABILITY OF WASTE MANAGEMENT LICENSE (WML) VARIATION APPLICATION AND INVITATION TO PUBLIC MEETINGS**

This letter serves to inform you that the WML Variation Application and Motivation Report is available for public review and comment from **Monday, 05 March 2018 to Monday, 09 April 2018.**

Hard copies of the WML Variation Application and Motivation Report are available at the following public places:

VENUE	CONTACT DETAILS
Printed Copies	
Lephalale Public Library, Civic Center Onverwacht, Cnr Joe Slovo and Douwater Road, Lephalale	Tel.: 014 762 1484 / 1453 / 1518
Marapong Community Library, 916 Phukubye Street, Marapong	Tel.: 073 210 8954
Lesedi Tshukudu Thusong Centre, Steenbokpan	Tel.: 082 927 2399
Agri SA, NTK Building, 1 Jan Louis Botha Avenue, Lephalale	Tel.: 014 763 1888

The WML Variation Application is furthermore available for download from Zitholele's website (www.zitholele.co.za/environmental/) under heading "EIA for Medupi FGD" and sub-heading "WML Variation Application – March 2018", and is also available on CD on request via email from Zitholele Consulting. The report will also be available on the Eskom website (http://www.eskom.co.za/OurCompany/SustainableDevelopment/EnvironmentalImpactAssessments/Pages/Environment_Impact_Assessments.aspx) under the heading "Medupi FGD".

You are requested to comment on the DSR in any of the following ways:

- Completing the comment sheet enclosed (**Appendix A**);
- Writing a letter, or producing additional written submissions;
- Sending an e-mail or phoning the public participation office; or
- Attending any one of the public meetings (see below for details).

Invitation to Public Meetings

Public Meetings, where a summary of the WML Variation Application will be presented and discussed, will be held.

The **Public Meetings** are scheduled to be held as follows:

DATE	TIME	VENUE
Monday, 12 March 2018	**11:00 – 13:00** (Registration from 10:30)	Community Hall, Lesedi Tshukudu Thusong Centre, Steenbokpan. Enquiries Cllr Pienaar: 082 927 2399
Monday, 12 March 2018	**15:00 – 17:00** (Registration from 14:30)	Ditheku Primary School, 1601 Ramahlody Street, Marapong Ext 2.
Tuesday, 13 March 2018	**18:00 – 20:00** (Registration from 17h30)	Mogol Golf Club, George Wells St., Onverwacht, Lephalale. Tel: 014 763 2427

To ensure that we provide sufficient seating, you are kindly requested to complete the attached registration form (**Appendix B**) and return it to the Public Participation Office (contact details provided on the registration form – **Appendix B**) on or before Friday, 9 March 2018.

We would like to express our appreciation to the stakeholders who have participated in this process thus far.

Yours faithfully

Dr. Mathys Vosloo
ZITHOLELE CONSULTING (PTY) LTD

Appendix A: DSR Comment Form
Appendix B: Registration Form for Public Meeting

APPLICATION FOR VARIATIONS TO THE EXISTING WASTE MANAGEMENT LICENSE (12/9/11/L50/5/R1) FOR THE MEDUPI POWER STATION ASH DISPOSAL FACILITY, LIMPOPO PROVINCE **COMMENT SHEET : WML Variation Application** **Available for public review from 05 March 2018 to 09 April 2018.**	**EIA Public Participation Office** Mathys Vosloo / Lebo Petlane Zitholele Consulting (Pty) Ltd P O Box 6002, Halfway House, 1685 Tel: 011 207 2060 Fax: 086 674 6121 Email: fgd@zitholele.co.za

Please complete by Friday 09 March 2018 and return to the EIA Public Participation Office (as above)

TITLE		**FIRST NAME**			
INITIALS		**SURNAME**			
ORGANISATION (Please do not use any acronyms)					
POSTAL ADDRESS				**POSTAL CODE**	
TEL NO					
FAX NO					
CELL					
EMAIL					
SIGNATURE		**DATE**			

COMMENTS (Please use separate sheets if necessary)

1. I have the following concern / questions / queries.

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2. I would like to receive further communication through the following means of communication.

Email		**Fax**		**SMS**		**Mail**	

Please note to ensure your contact details for the communication method chosen are correctly captured above.

3. Any other comments you may have:

.....

.....

THANK YOU FOR YOUR CONTRIBUTION

APPLICATION FOR VARIATIONS TO THE EXISTING WASTE MANAGEMENT LICENSE (12/9/11/L50/5/R1) FOR THE MEDUPI POWER STATION ASH DISPOSAL FACILITY, LIMPOPO PROVINCE **Reply sheet to receive the WML Variation Application and to attend the Public Meetings on 12 and/or 13 March 2018**	**EIA Public Participation Office** Mathys Vosloo / Lebo Petlane Zitholele Consulting (Pty) Ltd P O Box 6002, Halfway House, 1685 Tel: 011 207 2060 Fax: 086 674 6121 Email: fgd@zitholele.co.za ZITHOLELE CONSULTING

Please complete by Friday 09 March 2018 and return to the EIA Public Participation Office (as above)

TITLE		**FIRST NAME**	
INITIALS		**SURNAME**	
ORGANISATION (Please do not use any acronyms)			
POSTAL ADDRESS		**POSTAL CODE**	
TEL NO			
FAX NO			
CELL			
EMAIL			
SIGNATURE		**DATE**	

REGISTRATION TO RECEIVE THE WML VARIATION APPLICATION AND/OR TO ATTEND THE PUBLIC MEETINGS

WML VARIATION APPLICATION REPORT I would like to receive a copy of the report (please circle the appropriate block)		
CD by mail	**YES**	**NO**
PUBLIC MEETING I would like to attend the public meeting (please circle the appropriate block)		
I will attend the Public Meeting on **Monday, 12 March 2018** at Lesedi Tshukudu Thusong Centre, Steenbokpan from 11:00 to 13:00 **(Registration from 10:30)**	**YES**	**NO**
I will attend the Public Meeting on **Monday, 12 March 2018** at Ditheku Primary School, 1601 Ramahlody Street, Marapong Ext 2 from 15:00 to 17:00 **(Registration from 14:30)**	**YES**	**NO**
I will attend the Public Meeting on **Tuesday, 13 March 2018** at Mogol Golf Club from 18:00 to 20:00 **(Registration from 17:30)**	**YES**	**NO**
If you cannot attend any of the Public Meetings, would you like to receive a copy of the Minutes?	**YES**	**NO**

Please invite my colleagues/friends/neighbours to the Public Meetings (Please provide contact details):

……

……

……

THANK YOU FOR YOUR CONTRIBUTION

Zitholele Consulting
Reg. No. 2000/000392/07

PO Box 6002 Halfway House 1685, South Africa
Building 1, Maxwell Office Park, Magwa Crescent West
c/o Allandale Road & Maxwell Drive, Waterfall City, Midrand
T : 011 207 2060 **F** : 086 674 6121 **E** : mail@zitholele.co.za

Our Ref : 12949-83-Let-005-Notification EMC 09 March 2018

Dear Medupi EMC Stakeholder

ENVIRONMENTAL IMPACT ASSESSMENT, WASTE MANAGEMENT LICENSE VARIATION AND WATER USE LICENCE FOR THE PROPOSED RETROFITTING OF A FLUE GAS DESULPHURISATION (FGD) SYSTEM AT MEDUPI POWER STATION, LEPHALALE, LIMPOPO PROVINCE

- **NOTIFICATION OF THE AVAILABILITY OF THE DEIR, WML VARIATION APPLICATION AND PUBLIC MEETINGS**

This letter serves as a notification that the Draft Environmental Impact Report (DEIR) and Waste Management Licence (WML) Variation Application is available for public review and comment as follow:

DEIR: Monday, 19 February 2018 to Thursday, 05 April 2018
WML Variation Application: Monday, 05 March 2018 to Monday, 09 April 2018.

Hard copies of the DEIR and WML Variation Application are available at the following public places:

VENUE	CONTACT DETAILS
Printed Copies	
Lephalale Public Library, Civic Center Onverwacht, Cnr Joe Slovo and Douwater Road, Lephalale	Tel.: 014 762 1484 / 1453 / 1518
Marapong Community Library, 916 Phukubye Street, Marapong	Tel.: 073 210 8954
Lesedi Tshukudu Thusong Centre, Steenbokpan	Tel.: 082 927 2399
Agri SA, NTK Building, 1 Jan Louis Botha Avenue, Lephalale	Tel.: 014 763 1888

The DEIR and WML Variation Application are available for download from Zitholele's website (www.zitholele.co.za/environmental/) under heading "EIA for Medupi FGD", and is also available on CD on request via email from Zitholele Consulting. The reports are also available on the Eskom website (http://www.eskom.co.za/OurCompany/SustainableDevelopment/EnvironmentalImpactAssessments/Pages/Environment_Impact_Assessments.aspx) under the heading "Medupi FGD".

You are requested to comment on the DEIR and WML Variation Application in any of the following ways:

- Completing the comment sheet enclosed (**Appendix A**);
- Writing a letter, or producing additional written submissions;
- Sending an e-mail or phoning the public participation office; or
- Attending any one of the public meetings (see below for details).

Invitation to Public Meetings

Public Meetings, where a summary of the Environmental Impact Assessment process and potential environmental impacts identified will be presented and discussed, will be held.

The **Public Meetings** are scheduled to be held as follows:

DATE	TIME	VENUE
Monday, 12 March 2018	11:00 – 13:00 (Registration from 10:30)	Community Hall, Lesedi Tshukudu Thusong Centre, Steenbokpan. Enquiries Cllr Pienaar: 082 927 2399
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Tuesday, 13 March 2018	18:00 – 20:00 (Registration from 17h30)	Mogol Golf Club, George Wells St., Onverwacht, Lephalale. Tel: 014 763 2427

We would like to express our appreciation to the stakeholders who have participated in this EIA process thus far.

Yours faithfully

Dr. Mathys Vosloo
ZITHOLELE CONSULTING (PTY) LTD

Appendix A: Comment Form

ENVIRONMENTAL IMPACT ASSESSMENT, WASTE MANAGEMENT LICENSE VARIATION AND WATER USE LICENCE FOR THE PROPOSED RETROFITTING OF A FLUE GAS DESULPHURISATION (FGD) SYSTEM AT MEDUPI POWER STATION, LEPHALALE, LIMPOPO PROVINCE **COMMENT SHEET : DEIR & WML Variation Application**	**EIA Public Participation Office** Mathys Vosloo / Lebo Petlane Zitholele Consulting (Pty) Ltd P O Box 6002, Halfway House, 1685 Tel: 011 207 2060 Fax: 086 674 6121 Email: fgd@zitholele.co.za

Please complete and return to the EIA Public Participation Office (as above)

TITLE		**FIRST NAME**			
INITIALS		**SURNAME**			
ORGANISATION (Please do not use any acronyms)					
POSTAL ADDRESS				**POSTAL CODE**	
TEL NO					
FAX NO					
CELL					
EMAIL					
SIGNATURE		**DATE**			

COMMENTS (Please use separate sheets if necessary)

1. I have the following concern / questions / queries.

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2. I would like to receive further communication through the following means of communication.

Email		**Fax**		**SMS**		**Mail**	

Please note to ensure your contact details for the communication method chosen are correctly captured above.

3. Any other comments you may have:

.....

.....

THANK YOU FOR YOUR CONTRIBUTION

Zitholele Consulting
Reg. No. 2000/000392/07

PO Box 6002 Halfway House 1685, South Africa
Building 1, Maxwell Office Park, Magwa Crescent West
c/o Allandale Road & Maxwell Drive, Waterfall City, Midrand
T : 011 207 2060 **F** : 086 674 6121 **E** : mail@zitholele.co.za

Our Ref : 12949-83-Let-004-Rem2 PM

09 March 2018

Dear Stakeholder

ENVIRONMENTAL IMPACT ASSESSMENT, WASTE MANAGEMENT LICENSE VARIATION AND WATER USE LICENCE FOR THE PROPOSED RETROFITTING OF A FLUE GAS DESULPHURISATION (FGD) SYSTEM AT MEDUPI POWER STATION, LEPHALALE, LIMPOPO PROVINCE

- **2ND REMINDER OF THE AVAILABILITY OF THE DEIR, WML VARIATION APPLICATION AND PUBLIC MEETINGS**

This letter serves as a 2nd reminder that the Draft Environmental Impact Report (DEIR) and Waste Management Licence (WML) Variation Application is available for public review and comment as follow:

DEIR: Monday, 19 February 2018 to Thursday, 05 April 2018
WML Variation Application: Monday, 05 March 2018 to Monday, 09 April 2018.

Hard copies of the DEIR and WML Variation Application are available at the following public places:

VENUE	CONTACT DETAILS
Printed Copies	
Lephalale Public Library, Civic Center Onverwacht, Cnr Joe Slovo and Douwater Road, Lephalale	Tel.: 014 762 1484 / 1453 / 1518
Marapong Community Library, 916 Phukubye Street, Marapong	Tel.: 073 210 8954
Lesedi Tshukudu Thusong Centre, Steenbokpan	Tel.: 082 927 2399
Agri SA, NTK Building, 1 Jan Louis Botha Avenue, Lephalale	Tel.: 014 763 1888

The DEIR and WML Variation Application are available for download from Zitholele's website (www.zitholele.co.za/environmental/) under heading "EIA for Medupi FGD", and is also available on CD on request via email from Zitholele Consulting. The reports are also available on the Eskom website (http://www.eskom.co.za/OurCompany/SustainableDevelopment/EnvironmentalImpactAssessments/Pages/Environment_Impact_Assessments.aspx) under the heading "Medupi FGD".

You are requested to comment on the DEIR and WML Variation Application in any of the following ways:

- Completing the comment sheet enclosed (**Appendix A**);
- Writing a letter, or producing additional written submissions;
- Sending an e-mail or phoning the public participation office; or

- Attending any one of the public meetings (see below for details).

Invitation to Public Meetings

Public Meetings, where a summary of the Environmental Impact Assessment process and potential environmental impacts identified will be presented and discussed, will be held.

PLEASE NOTE THAT THE VENUE FOR THE PUBLIC MEETING IN MARAPONG HAS CHANGED AS PER TABLE BELOW.

The **Public Meetings** are scheduled to be held as follows:

DATE	TIME	VENUE
Monday, 12 March 2018	11:00 – 13:00 (Registration from 10:30)	Community Hall, Lesedi Tshukudu Thusong Centre, Steenbokpan. Enquiries Cllr Pienaar: 082 927 2399
Monday, 12 March 2018	***15:00 – 17:00 (Registration from 14:30)***	***Ditheku Primary School, 1601 Ramahlody Street, Marapong Ext 2.***
Tuesday, 13 March 2018	18:00 – 20:00 (Registration from 17h30)	Mogol Golf Club, George Wells St., Onverwacht, Lephalale. Tel: 014 763 2427

We would like to express our appreciation to the stakeholders who have participated in this EIA process thus far.

Yours faithfully

Dr. Mathys Vosloo
ZITHOLELE CONSULTING (PTY) LTD

Appendix A: Comment Form

Zitholele Consulting
Reg. No. 2000/000392/07

PO Box 6002 Halfway House 1685, South Africa
Building 1, Maxwell Office Park, Magwa Crescent West
c/o Allandale Road & Maxwell Drive, Waterfall City, Midrand
T : 011 207 2060 **F** : 086 674 6121 **E** : mail@zitholele.co.za

Our Ref : 12949-83-Let-004-Rem1 PM

28 February 2018

Dear Stakeholder

ENVIRONMENTAL IMPACT ASSESSMENT, WASTE MANAGEMENT LICENSE VARIATION AND WATER USE LICENCE FOR THE PROPOSED RETROFITTING OF A FLUE GAS DESULPHURISATION (FGD) SYSTEM AT MEDUPI POWER STATION, LEPHALALE, LIMPOPO PROVINCE (DEA REF.: 14/12/16/3/3/3/110)

- **REMINDER NOTIFICATION OF THE AVAILABILITY OF THE DEIR AND PUBLIC MEETINGS**

This letter serves to remind you that the Draft Environmental Impact Report (DEIR) is currently available for public review and comment from **Monday, 19 February 2018 to Thursday, 05 April 2018.**

Hard copies of the DEIR are available at the following public places:

VENUE	CONTACT DETAILS
Printed Copies	
Lephalale Public Library, Civic Center Onverwacht, Cnr Joe Slovo and Douwater Road, Lephalale	Tel.: 014 762 1484 / 1453 / 1518
Marapong Community Library, 916 Phukubye Street, Marapong	Tel.: 073 210 8954
Lesedi Tshukudu Thusong Centre, Steenbokpan	Tel.: 082 927 2399
Agri SA, NTK Building, 1 Jan Louis Botha Avenue, Lephalale	Tel.: 014 763 1888

The DEIR is available for download from Zitholele's website (www.zitholele.co.za/environmental/) under heading "EIA for Medupi FGD" and sub-heading "DEIR – February 2018", and is also available on CD on request via email from Zitholele Consulting. The report will also be available on the Eskom website (http://www.eskom.co.za/OurCompany/SustainableDevelopment/EnvironmentalImpactAssessments/Pages/Environment_Impact_Assessments.aspx) under the heading "Medupi FGD".

You are requested to comment on the DEIR in any of the following ways:

- Completing the comment sheet enclosed (**Appendix A**);
- Writing a letter, or producing additional written submissions;
- Sending an e-mail or phoning the public participation office; or
- Attending any one of the public meetings (see below for details).

Invitation to Public Meetings

Public Meetings, where a summary of the Environmental Impact Assessment process and potential environmental impacts identified will be presented and discussed, will be held.

PLEASE NOTE THAT THE VENUE FOR THE PUBLIC MEETING IN MARAPONG HAS CHANGED AS PER TABLE BELOW.

The **Public Meetings** are scheduled to be held as follows:

DATE	TIME	VENUE
Monday, 12 March 2018	11:00 – 13:00 (Registration from 10:30)	Community Hall, Lesedi Tshukudu Thusong Centre, Steenbokpan. Enquiries Cllr Pienaar: 082 927 2399
Monday, 12 March 2018	15:00 – 17:00 (Registration from 14:30)	Ditheku Primary School, 1601 Ramahlody Street, Marapong Ext 2.
Tuesday, 13 March 2018	18:00 – 20:00 (Registration from 17h30)	Mogol Golf Club, George Wells St., Onverwacht, Lephalale. Tel: 014 763 2427

To ensure that we provide sufficient seating, you are kindly requested to complete the attached registration form (**Appendix B**) and return it to the Public Participation Office (contact details provided on the registration form – **Appendix B**) on or before Friday, 2 March 2018.

We would like to express our appreciation to the stakeholders who have participated in this EIA process thus far.

Yours faithfully

Dr. Mathys Vosloo
ZITHOLELE CONSULTING (PTY) LTD

Appendix A: DSR Comment Form
Appendix B: Registration Form for Public Meeting

ENVIRONMENTAL IMPACT ASSESSMENT FOR THE PROPOSED RETROFITTING OF A FLUE GAS DESULPHURISATION (FGD) SYSTEM AT MEDUPI POWER STATION, LEPHALALE, LIMPOPO PROVINCE **(DEA Ref.: 14/12/16/3/3/3/110)** **COMMENT SHEET : DEIR** **Available for public review from 19 February 2018 to 05 April 2018.**	**EIA Public Participation Office** Mathys Vosloo / Lebo Petlane Zitholele Consulting (Pty) Ltd P O Box 6002, Halfway House, 1685 Tel: 011 207 2060 Fax: 086 674 6121 Email: fgd@zitholele.co.za ZITHOLELE CONSULTING

Please complete by Friday 02 March 2018 and return to the EIA Public Participation Office (as above)

TITLE		**FIRST NAME**	
INITIALS		**SURNAME**	
ORGANISATION (Please do not use any acronyms)			
POSTAL ADDRESS		**POSTAL CODE**	
TEL NO			
FAX NO			
CELL			
EMAIL			
SIGNATURE		**DATE**	

COMMENTS (Please use separate sheets if necessary)

1. I have the following concern / questions / queries.

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2. I would like to receive further communication through the following means of communication.

Email		**Fax**		**SMS**		**Mail**	

Please note to ensure your contact details for the communication method chosen are correctly captured above.

3. Any other comments you may have:

.....

.....

THANK YOU FOR YOUR CONTRIBUTION

ENVIRONMENTAL IMPACT ASSESSMENT FOR THE PROPOSED RETROFITTING OF A FLUE GAS DESULPHURISATION (FGD) SYSTEM AT MEDUPI POWER STATION, LEPHALALE, LIMPOPO PROVINCE **(DEA Ref.: 14/12/16/3/3/3/110)** **Reply sheet to receive the Draft Environmental Impact Report (DEIR) and to attend the Public Meetings on 12 and/or 13 March 2018**	**EIA Public Participation Office** Mathys Vosloo / Lebo Petlane Zitholele Consulting (Pty) Ltd P O Box 6002, Halfway House, 1685 Tel: 011 207 2060 Fax: 086 674 6121 Email: fgd@zitholele.co.za

Please complete by Friday 02 March 2018 and return to the EIA Public Participation Office (as above)

TITLE		**FIRST NAME**	
INITIALS		**SURNAME**	
ORGANISATION (Please do not use any acronyms)			
POSTAL ADDRESS		**POSTAL CODE**	
TEL NO			
FAX NO			
CELL			
EMAIL			
SIGNATURE		**DATE**	

REGISTRATION TO RECEIVE THE DEIR AND/OR TO ATTEND THE PUBLIC MEETINGS

DRAFT ENVIRONMENTAL IMPACT REPORT I would like to receive a copy of the DEIR (please circle the appropriate block)		
CD by mail	**YES**	**NO**
PUBLIC MEETING I would like to attend the public meeting (please circle the appropriate block)		
I will attend the Public Meeting on **Monday, 12 March 2018** at Lesedi Tshukudu Thusong Centre, Steenbokpan from 11:00 to 13:00 **(Registration from 10:30)**	**YES**	**NO**
I will attend the Public Meeting on **Monday, 12 March 2018** at Marapong Community Library from 17:00 to 19:00 **(Registration from 16:30)**	**YES**	**NO**
I will attend the Public Meeting on **Tuesday, 13 March 2018** at Mogol Golf Club from 18:00 to 20:00 **(Registration from 17:30)**	**YES**	**NO**
If you cannot attend any of the Public Meetings, would you like to receive a copy of the Minutes?	**YES**	**NO**

Please invite my colleagues/friends/neighbours to the Public Meetings (Please provide contact details):

……

……

……

THANK YOU FOR YOUR CONTRIBUTION

Zitholele Consulting
Reg. No. 2000/000392/07

PO Box 6002 Halfway House 1685, South Africa
Building 1, Maxwell Office Park, Magwa Crescent West
c/o Allandale Road & Maxwell Drive, Waterfall City, Midrand
T : 011 207 2060 **F** : 086 674 6121 **E** : mail@zitholele.co.za

Our Ref : 12949-83-Let-004-Rem2 29 March 2018

Dear Stakeholder

ENVIRONMENTAL IMPACT ASSESSMENT, WASTE MANAGEMENT LICENSE VARIATION AND WATER USE LICENCE FOR THE PROPOSED RETROFITTING OF A FLUE GAS DESULPHURISATION (FGD) SYSTEM AT MEDUPI POWER STATION, LEPHALALE, LIMPOPO PROVINCE

- **NOTIFICATION OF SUBMISSION OF AMENDED EIA APPLICATION FORM TO DEA**
- **AVAILABILITY OF MEETING PRESENTATIONS**
- **REMINDER NOTIFICATION OF THE AVAILABILITY OF THE DEIR AND WML VARIATION APPLICATION**

Notification of submission of amended EIA Application Form to DEA

This letter serves to notify all stakeholders that an amended EIA application form (non-integrated application) was submitted to the Department of Environmental Affairs (DEA) on 26 March 2018. Due to the changes to the packaging of the various components of the Medupi FGD Retrofit Project, as explained in the two Bridging Documents and DEIR, the submission of an amended EIA application form to the DEA was necessary due to the fact that the EIA application was no longer an application for integrated environmental authorisation and waste management licence in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998), as amended and the Environmental Impact Assessment Regulations, 2010; and the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008).

As a result, an application for authorisation in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998), and the Environmental Impact Assessment Regulations, 2014 only has been applied for through the submission of the amended EIA Application Form to the DEA. A new DEA reference number will be assigned to Medupi FGD Retrofit Project EIA process which will be communicated to all stakeholders once received.

The amended EIA Application Form, including the bridging documents and DEIR referred to above, is available for download from Zitholele's website (www.zitholele.co.za/environmental/) under heading "EIA for Medupi FGD".

Availability of PPP Meeting Presentations

The agendas, presentations given and attendance registers for all meetings held on 12 and 13 March 2018 are available for download and review from Zitholele's website (www.zitholele.co.za/environmental/) under heading "EIA for Medupi FGD". Please note the meeting at Ditheku Primary School, Marapong, was not held due to a lack of attendance of any stakeholders. As a result an ad hoc Key Stakeholder Meeting was undertaken with representatives of the Waterberg Environmental Justice Forum (WEJF) on 14 March 2018, who is an active Community Based Organisation in the local communities.

Reminder: DEIR and WML available for Public Review

This letter serves to remind you that the Draft Environmental Impact Report (DEIR) is currently available for public review and comment until Thursday, 05 April 2018. The Waste Management Licence (WML) Variation Application is also available for review until Monday, 9 April 2018.

Hard copies of the DEIR and WML Variation Application are available at the following public places:

VENUE	CONTACT DETAILS
Printed Copies	
Lephalale Public Library, Civic Center Onverwacht, Cnr Joe Slovo and Douwater Road, Lephalale	Tel.: 014 762 1484 / 1453 / 1518
Marapong Community Library, 916 Phukubye Street, Marapong	Tel.: 073 210 8954
Lesedi Tshukudu Thusong Centre, Steenbokpan	Tel.: 082 927 2399
Agri SA, NTK Building, 1 Jan Louis Botha Avenue, Lephalale	Tel.: 014 763 1888

The DEIR and WML Variation Application are available for download from Zitholele's website (www.zitholele.co.za/environmental/) under heading "EIA for Medupi FGD", and is also available per CD on request via email from Zitholele Consulting. These reports are also be available on the Eskom website (http://www.eskom.co.za/OurCompany/SustainableDevelopment/EnvironmentalImpactAssessments/Pages/Environment_Impact_Assessments.aspx) under the heading "Medupi FGD".

You are requested to comment on the DEIR in any of the following ways:

- Completing the comment sheet enclosed (**Appendix A**);
- Writing a letter, or producing additional written submissions; or
- Sending an e-mail or phoning the public participation office.

Contact details of the Public Participation Office:

EIA Public Participation Office: Mathys Vosloo / Lebo Petlane
Zitholele Consulting (Pty) Ltd
P O Box 6002, Halfway House, 1685
Tel: 011 207 2060
Fax: 086 674 6121
Email: fgd@zitholele.co.za

We would like to express our appreciation to the stakeholders who have participated in this EIA process thus far.

Yours faithfully

Dr. Mathys Vosloo
ZITHOLELE CONSULTING (PTY) LTD

Appendix A: Comment Form

ENVIRONMENTAL IMPACT ASSESSMENT, WASTE MANAGEMENT LICENCE VARIATION APPLICATION AND WATER USE LICENCE APPLICATION FOR THE PROPOSED RETROFITTING OF A FLUE GAS DESULPHURISATION (FGD) SYSTEM AT MEDUPI POWER STATION, LEPHALALE, LIMPOPO PROVINCE **COMMENT SHEET : DEIR & WML VARIATION** **DEIR public review until 05 April 2018** **WML Variation Application public review until 09 April 2018**	**EIA Public Participation Office** Mathys Vosloo / Lebo Petlane Zitholele Consulting (Pty) Ltd P O Box 6002, Halfway House, 1685 Tel: 011 207 2060 Fax: 086 674 6121 Email: fgd@zitholele.co.za

Please complete by Friday 05 April 2018 and return to the EIA Public Participation Office (as above)

TITLE		**FIRST NAME**	
INITIALS		**SURNAME**	
ORGANISATION (Please do not use any acronyms)			
POSTAL ADDRESS		**POSTAL CODE**	
TEL NO			
FAX NO			
CELL			
EMAIL			
SIGNATURE		**DATE**	

COMMENTS (Please use separate sheets if necessary)

1. I have the following concern / questions / queries.

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2. I would like to receive further communication through the following means of communication.

Email		**Fax**		**SMS**		**Mail**	

Please note to ensure your contact details for the communication method chosen are correctly captured above.

3. Any other comments you may have:

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THANK YOU FOR YOUR CONTRIBUTION

Zitholele Consulting
Reg. No. 2000/000392/07

PO Box 6002 Halfway House 1685, South Africa
Building 1, Maxwell Office Park, Magwa Crescent West
c/o Allandale Road & Maxwell Drive, Waterfall City, Midrand
T : 011 207 2060 **F** : 086 674 6121 **E** : mail@zitholele.co.za

Our Ref : 12949-83-Let-005-PRPExt

05 April 2018

Dear Stakeholder

ENVIRONMENTAL IMPACT ASSESSMENT, WASTE MANAGEMENT LICENSE VARIATION AND WATER USE LICENCE FOR THE PROPOSED RETROFITTING OF A FLUE GAS DESULPHURISATION (FGD) SYSTEM AT MEDUPI POWER STATION, LEPHALALE, LIMPOPO PROVINCE

1. **NOTIFICATION OF EXTENSION OF PUBLIC REVIEW PERIOD TO 19 APRIL 2018**
2. **NOTIFICATION OF SUBMISSION OF AMENDED EIA APPLICATION FORM TO DEA**
3. **AVAILABILITY OF MEETING PRESENTATIONS**
4. **REMINDER NOTIFICATION OF THE AVAILABILITY OF THE DEIR AND WML VARIATION APPLICATION**

1. Notification of extension of public review period to 19 April 2018

This notification serves to inform all stakeholders that extension of the public review period to 19 April 2018 has been granted to all stakeholders to allow for additional time for review and comment on the Environmental Impact Assessment (EIA) Application and Waste Management Licence (WML) Variation Application. All stakeholders are hereby encouraged to provide comment on the abovementioned applications on or before 19 April 2018. Details of where the applications can be viewed and how comment can be submitted is provided in section 4 below.

2. REMINDER: Notification of submission of amended EIA Application Form to DEA

This notification serves to inform all stakeholders that an amended EIA application form (non-integrated application) was submitted to the Department of Environmental Affairs (DEA) on 26 March 2018. Due to the changes to the packaging of the various components of the Medupi FGD Retrofit Project, as explained in the two Bridging Documents and DEIR, the submission of an amended EIA application form to the DEA was necessary due to the fact that the EIA application was no longer an application for integrated environmental authorisation and waste management licence in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998), as amended and the Environmental Impact Assessment Regulations, 2010; and the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008).

As a result, an application for authorisation in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998), and the Environmental Impact Assessment Regulations, 2014 only has been applied for through the submission of the amended EIA Application Form to the DEA. A new DEA reference number will be assigned to Medupi FGD Retrofit Project EIA process which will be communicated to all stakeholders once received.

The amended EIA Application Form, including the bridging documents and DEIR referred to above, is available for download from Zitholele's website (www.zitholele.co.za/environmental/) under heading "EIA for Medupi FGD" or can be viewed at the public places mentioned in section 4 below.

3. REMINDER: Availability of PPP Meeting Presentations

The agendas, presentations given and attendance registers for all meetings held on 12 and 13 March 2018 are available for download and review from Zitholele's website (www.zitholele.co.za/environmental/) under heading "EIA for Medupi FGD". Please note the meeting at Ditheku Primary School, Marapong, was not held due to a lack of stakeholder attendance. An *ad hoc* Key Stakeholder Meeting was undertaken with representatives of the Waterberg Environmental Justice Forum (WEJF) on 14 March 2018, who is an active Community Based Organisation in the local communities.

4. REMINDER: DEIR and WML available for Public Review

The Draft Environmental Impact Report (DEIR) and Waste Management Licence (WML) Variation Application is available for public review and comment until Thursday, 19 April 2018. Hard copies of the DEIR and WML Variation Application, as well as the amended EIA Application Form, are available at the following public places:

VENUE	CONTACT DETAILS
Lephalale Public Library, Civic Center Onverwacht, Cnr Joe Slovo and Douwater Road, Lephalale	Tel.: 014 762 1484 / 1453 / 1518
Marapong Community Library, 916 Phukubye Street, Marapong	Tel.: 073 210 8954
Lesedi Tshukudu Thusong Centre, Steenbokpan	Tel.: 082 927 2399
Agri SA, NTK Building, 1 Jan Louis Botha Avenue, Lephalale	Tel.: 014 763 1888

The DEIR, WML Variation Application and EIA Application Form are available for download from Zitholele's website (www.zitholele.co.za/environmental/) under heading "EIA for Medupi FGD", and is also available per CD on request via email from Zitholele Consulting. These reports are also be available on the Eskom website (http://www.eskom.co.za/OurCompany/SustainableDevelopment/EnvironmentalImpactAssessments/Pages/Environment_Impact_Assessments.aspx) under the heading "Medupi FGD".

You are requested to comment on the DEIR and WML Variation Application in any of the following ways:

- Completing the comment sheet enclosed (**Appendix A**);
- Writing a letter, or producing additional written submissions; or
- Sending an e-mail or phoning the public participation office.

Contact details of the Public Participation Office:

EIA Public Participation Office:
Mathys Vosloo / Lebo Petlane
Zitholele Consulting (Pty) Ltd
PO Box 6002, Halfway House, 1685
Tel: 011 207 2060
Fax: 086 674 6121
Email: fgd@zitholele.co.za

We would like to express our appreciation to the stakeholders who have participated in this EIA process thus far.

Yours faithfully

Dr. Mathys Vosloo
ZITHOLELE CONSULTING (PTY) LTD

Appendix A: Comment Form

ENVIRONMENTAL IMPACT ASSESSMENT, WASTE MANAGEMENT LICENCE VARIATION APPLICATION AND WATER USE LICENCE APPLICATION FOR THE PROPOSED RETROFITTING OF A FLUE GAS DESULPHURISATION (FGD) SYSTEM AT MEDUPI POWER STATION, LEPHALALE, LIMPOPO PROVINCE COMMENT SHEET : DEIR & WML VARIATION	**EIA Public Participation Office** Mathys Vosloo / Lebo Petlane Zitholele Consulting (Pty) Ltd P O Box 6002, Halfway House, 1685 Tel: 011 207 2060 Fax: 086 674 6121 Email: fgd@zitholele.co.za ZITHOLELE CONSULTING

Please complete by 19 April 2018 and return to the EIA Public Participation Office (as above)

TITLE		**FIRST NAME**	
INITIALS		**SURNAME**	
ORGANISATION (Please do not use any acronyms)			
POSTAL ADDRESS		**POSTAL CODE**	
TEL NO			
FAX NO			
CELL			
EMAIL			
SIGNATURE		**DATE**	

COMMENTS (Please use separate sheets if necessary)

1. I have the following concern / questions / queries.

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2. I would like to receive further communication through the following means of communication.

Email		**Fax**		**SMS**		**Mail**	

Please note to ensure your contact details for the communication method chosen are correctly captured above.

3. Any other comments you may have:

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THANK YOU FOR YOUR CONTRIBUTION

Zitholele Consulting
Reg. No. 2000/000392/07

PO Box 6002 Halfway House 1685, South Africa
Building 1, Maxwell Office Park, Magwa Crescent West
c/o Allandale Road & Maxwell Drive, Waterfall City, Midrand
T : 011 207 2060 **F** : 086 674 6121 **E** : mail@zitholele.co.za

Our Ref : 12949-83-Let-006-FinRem

19 April 2018

Dear Stakeholder

ENVIRONMENTAL IMPACT ASSESSMENT, WASTE MANAGEMENT LICENSE VARIATION AND WATER USE LICENCE FOR THE PROPOSED RETROFITTING OF A FLUE GAS DESULPHURISATION (FGD) SYSTEM AT MEDUPI POWER STATION, LEPHALALE, LIMPOPO PROVINCE

1. **FINAL REMINDER TO SUBMIT COMMENTS AND CONCLUSION OF PUBLIC REVIEW PERIOD**
2. **DEA REFERENCE NUMBER ISSUED FOR EIA APPLICATION**
3. **DEA REFERENCE NUMBER ISSUED FOR WML VARIATION APPLICATION**
4. **AVAILABILITY OF THE DEIR AND WML VARIATION APPLICATION**

1. Final reminder to submit comments and conclusion of Public Review Period

This notification serves to remind all stakeholders that the public review period for review and comment on the Draft Environmental Impact Report (DEIR) and Waste Management Licence (WML) Variation Application for the Medupi FGD Retrofit Project is coming to an end. This notification further serves as the final reminder to all stakeholders to submit comments relating to the DEIR and WML Variation Application before the end of Thursday 19 April 2018 to the Public Participation Office. Details of where the applications can be viewed and how comment can be submitted is provided in section 4 below.

2. New DEA reference number issued for EIA Application

An amended EIA application form (non-integrated application) for the Medupi FGD EIA Application was submitted to the Department of Environmental Affairs (DEA) on 26 March 2018. The DEA issued a new DEA Reference Number, i.e. **14/12/16/3/3/2/1060**, for the non-integrated application on 13 April 2018, which was communicated via email to Zitholele Consulting on 16 April 2018. The amended EIA Application Form is available for download from Zitholele's website (www.zitholele.co.za/environmental/) under heading "EIA for Medupi FGD" or can be viewed at the public places mentioned in section 4 below.

3. DEA Reference number issued for WML Variation Application

A Waste Management Licence (WML) Variation Application for the Medupi FGD and Ash Disposal Facility (ADF) was submitted to the DEA on 05 March 2018. The DEA issued a Reference Number, i.e. **12/9/11/L184515344/5/V**, for the WML Variation Application on 09 April 2018, which was communicated via email to Zitholele Consulting on 10 April 2018. The WML Variation Application is available for download from Zitholele's website

(www.zitholele.co.za/environmental/) under heading "EIA for Medupi FGD" or can be viewed at the public places mentioned in section 4 below.

4. Availability of DEIR and WML Variation Application

The Draft Environmental Impact Report (DEIR) and Waste Management Licence (WML) Variation Application is available for public review and comment until Thursday, 19 April 2018. Hard copies of the DEIR and WML Variation Application, as well as the amended EIA Application Form, are available at the following public places:

VENUE	CONTACT DETAILS
Lephalale Public Library, Civic Center Onverwacht, Cnr Joe Slovo and Douwater Road, Lephalale	Tel.: 014 762 1484 / 1453 / 1518
Marapong Community Library, 916 Phukubye Street, Marapong	Tel.: 073 210 8954
Lesedi Tshukudu Thusong Centre, Steenbokpan	Tel.: 082 927 2399
Agri SA, NTK Building, 1 Jan Louis Botha Avenue, Lephalale	Tel.: 014 763 1888

The DEIR, WML Variation Application and EIA Application Form are available for download from Zitholele's website (www.zitholele.co.za/environmental/) under heading "EIA for Medupi FGD", and is also available per CD on request via email from Zitholele Consulting. These reports are also be available on the Eskom website (http://www.eskom.co.za/OurCompany/SustainableDevelopment/EnvironmentalImpactAssessments/Pages/Environment_Impact_Assessments.aspx) under the heading "Medupi FGD".

You are requested to comment on the DEIR and WML Variation Application in any of the following ways:

- Completing the comment sheet enclosed (**Appendix A**);
- Writing a letter, or producing additional written submissions; or
- Sending an e-mail or phoning the public participation office.

Contact details of the Public Participation Office:

EIA Public Participation Office: Mathys Vosloo / Lebo Petlane
Zitholele Consulting (Pty) Ltd
PO Box 6002, Halfway House, 1685
Tel: 011 207 2060
Fax: 086 674 6121
Email: fgd@zitholele.co.za

We would like to express our appreciation to the stakeholders who have participated in this EIA process thus far.

Yours faithfully

Dr. Mathys Vosloo
ZITHOLELE CONSULTING (PTY) LTD

Appendix A: Comment Form

ENVIRONMENTAL IMPACT ASSESSMENT, WASTE MANAGEMENT LICENSE VARIATION AND WATER USE LICENCE FOR THE PROPOSED RETROFITTING OF A FLUE GAS DESULPHURISATION (FGD) SYSTEM AT MEDUPI POWER STATION, LEPHALALE, LIMPOPO PROVINCE **COMMENT SHEET : DEIR & WML Variation Application**	**EIA Public Participation Office** Mathys Vosloo / Lebo Petlane Zitholele Consulting (Pty) Ltd P O Box 6002, Halfway House, 1685 Tel: 011 207 2060 Fax: 086 674 6121 Email: fgd@zitholele.co.za

Please complete and return to the EIA Public Participation Office (as above)

TITLE		**FIRST NAME**			
INITIALS		**SURNAME**			
ORGANISATION (Please do not use any acronyms)					
POSTAL ADDRESS				**POSTAL CODE**	
TEL NO					
FAX NO					
CELL					
EMAIL					
SIGNATURE		**DATE**			

COMMENTS (Please use separate sheets if necessary)

1. I have the following concern / questions / queries.

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.....

2. I would like to receive further communication through the following means of communication.

Email		**Fax**		**SMS**		**Mail**	

Please note to ensure your contact details for the communication method chosen are correctly captured above.

3. Any other comments you may have:

.....

.....

THANK YOU FOR YOUR CONTRIBUTION

Appendix F-6: Presentations and minutes of the meeting

Zitholele Consulting
Reg. No2000/000392/07

PO Box 6002 Halfway House 1685, South Africa
Building 1, Maxwell Office Park, Magwa Crescent West
c/o Allandale Road & Maxwell Drive, Waterfall City, Midrand
Tel + 27 11 207 2060
Fax + 27 11 86 674 6121
E-mail : mail@zitholele.co.za

ENVIRONMENTAL IMPACT ASSESSMENT, VARIATION TO EXISTING WASTE MANAGEMENT LICENCE, AND WATER USE LICENCE APPLICATION FOR THE PROPOSED RETROFITTING OF A FLUE GAS DESULPHURISATION (FGD) SYSTEM AT MEDUPI POWER STATION, LEPHALALE, LIMPOPO PROVINCE

PUBLIC MEETING

Monday, 12 March 2018 @ 11h00

Community Hall, Lesedi Tshukudu Thusong Centre, Steenbokpan

A G E N D A

Facilitator: Mathys Vosloo, Zitholele Consulting

10:30 – 11:00	Registration for the meeting	
11:00 – 11:10	Welcome, Evacuation Procedures, Introductions	M. Vosloo
11:10 – 11:30	Project Background	T. Blom
11:30 – 12:15	Presentation of application process and findings	M. Vosloo
12:15 – 12:45	Discussion	All
12:45 – 13:00	Closing and Way Forward	M. Vosloo

ENVIRONMENTAL IMPACT ASSESSMENT, WASTE MANAGEMENT LICENSE VARIATION APPLICATION, AND WATER USE LICENCE APPLICATION FOR THE PROPOSED RETROFITTING OF A FLUE GAS DESULPHURISATION (FGD) SYSTEM AT MEDUPI POWER STATION, LEPHALALE, LIMPOPO PROVINCE

Public Meeting

Lesedi Tshukudo Thusong Centre
11am – 1pm

Zitholele Consulting
Mathys Vosloo
12 March 2018

Conduct of the Meeting for Productive Discussions

- Focus on project related issues
- Focus on issue, not the person
- Agree to disagree
- Courtesy – one person at a time
- Question / Comment - raise your hand
- Please state name & organisation when raising question/comment
- Work through facilitator
- Cell phones on silent

Objectives of the Meeting

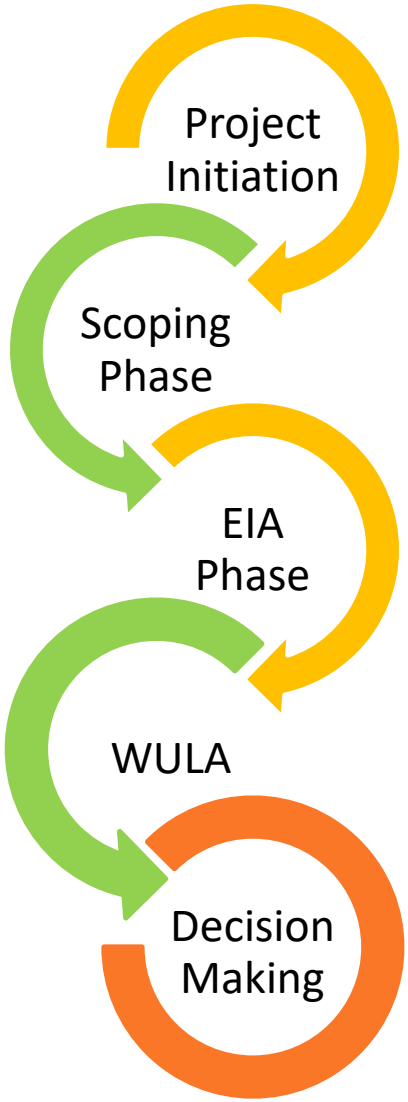
- Project Motivation
- Proposed development activities
- Study / development area
- What is being applied for?
- Findings of specialist studies
- Public Participation Process
- Recommendation of the EAP
- Way forward

1. Project Motivation

- Medupi PS Air Emissions Licence (AEL) amended in 2015
  - Operate and maintain a Flue Gas Desulphurisation (FGD) plant for SO_2 control
  - Reduce SO_2 to below 500 mg/Nm^2 by 1 April 2025
- Funder requirements

Result in need to retrofit a FGD system to the Medupi PS before 2025.

2. Project Progression



December 2013 – April 2014

May 2014 – July 2015

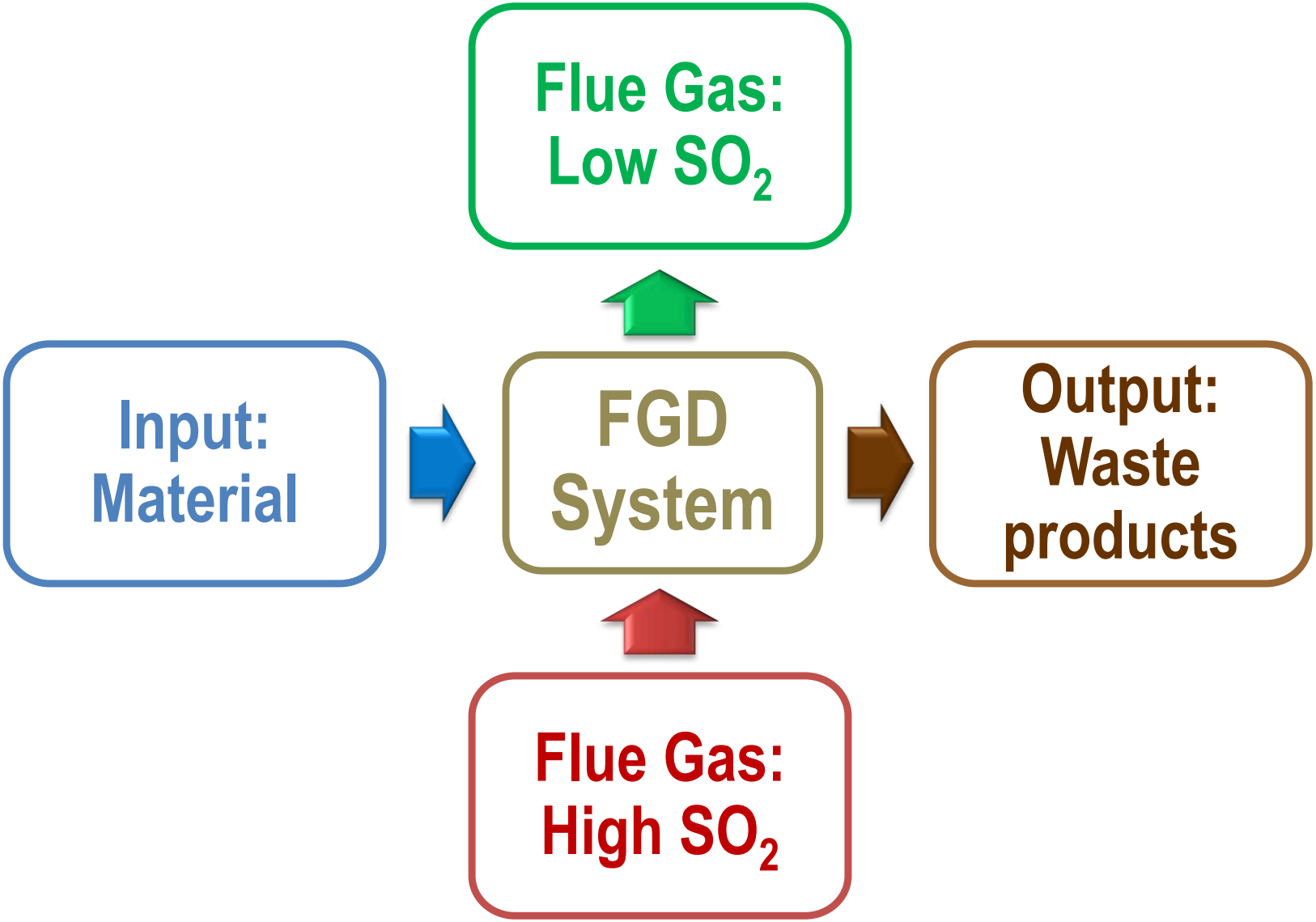
August 2015 – April 2018

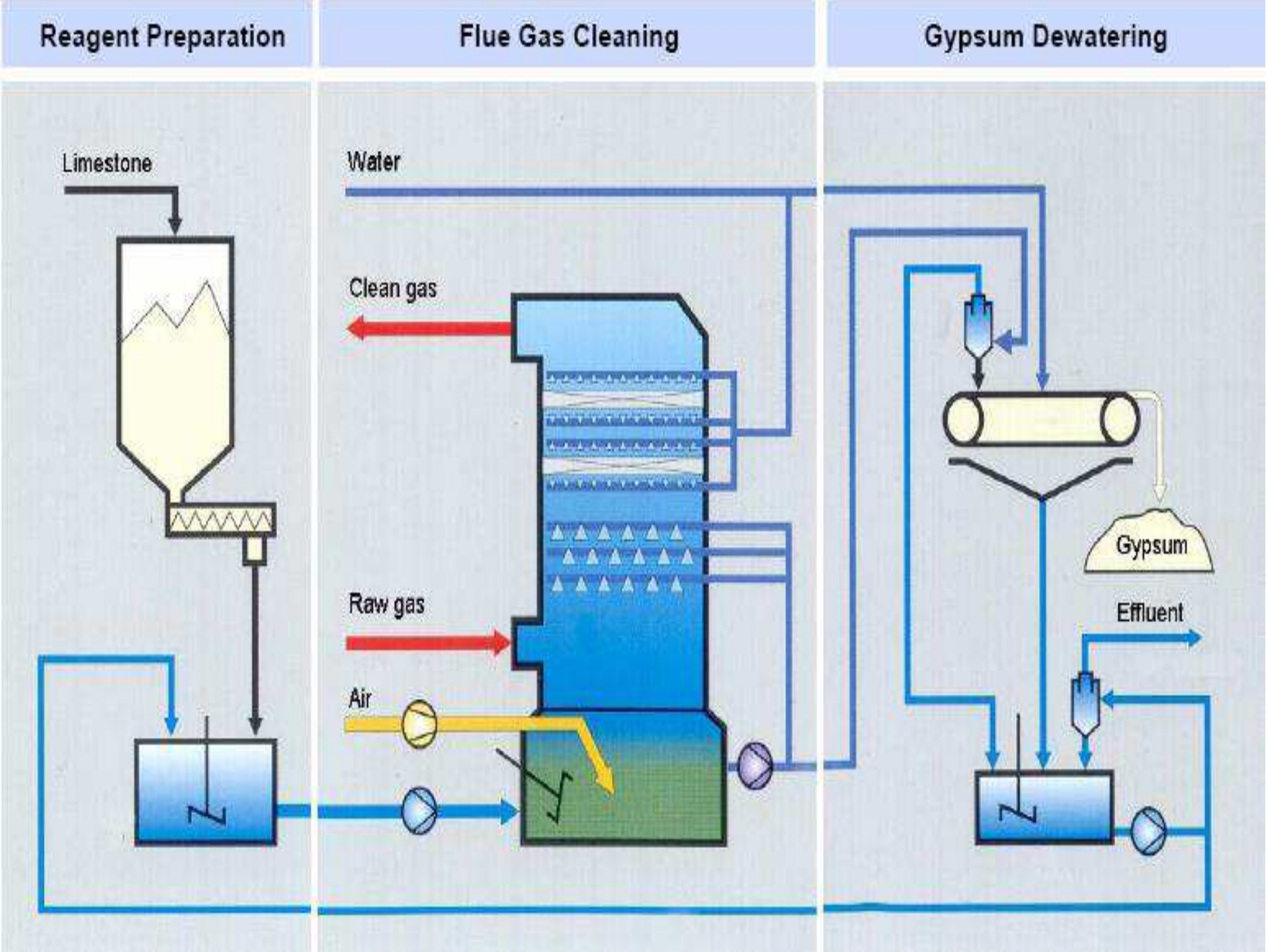
August 2016 – May 2015

May 2018 – August 2018 (EIA)

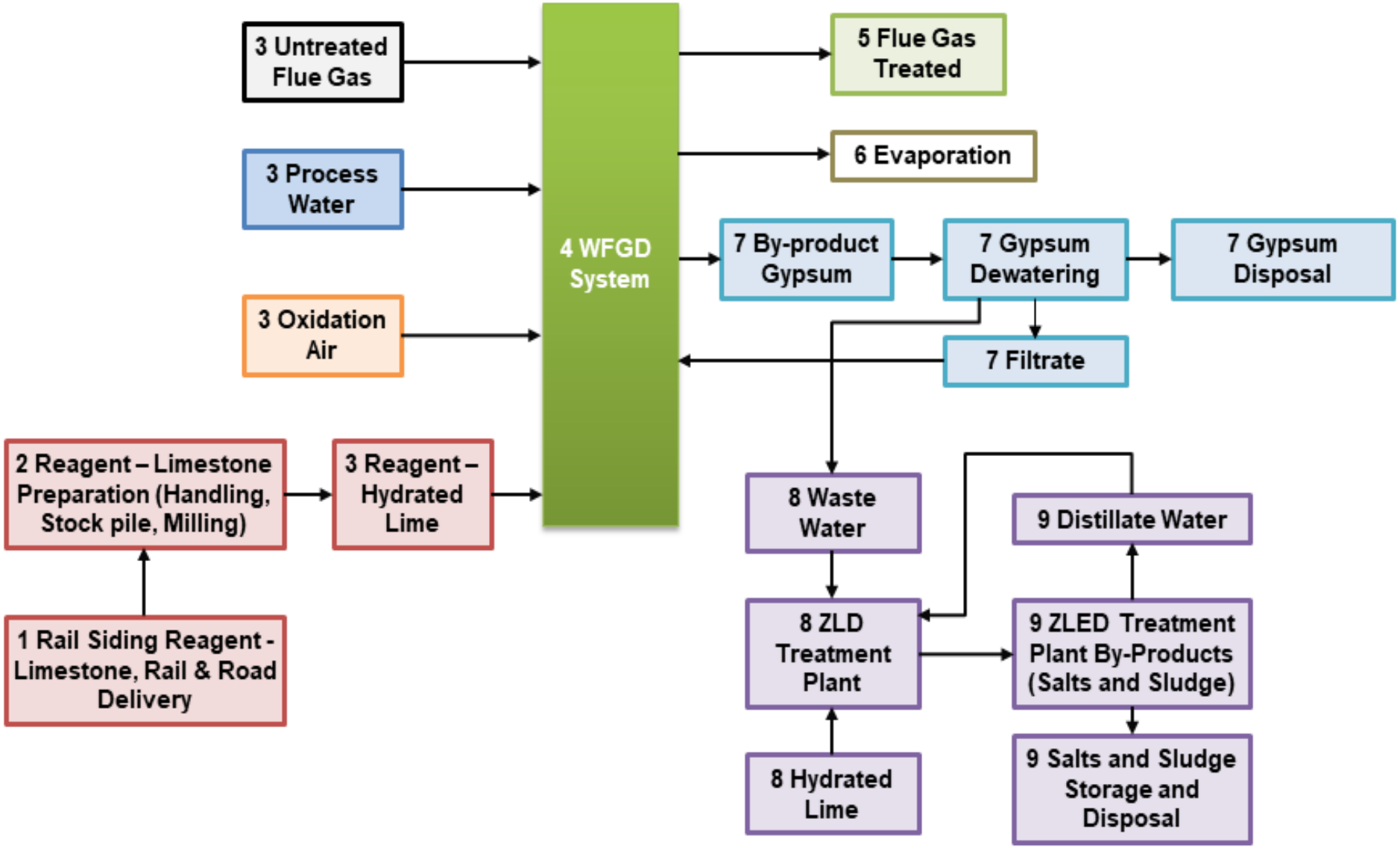
May 2018 – February 2018 (WULA)

3. FGD Simplified

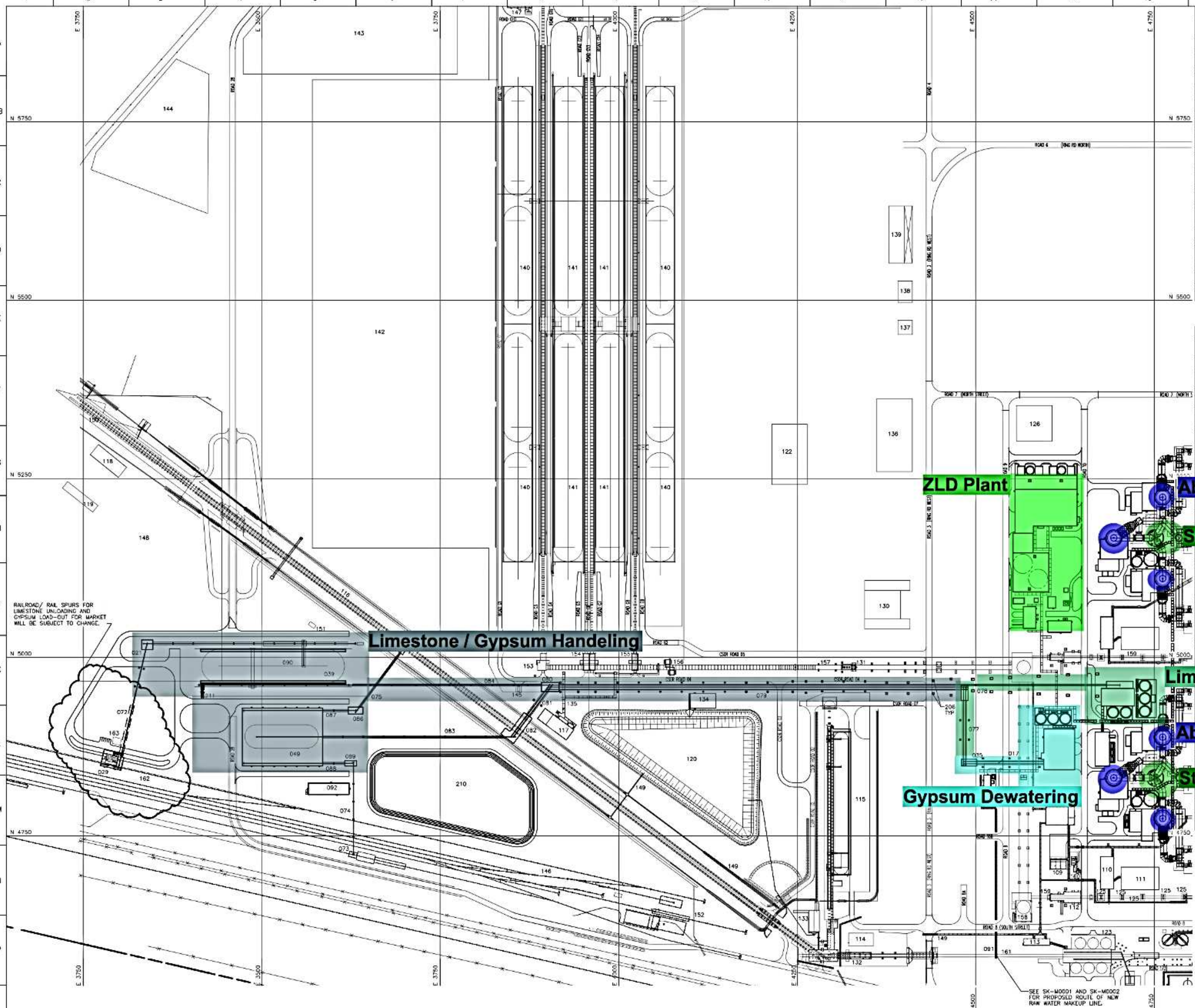



Reagent Preparation
Flue Gas Cleaning
Gypsum Dewatering
Limestone
Water
Clean gas
Raw gas
Air
Gypsum
Effluent

4. FGD Components Diagram



5. Development site



NEW FACILITIES LEGEND					
ID	FACILITY	FOUNDATION	TIEDOWN LOCATION NORTH	TIEDOWN LOCATION EAST	REMARKS
017	GYPSUM COLLECTING CONVEYORS 1 AND 2				
021	LIMESTONE TRANSFER HOUSE LTH-1				
029	LIMESTONE UNLOADING FACILITY				
035	GYPSUM TRANSFER HOUSE GTH-1				
039	LIMESTONE STORAGE AREA				
049	GYPSUM STORAGE BUILDING				
072	LIMESTONE UNDERGROUND LINK CONVEYOR 1				
073	GYPSUM LOADOUT HOPPER				
074	SALEABLE GYPSUM CONVEYOR 13				
075	REJECT GYPSUM CONVEYOR 11				
076	RECLAIMER FEED CONVEYOR				
077	GYPSUM LINK CONVEYORS 3 AND 4				
078	GYPSUM TRANSFER HOUSE GTH-2				
079	GYPSUM CROSS CONVEYORS 5 AND 6				
080	GYPSUM TRANSFER HOUSE GTH-3				
081	GYPSUM LINK CONVEYORS 7 AND 8				
082	GYPSUM TRANSFER HOUSE GTH-4				
083	SALEABLE GYPSUM STACKING CONVEYOR 9				
084	LIMESTONE RECLAIM CONVEYOR 3				
085	GYPSUM TRANSFER HOUSE GTH-6				
086	GYPSUM TRANSFER HOUSE GTH-5				
087	REJECT GYPSUM RECLAIM CONVEYOR 10				
088	SALEABLE GYPSUM RECLAIM CONVEYOR 12				
089	GYPSUM TRANSFER HOUSE GTH-7				
090	LIMESTONE STACKING CONVEYOR 2				
092	LIMESTONE AND GYPSUM HANDLING SUBSTATION				
206	LIMESTONE/GYP COMBINED CONVEYOR FOUNDATION				
210	STORM WATER DIRTY DAM				
211	EMERGENCY LIMESTONE UNLOADING				

EXISTING FACILITIES LEGEND					
ID	FACILITY	FOUNDATION	TIEDOWN LOCATION NORTH	TIEDOWN LOCATION EAST	REMARKS
109	EXISTING DIESEL GENERATION BUILDING				
110	EXISTING COMPRESSOR HOUSE SOUTH SUBSTATION				
111	EXISTING COMPRESSOR HOUSE SOUTH				
112	EXISTING INCLINED CONVEYOR DRIVE HOUSE				
113	EXISTING ASH CONDITIONING SUBSTATION				
114	EXISTING ASH CONVEYOR SUBSTATION				
115	EXISTING EMERGENCY ASH DUMP				
116	EXISTING OVERLAND ASH CONVEYORS				
117	EXISTING COAL STOCKYARD SUBSTATION SOUTH				
118	EXISTING ASH DUMP SUBSTATION				
119	EXISTING ASH DUMP WORKSHOP				
120	EXISTING COAL STOCKYARD POLLUTION CONTROL DAM				
121	EXISTING BULK FUEL OIL OFFLOADING				
[illegible]	[illegible] P. PIPEWORK FABRIC				
123	EXISTING FLY ASH CONDITIONING PLANT				
125	EXISTING INCLINED COAL CONVEYOR FOUNDATION				
126	EXISTING MAINTENANCE LAYDOWN AREA				
[illegible]	[illegible]				
[illegible]	[illegible] HOUSE				
[illegible]	[illegible]				
133	EXISTING STOCKPILE TERRACE SUMP				
134	EXISTING SILT TRAP				
135	EXISTING ELECTRICAL TUNNEL				
136	EXISTING WAREHOUSE STORES				
137	EXISTING PLANT WASH BAY				
138	EXISTING PLANT WORKSHOP				
139	EXISTING FUEL OIL STATION				
140	EXISTING SEASONAL STOCKPILE				
141	EXISTING LIVE STOCKPILE				
142	EXISTING STRATEGIC STOCKPILE AREA				
143	EXISTING COAL CONTRACTORS YARD				
144	EXISTING WASTE STORAGE AREA				
145	EXISTING CSY TANKER FILLING				
[illegible]	[illegible]				
[illegible]	[illegible]				
148	EXISTING EARTH WORKS AND ROADS CONTRACTORS YD				
149	EXISTING ELECTRICAL TRENCH				
150	EXISTING OVERLAND ASH CONVEYORS				
151	EXISTING SUBSTATION				
[illegible]	[illegible]				
[illegible]	[illegible] FER HOUSE #4				
154	EXISTING COAL CONVEYOR TRANSFER HOUSE #5				
155	EXISTING COAL CONVEYOR TRANSFER HOUSE #6				
156	EXISTING MAGNET STRUCTURE				
[illegible]	[illegible] R				
[illegible]	[illegible] HOUSE SOUTH				
159	EXISTING INCLINED COAL CONVEYOR				
160	EXISTING DIESEL FUEL TANK				
161	EXISTING OVERLAND LINK CONVEYOR				
162	EXISTING WAGON POSITIONER				
163	EXISTING YARD CONTROLLER'S OFFICE				

EXTENSIVE REVISIONS
SEE PREVIOUS REVISION

GENERAL LEGEND

(symbol)	NEW STRUCTURES/FACILITIES	(symbol)	AGGREGATE SURFACING
(symbol)	EXISTING STRUCTURES/FACILITIES	(symbol)	CONCRETE SURFACING
(symbol)	EXISTING FENCE	(symbol)	PROPERTY LINE

NOT TO BE USED FOR CONSTRUCTION

THE DISTRIBUTION AND USE OF THE NATIVE FORMAT CAD FILE OF THIS DRAWING IS UNCONTROLLED. THE USER SHALL VERIFY TRACEABILITY OF THIS DRAWING TO THE LATEST CONTROLLED VERSION.

PLANT NORTH — TRUE NORTH 30°

1:2000 — 0 50 100 150 — SCALE IN METERS

REV	DATE	REVISION	REV BY	CHKD BY	AUTH BY	REF	REFERENCE DRAWINGS
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1	[illegible]	ISSUED FOR TEAM REVIEW	WAH	JLG			

DRAWN BY: WAH
SCALE: 1:2000

steinmüller engineering
BLACK & VEATCH
Eskom Enterprise

MEDUPI POWER STATIO
MEDUPI FGD RETROFIT PROJECT
PLOT PLAN

178771-CGAU-G1000
0.84/30759 DDL

DWG: ACAD 18.2s (LMS Tech) A1APN017 A2 1=1 01/20/14 13:50:00

6. Changes in project packaging

Scoping Phase	**Integrated EIA/WML & WULA** FGD, RAIL, LIME, INFRAS, ADF, *on-site* WDF				
Bridging Document, Nov 2016	**Integrated EIA/WML 1 & WULA** FGD, RAIL, LIME, INFRAS	**Integrated EIA/WML 2** *Off-site* WDF	**WML Variation** ADF	**WULA** FGD, RAIL, LIME, INFRAS, ADF	
Bridging Document 2, Nov 2017	**EIA** FGD, RAIL, LIME (*NEMA*), INFRAS	**GN926** LIME (Registration of storage facility prior construction)	**Integrated EIA/WML 2** *Off-site* WDF	**WML Variation** ADF	**WULA** FGD, RAIL, LIME, INFRAS, ADF

FGD = FGD system, **RAIL =** Rail Yard, **LIME =** Limestone / Gypsum handling & storage, **INFRAS =** Associated Infrastructure, **ADF =** Disposal of ash & gypsum on existing Ash Disposal Facility (4-20 yrs), **WDF =** Disposal of ash, gypsum, salts & sludge on new Waste Disposal Facility (21-50 yrs)

7. Legislative requirements – EIA

EIA - National Environmental Management Act (Act 107 of 1998) as amended

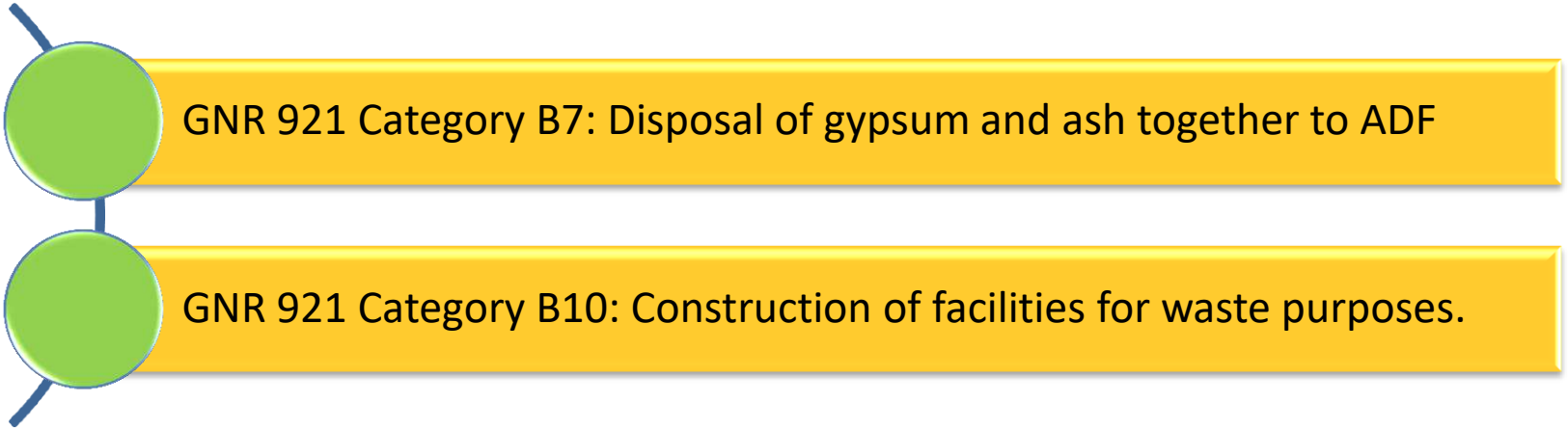
EIA Regulations of 2010 (GNR 543), as amended

- GNR 545 activity 3: Storage and handling of diesel within the FGD footprint and rail yard.
- GNR 545 activity 11: Construction of railway yard for purposes of transport of products and wastes relating to FGD process.
- GNR 545 activity 15: Alteration of undeveloped land for the railway yard of more than 20ha.

Activities 9 and 18 of GNR 544 (Basic Assessment), and 14(a)(i) of GNR 546 also triggered

7. Legislative requirements – WML

WML Variation Application – National Environmental Management: Waste Act (Act 59 of 2008) as amended.



Registration of temporary waste storage facility for storage of salts and sludge i.t.o. Schedule C of GN 921 (list of waste management activities) of the NEM:WA, and GN 926 of 29 November 2013 (Norms and Standards for Storage of Waste).

7. Legislative requirements – WULA

WULA – National Water Act (Act 36 of 1998) as amended.

- 21(c) – Construction activities associated with FGD system and rail yard carried out within the 500 m buffer of the water resources
- 21(i) – Construction activities associated with FGD system and rail yard carried out within the 500 m buffer of the water resources
- 21(g) – disposal of waste in a manner that may be detrimental to a water resource.

Environmental Impact Assessment
DEA REF: 14/12/16/3/3/3/110

FGD Infrastructure (within MPS footprint)
Rail Yard Infrastructure and Buildings
Limestone and Gypsum Handling Facilities
Associated Infrastructure (incl. fuel storage areas)
Waste Water Treatment Plant and Waste Storage Area

8. Alternatives considered (EIA)

1. Location / Layout

None – infrastructure to be fitted to footprint predefined by power station layout and infrastructure

2. Technology

Dry FGD: Slightly lower water consumption that WFGD, cannot fit within existing available space, very high capital and operating costs

Wet FGD: Fit within site space constraints, high efficiency to remove SO_2, uses more water than DFGD

Wet FGD (gas cooler): uses less water than WFGD, layout and space constraints, high maintenance & problematic during operation, reduction in unit power output, high capital and operation cost

8. Alternatives considered (EIA)

3. No-go Option

The no-go option is to continue operation of the Medupi Power Station without the FGD retrofit.

- Medupi PS not be compliant with AEL
- Need to shut down the power station
- Significant impact on economy and stability of electricity supply
- Considered FATALLY FLAWED

9. Key issues identified

- Air Quality
- Waste handling and disposal
- Water allocation and use
- Social and economic impacts of FGD
- Biodiversity and wetland impacts

10. Studies undertaken

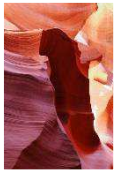

Terrestrial ecology (Biodiversity)


Aquatic and wetland ecology


Socio-economic


Air Quality


Waste classification


Groundwater


Surface water


Heritage, Archaeology


Palaeontology


Traffic


Noise


Geotechnical


Soils and land capability

11. Specialist conclusions

Study area	Conclusion	Residual impact / Impact significance
Geology / Geotechnical	Standard footing/ foundations systems.	**No significant** geotechnical hazards or fatal flaws identified.
Soils and Land capability	Site already disturbed, but loss of soil resources probable.	Residual impact **Moderate to Low.**
Groundwater	Impact on groundwater quality, volume and flow minor for all phases.	**Low** significance, groundwater monitoring to be undertaken.
Surface water	No significant changes in surface water runoff or flooding, no expected increases in pollutant loads.	Residual impact **Low**, implement SWMP and continue surface water monitoring.

11. Specialist conclusions (cont.)

Study area	Conclusion	Residual impact / Impact significance
Biodiversity and Wetlands	Loss of vegetation species, habitat, catchment area and fauna mortality identified . Direct loss of pans and wetlands.	Residual impact **Moderate**, in some cases **High**. Avoid / reduce vegetation clearing and impact on Sandloop tributary FEPA, "Search and Rescue", Wetland offset and rehabilitation plan.
Air quality	Scenarios included baseline air quality, Medupi PS with a/ without FGD. With FGD no exceedances of NAAQS for SO_2, NO_2, PM_{10} and $PM_{2.5}$ at sensitive receptors.	Impact significance found to be **Low, i.e. retrofit of FGD positive impact on air quality.** Specialist recommended that the FGD Retrofit Project be implemented.
Noise levels	Noise levels in the area during operation representative of suburban districts, but notable yet local during construction and decommissioning.	Specialist concluded that with noise mitigation, noise levels from the project will be **Low**. Mitigation include management of traffic and construction site.

11. Specialist conclusions (cont.)

Study area	Conclusion	Residual impact / Impact significance
Socio-economic environment	Although some negative impacts identified, **overall impact of the FGD project is overwhelmingly positive**, especially benefits from economic and employment opportunities, local economic development and *quality of life.*	Specialist concluded that significance of positive social impacts generally exceeds the significance of negative social impacts. Specialist recommend implementation of FGD retrofit.
Heritage, Archaeology & Palaeontology	No heritage, archaeological or palaeontological resources / sensitivities identified within the development footprint.	No potential / expected impact exist.
Traffic	Potential traffic delays at major intersections around Medupi PS identified.	Significance of residual impacts regarded as **Low**, recommended upgrade of identified intersections and traffic calming measures.

Variation Application for existing Medupi Waste Management Licence

WML No: 12/9/11/L50/5/R1

Disposal of gypsum and ash on existing disposal facility

Gypsum Handling Infrastructure

Associated Infrastructure, including Conveyor,

transfer houses, temp. gypsum loading area and Gypsum Storage Building

Storage of WWTP salts and sludge i.t.o. N&S for Storage of Waste (GN 926) prior construction

12. WML Variation Application

Variation application included activities:

- Disposal of ash and gypsum together on the existing ADF
- Reduction of ADF footprint, but increase in height from 60m to 72m
- Inclusion of infrastructure associated with the handling and management of gypsum waste, including:
  - Conveyor for transport of gypsum,
  - Transfer houses
  - Temporary gypsum loading area for loading of saleable gypsum onto trucks
  - Gypsum Storage Building for the storage of saleable gypsum via rail

13. Studies undertaken


Visual


Waste classification


Air Quality


ADF Concept Design


Terrestrial ecology (Biodiversity)


Aquatic and wetland ecology


Groundwater


Surface water

Impacts associated with construction of infrastructure as per the findings and conclusions of EIA

14. Specialist conclusions

Study area	Conclusion	Residual impact / Impact significance
Waste Assessment (disposal of ash and gypsum on ADF)	Gypsum is a Type 3 waste, same as Ash. Therefore can be disposed together with ash on disposal facility with Class C barrier system, as is the case for the Medupi ADF.	No additional impact for disposal of ash and gypsum disposed together on Class C barrier system is expected, as apposed to disposal of ash only on the Class C barrier.
Groundwater (disposal of ash and gypsum on ADF)	A specialist opinion on the impact of disposal of ash and gypsum together on groundwater concluded **no significant impact** on the groundwater regime expected.	Class C barrier system itself is a management measure to reduce any groundwater impacts. No significant residual impact expected.
Surface Water (disposal of ash and gypsum on ADF)	No additional impact on surface water runoff or quality has been identified by the surface water specialist	Surface water management system for existing ADF will continue to manage potential surface water quality and quantity impacts.

14. Specialist conclusions

Study area	Conclusion	Residual impact / Impact significance
Visual (Increase in height of WDF)	Original visual assessment for Medupi PS found impact to be Moderate (45-50m facility). VIA for increased height to 72m also Moderate, i.e. equivalent to existing ADF.	Residual impact rated as Moderate significance, same as original assessment.
Air quality (Increase in height of WDF)	Disposal of ash and gypsum together expected to create crust when mixed with water, but could contribute to dust nuisance. Simulations found no exceedances of NAAQS for PM_{10} and $PM_{2.5}$	Increase in height will have **LOW** impact significance.
Biodiversity and wetlands (Increase in height of WDF)	Gypsum is not likely to a have a major toxicological impact on biodiversity / wetlands. Probability of contamination event expected to be **Low**.	Residual impact expected to be of Moderate significance. Dust management and control main method in reducing impact potential.

Water Use Licence Application (WULA)

FGD Infrastructure (within MPS footprint)

Rail Yard Infrastructure and Buildings

Limestone and Gypsum Handling Facilities

Associated Infrastructure (incl. fuel storage areas)

Waste Water Treatment Plant and Temporary Waste Storage Area

Existing Ash Disposal Facility

15. WULA

Water Use	Infrastructure to be licenced
Section 21 (c) - Impeding or diverting the flow of water in a watercourse	Existing waste disposal facility, including the associated PCDs, and Medupi FGD footprint
Section 21 (i) - Altering the bed, banks, course or characteristics of a watercourse	Existing waste disposal facility and Medupi FGD footprint
Section 21 (g) - disposing of waste in a manner which may detrimentally impact on a water resource;	• Gypsum Transfer Houses • Gypsum Storage Building and temporary storage area • Limestone Storage Area • Limestone unloading facility at rail yard • Emergency Limestone unloading area • Pollution Control Dams (also 21(h)) • Existing Disposal Facility footprint • Sludge and Salts handing and storage areas • Dust suppression of disposal facility during construction, operation and rehabilitation

16. Stakeholder Engagement

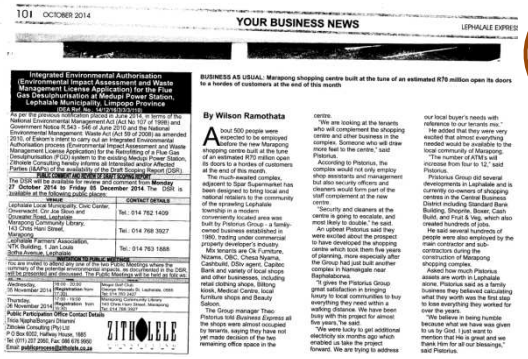
Scoping Phase

EIA Process Advert (06 June 2014) → Site Notices & BID Distribution (06 June 2014) → Draft Scoping Report (27 Oct – 05 Dec 2014 – ext to 09 January 2015)

Draft Scoping Report → KSW & Public Meetings (05 & 06 Nov 2014) → FSR (12 June – 13 July 2015)

EIA Process (Mogol Post)

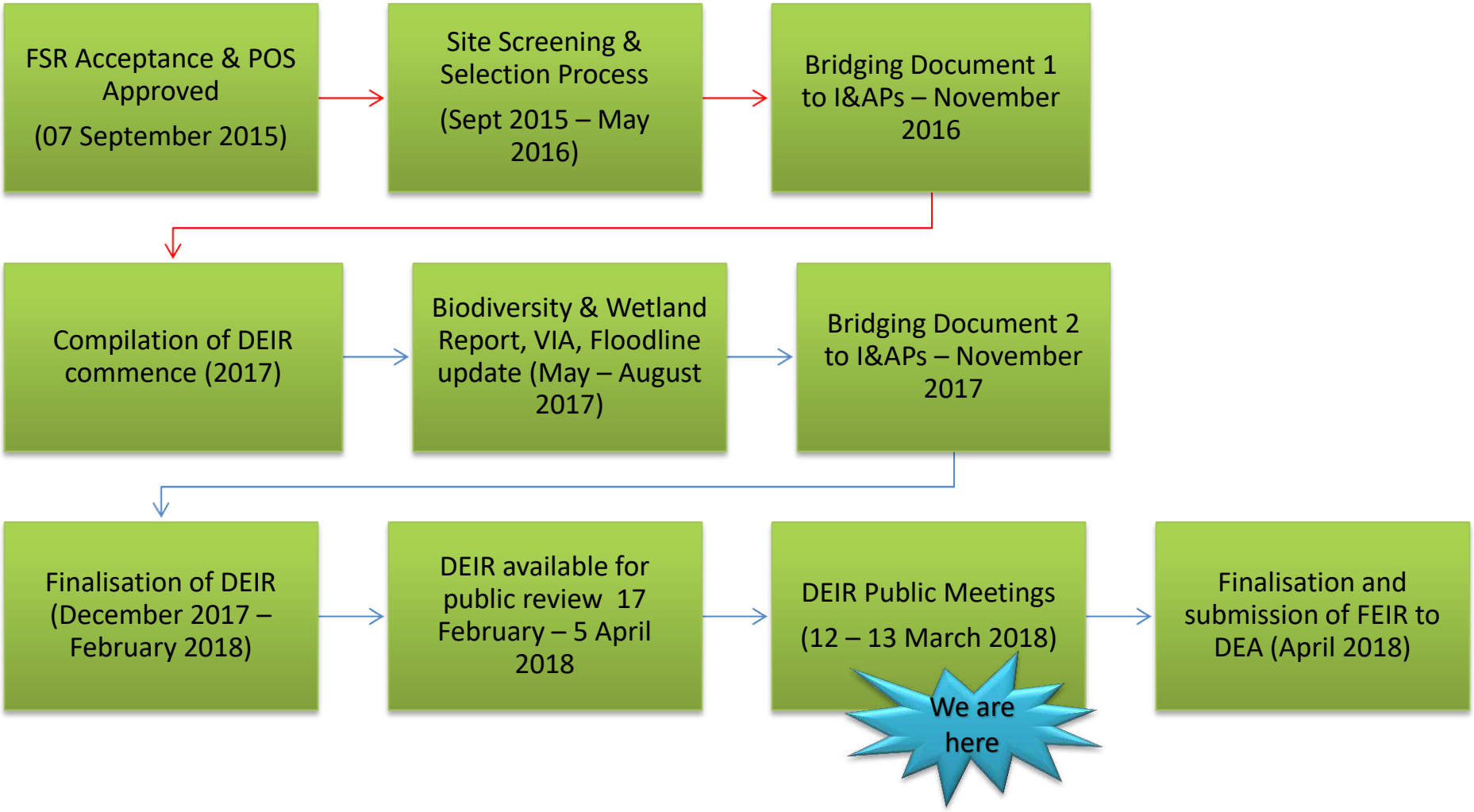
BID Distribution



DSR & PM (Lephalale Express/Mogol Post/Northern News)

16. Stakeholder Engagement

Impact Phase



17. Authority engagement

08 July 2014	• DEA • Intro project • Post application meeting
11 Nov 2014	• DEA Waste Directorate • Project info • Waste disposal methods
02 July 2015	• DEA and DWS • Gypsum disposal method
01 Oct 2015	• DEA • Dynamic info post Scoping Phase
23 February 2016	• DEA and DWS • CBA and NFEPA on site
30 November 2017	• DWS • NFEPA on site, wetland offset requirements and rehabilitation plan

9. Discussion

Mathys Vosloo / Bongani Dhlamini

Public Participation Office

Zitholele Consulting

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Halfway House

1685

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Fax: 086 674 6121

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Tel + 27 11 207 2060
Fax + 27 11 86 674 6121
E-mail : mail@zitholele.co.za

ENVIRONMENTAL IMPACT ASSESSMENT FOR THE PROPOSED RETROFITTING OF A FLUE GAS DESULPHURISATION (FGD) SYSTEM AT MEDUPI POWER STATION, LEPHALALE, LIMPOPO PROVINCE

DEA REF.: 14/12/16/3/3/2/1060

Minutes

CLIENT	:	Eskom Holdings SOC Ltd
CONSULTANT	:	Zitholele Consulting (Pty) Ltd
PROJECT	:	Medupi FGD Retrofit Project EIA
CONTRACT NO.	:	DEA REF.:14/12/16/3/3/3/110
PROJECT NO.	:	12949
DATE	:	12 March 2018
TIME	:	11h00
VENUE	:	Community Hall, Lesedi Tshukudu Thusong Centre, Steenbokpan

PRESENT

Please refer to the attendance register

APOLOGIES

Please refer to the attendance register

ITEM	DISCUSSION POINTS	ACTION, DATE
1	**WELCOME AND ATTENDANCE:** Dr. Mathys Vosloo, Zitholele Consulting welcomed all attendees to the Public Meeting and introduced the project team and proponent.	
2	**MEETING OBJECTIVES:** • To present information regarding the proposed development • To present the EIA and Public Participation Processes followed to date • Provide key stakeholders overview of project activities and applications • Present findings of specialist studies • Provide clarity on the FDG processes • Present recommendations of the EAP and Way forward.	
3	**ACCEPTANCE OF AGENDA**	
4	**ACCEPTANCE OF MINUTES**	
5	**MATTERS ARISING FROM THE PREVIOUS MINUTES – No previous minutes**	
6	**GENERAL**	
	NEXT MEETING	

Zitholele Consulting
Reg. No2000/000392/07

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Building 1, Maxwell Office Park, Magwa Crescent West
c/o Allandale Road & Maxwell Drive, Waterfall City, Midrand
Tel + 27 11 207 2060
Fax + 27 11 86 674 6121
E-mail : mail@zitholele.co.za

LIST OF ABBREVIATIONS

ADF	Ash Disposal Facility
AEL	Atmospheric Emission License
BID	Background Information Document
CBA's	Critical Biodiversity Areas
DAFF	Dept. of Agriculture, Forestry and Fisheries
DEA	Department of Environmental Affairs
DEIR	Draft Environmental Impact Report
DFGD	Dry Flue Gas Desulphurisation
DSR	Draft Scoping Report
DWS	Department of Water and Sanitation
EIA	Environmental Impact Assessment
EMC	Environmental Monitoring Committee
FGD	Flue Gas Desulphurisation
FSR	Final Scoping Report
IAP	Interested and Affected Party's
GNR	Government Notice Regulation
KSW	Key Stakeholder Workshop
MPS	Medupi Power Station
NAAQS	National Ambient Air Quality Standards
NEMA	National Environmental Management Act
NFEPA	National Freshwater Ecosystem Priority Areas
NWA	National Water Act
PM	Public Meeting
POS	Plan of Study
PM	Public Participation Process
SO_2	Sulphur Dioxide
WDF	Waste Disposal Facility
WFGD	Wet Flue Gas Desulphurisation
WML	Waste Management License
WULA	Water Use License Application
WWTP	Waste Water Treatment Plant
ZLD	Zero Liquid Discharge

The following aspects was presented at the meeting presentation:

- Background of the FGD plant was presented.
- The importance of the project in relation to reducing the air gas emission and reducing SO_2 footprint which will benefit the health of the community.
- History of the project and timeline highlighted.
- Water usage is also an important feature of the project, for which the application of the water use license is still under way.
- The FGD process was explained.
- The main purpose of the project is essentially to build an infrastructure that will assist in the disposal and reduction of air quality pollution to receiving the environment.
- A WWTP will ensure that waste water can be treated for reuse within the FGD process and power station operation.
- Important aspects of the process are the gypsum, sludge and salts – these are the most critical aspects of the project including the Atmospheric Emissions License which came with conditions which require that the SO_2 emissions from the Power Station be reduced by more than 90%. This is one of the key reasons for the initiation of the FGD retrofit project.
- FGD Technology explained.
- No Go option says that the FGD infrastructure will not be constructed which means that the entire power station would have to be decommissioned, which would have economical and socioeconomical implications.
- Specialist studies were conducted for the following areas:
    - Physical environment

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- Ground and surface water
- Socioeconomic factors
- Traffic
- Heritage
- Geology, including consideration of geotechnical factors.

- The conclusion of the studies was that there was minimal impact on the project for geology, noise, heritage and traffic.
- Significant negative impacts related to biodiversity impacts, while positive impacts relate to reduction in SO_2 concentrations in emissions from the power station.
- The biodiversity and wetland studies had triggers especially for the sensitive vegetation. Although mitigation strategies are in place, some residual wetland loss is unavoidable resulting in the need for offsets for which a wetland offset plan must be developed.
- The socioeconomic impacts have been raised by the community which are being monitored through the Medupi Power Station EMC.
- With regard to the disposal of ash and gypsum together on the existing ADF, no additional impact on surface water runoff or quality has been identified by the surface water specialist.
- Public review process is still underway comment sheets can still be filled in and forwarded to councilor.

Discussion

Comments / questions raised by [redacted]

- Why is the power station only taking measures now to protect the community from health impacts of the gas emissions?
  - Eskom must remain compliant to legislative requirements of the authorizations and licenses issued to the power station. The Medupi Power Station is therefore implementing requirements relating to the FGD system in relation to changes in the National Ambient Air Quality (NAAQ) Minimum Emission Standards (MES).
- How long will construction process take and when will it start?
  - Construction will commence in approximately 2020 and will take 3 years to complete.
- Protection of the water resources, particularly the underground systems, must be ensured
  - Dirty water dams would be lined as required by legislation, while a water use license application must also be obtained to prevent or minimize pollution into the ground water. External Environmental Control Officers are furthermore contracted to undertake continuous assessment of the construction activities.
- What were the learning outcomes from the other power stations, particularly Matimba so that similar mistakes aren't repeated?
  - All legislative process was followed and adhered to for compliance purposes. However, the question will be deferred to Matimba Power Station Environmental Manager.
- Heritage issues still remains a problem, especially with surveying of land and keeping the respect of ancestral graves, local tradition and implications thereof.
  - Eskom undertook an extensive process to investigate, and rectify where needed, any impacts on graves during the construction of the Medupi Power Station. Heritage specialists were also appointed to specifically investigate issues around graves and relocation where it was needed. Eskom understands that it is an ongoing issue, and this issue will be addressed through the Medupi Power Station EMC.
- The ward councillor said that Eskom was going to talk about jobs at this meeting.
  - Eskom has not made such promises to the ward councillor and the matter will be raised with the councillor. It was specifically said that this meeting was to present the outcomes of the Environmental Impact Assessment to the community and engage in discussion relating to the project with the community.

Comments and questions raised by [redacted] (Ex Matimba employee)

- I think the distance between the power station and the community will not affect the community. Tests are also being conducted to ascertain the truth if those that claim grave sites that those graves belong to them.

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	○ Processes have been undertaken to compensate for the loss of graves for those that have a right.	
	Meeting closed and adjourned	

ACTION	FUNCTION	NAME	DATE	SIGNATURE
Prepared				
Reviewed				
Approved				

Zitholele Consulting
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ENVIRONMENTAL IMPACT ASSESSMENT, VARIATION TO EXISTING WASTE MANAGEMENT LICENCE, AND WATER USE LICENCE APPLICATION FOR THE PROPOSED RETROFITTING OF A FLUE GAS DESULPHURISATION (FGD) SYSTEM AT MEDUPI POWER STATION, LEPHALALE, LIMPOPO PROVINCE

PUBLIC MEETING

Monday, 12 March 2018 @ 15h00

Ditheku Primary School, 1601 Ramahlody Street, Marapong Ext 2.

A G E N D A

Facilitator: Mathys Vosloo, Zitholele Consulting

14:30 – 15:00	Registration for the meeting	
15:00 – 15:10	Welcome, Evacuation Procedures, Introductions	M. Vosloo
15:10 – 15:30	Project Background	T. Blom
15:30 – 16:15	Presentation of application process and findings	M. Vosloo
16:15 – 16:45	Discussion	All
16:45 – 17:00	Closing and Way Forward	M. Vosloo

ENVIRONMENTAL IMPACT ASSESSMENT, WASTE MANAGEMENT LICENSE VARIATION APPLICATION, AND WATER USE LICENCE APPLICATION FOR THE PROPOSED RETROFITTING OF A FLUE GAS DESULPHURISATION (FGD) SYSTEM AT MEDUPI POWER STATION, LEPHALALE, LIMPOPO PROVINCE

Public Meeting

Ditheku Primary School
Marapong
3pm – 5pm

Zitholele Consulting
Mathys Vosloo
12 March 2018

Conduct of the Meeting for Productive Discussions

- Focus on project related issues
- Focus on issue, not the person
- Agree to disagree
- Courtesy – one person at a time
- Question / Comment - raise your hand
- Please state name & organisation when raising question/comment
- Work through facilitator
- Cell phones on silent

Objectives of the Meeting

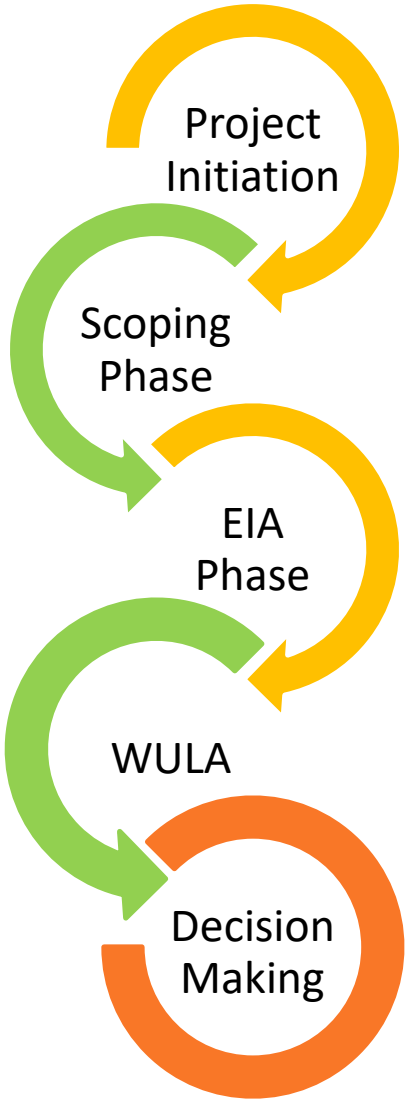
- Project Motivation
- Proposed development activities
- Study / development area
- What is being applied for?
- Findings of specialist studies
- Public Participation Process
- Recommendation of the EAP
- Way forward

1. Project Motivation

- Medupi PS Air Emissions Licence (AEL) amended in 2015
  - Operate and maintain a Flue Gas Desulphurisation (FGD) plant for SO_2 control
  - Reduce SO_2 to below 500 mg/Nm^2 by 1 April 2025
- Funder requirements

Result in need to retrofit a FGD system to the Medupi PS before 2025.

2. Project Progression



December 2013 – April 2014

May 2014 – July 2015

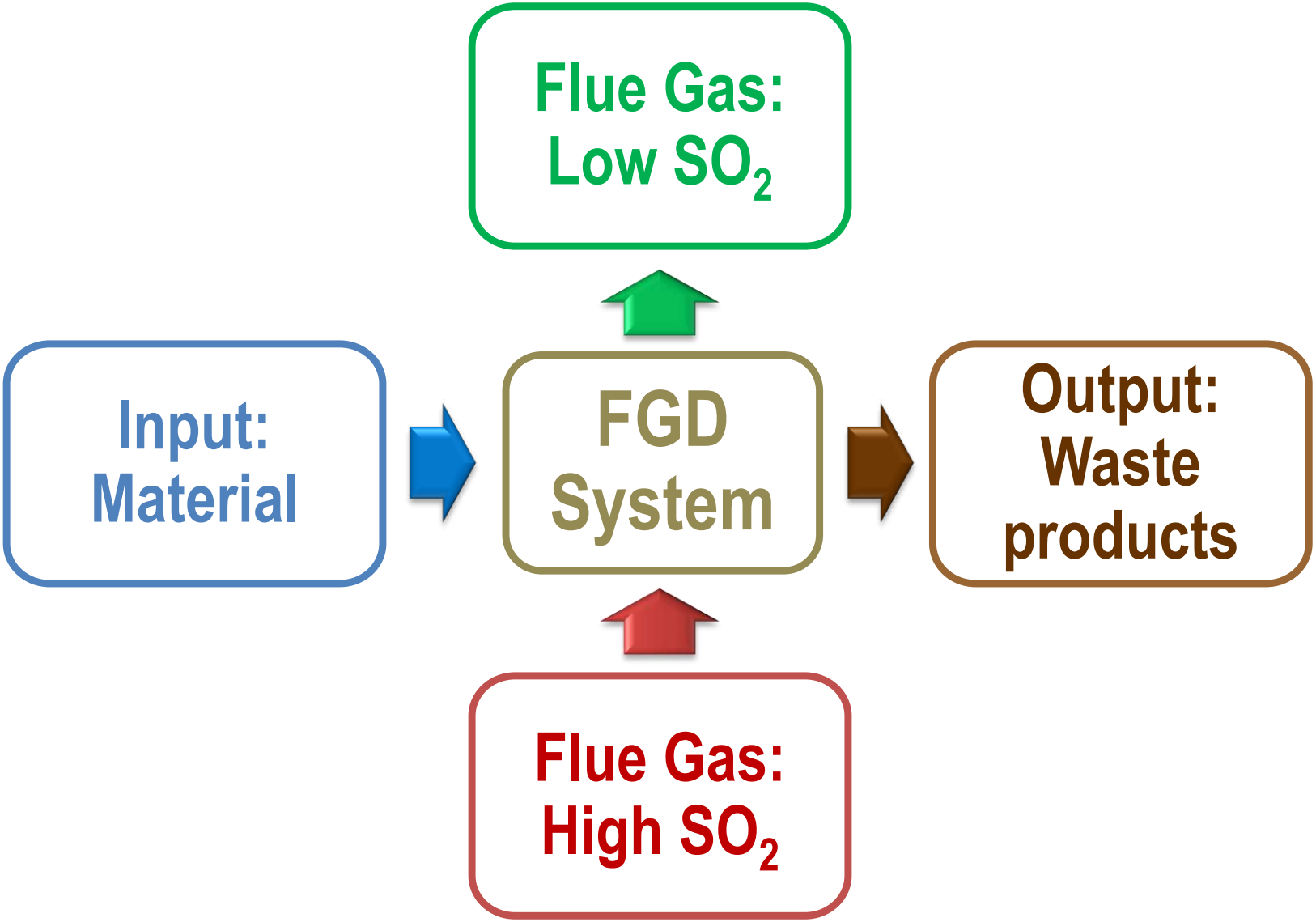
August 2015 – April 2018

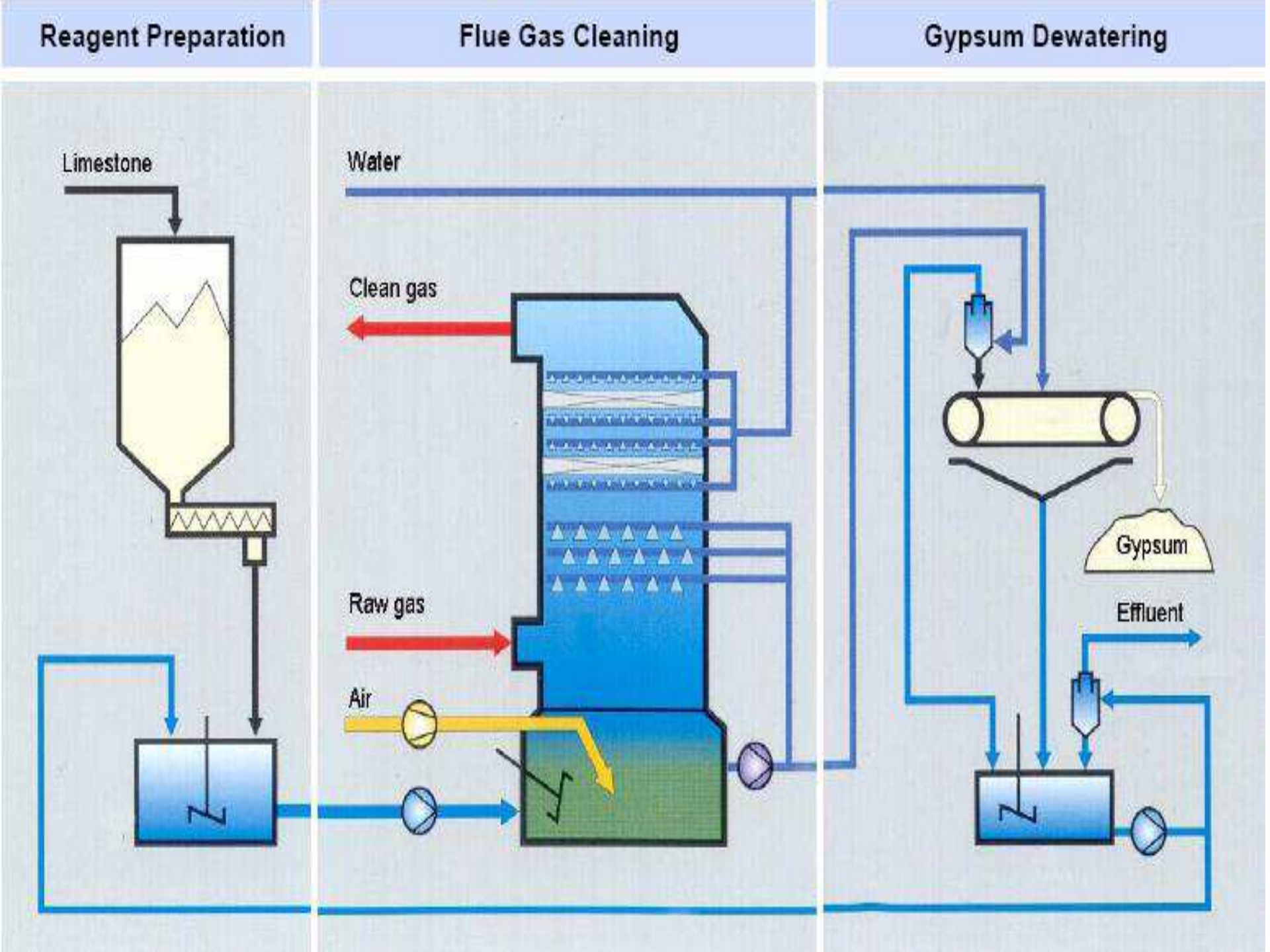
August 2016 – May 2018

May 2018 – August 2018 (EIA)

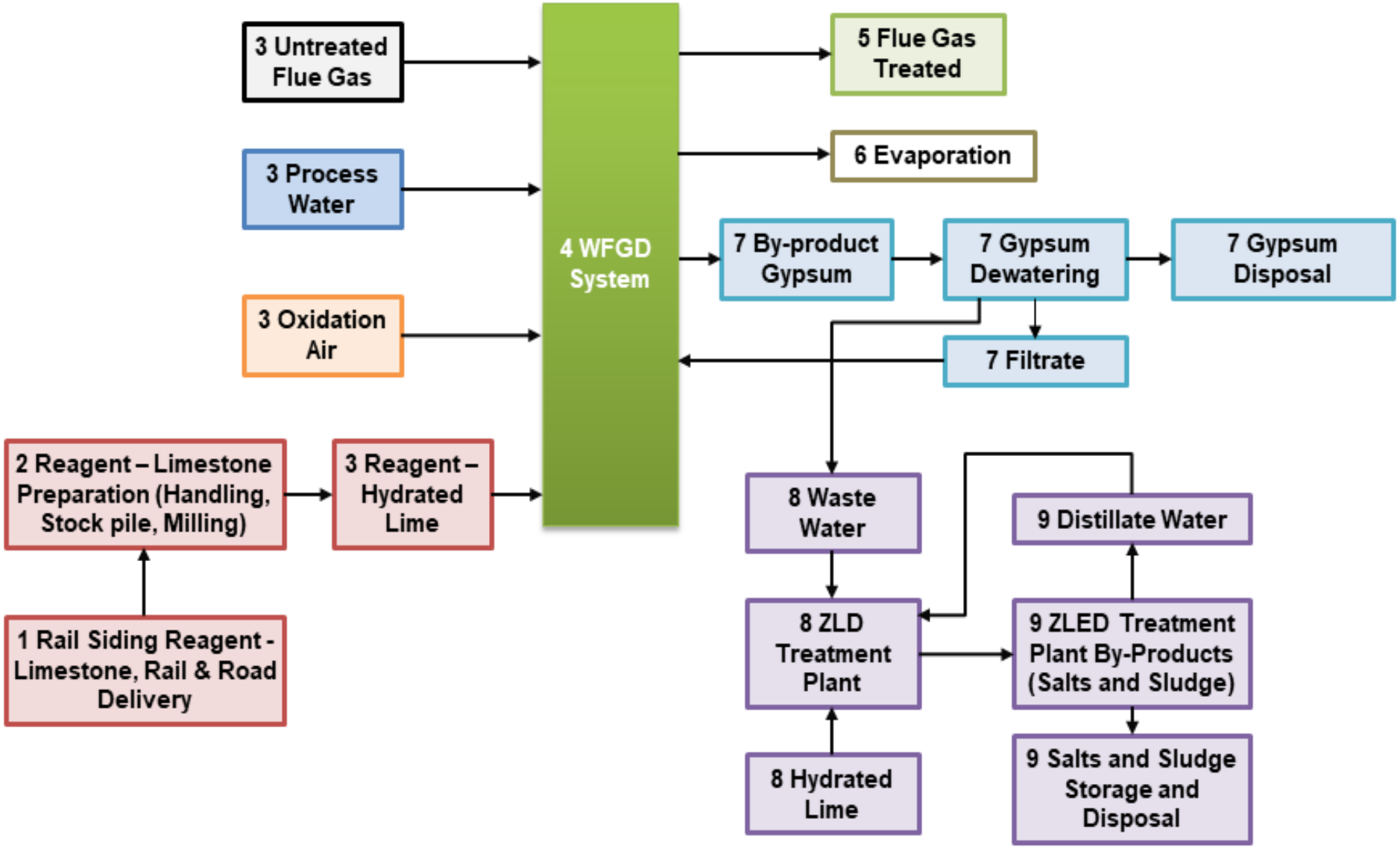
May 2018 – February 2019 (WULA)

3. FGD Simplified

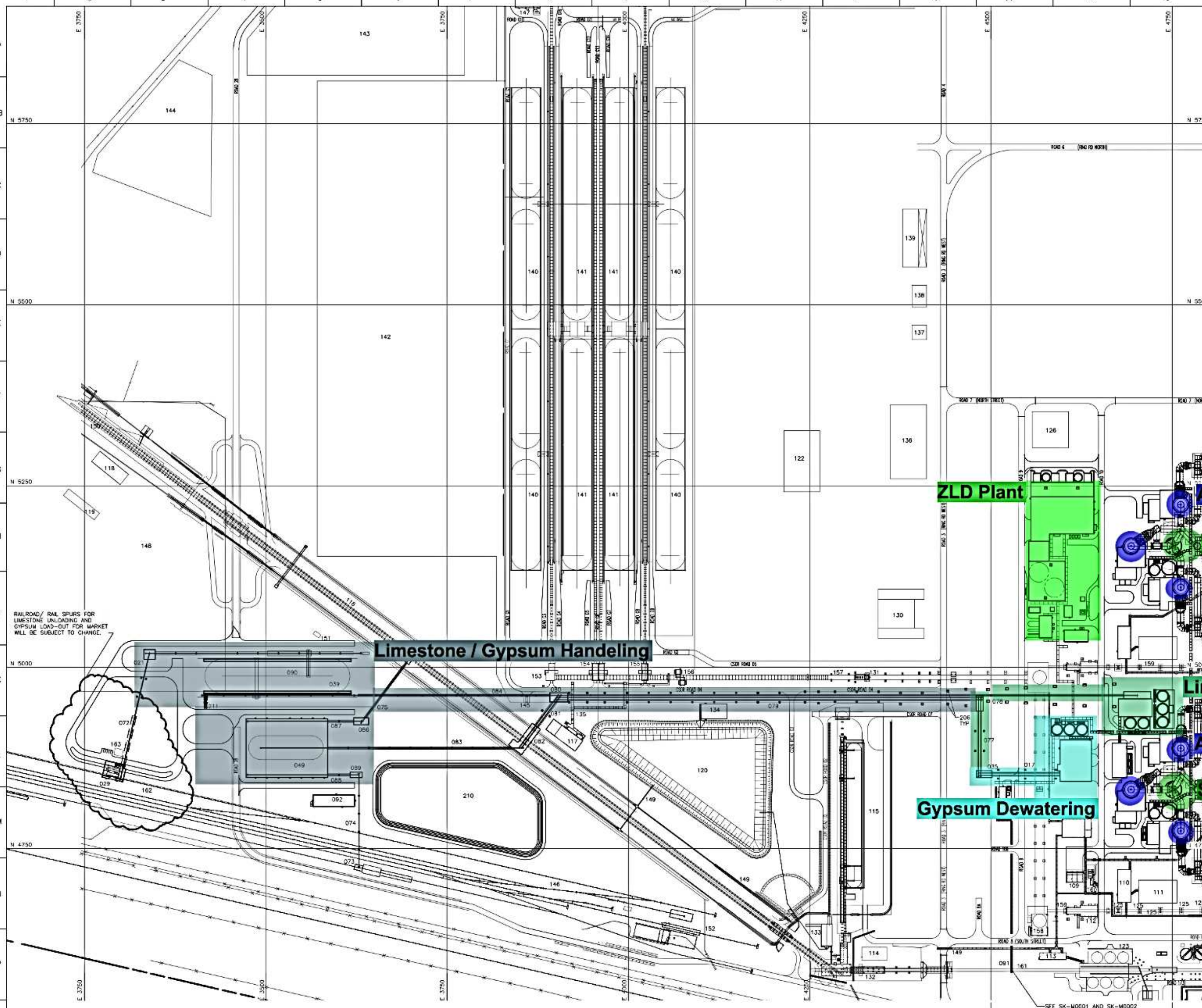



Reagent Preparation
Flue Gas Cleaning
Gypsum Dewatering
Limestone
Water
Clean gas
Raw gas
Air
Gypsum
Effluent

4. FGD Components Diagram



5. Development site



NEW FACILITIES LEGEND

ID	FACILITY	FOUNDATION	TIEDOWN LOCATION		REMARKS
			NORTH	EAST	
017	GYPSUM COLLECTING CONVEYORS 1 AND 2				
021	LIMESTONE TRANSFER HOUSE LTH-1				
029	LIMESTONE UNLOADING FACILITY				
035	GYPSUM TRANSFER HOUSE GTH-1				
039	LIMESTONE STORAGE AREA				
049	GYPSUM STORAGE BUILDING				
072	LIMESTONE UNDERGROUND LINK CONVEYOR 1				
073	GYPSUM LOADOUT HOPPER				
074	SALEABLE GYPSUM CONVEYOR 13				
075	REJECT GYPSUM CONVEYOR 11				
076	RECLAIMER FEED CONVEYOR				
077	GYPSUM LINK CONVEYORS 3 AND 4				
078	GYPSUM TRANSFER HOUSE GTH-2				
079	GYPSUM CROSS CONVEYORS 5 AND 6				
080	GYPSUM TRANSFER HOUSE GTH-3				
081	GYPSUM LINK CONVEYORS 7 AND 8				
082	GYPSUM TRANSFER HOUSE GTH-4				
083	SALEABLE GYPSUM STACKING CONVEYOR 9				
084	LIMESTONE RECLAIM CONVEYOR 3				
085	GYPSUM TRANSFER HOUSE GTH-6				
086	GYPSUM TRANSFER HOUSE GTH-5				
087	REJECT GYPSUM RECLAIM CONVEYOR 10				
088	SALEABLE GYPSUM RECLAIM CONVEYOR 12				
089	GYPSUM TRANSFER HOUSE GTH-7				
090	LIMESTONE STACKING CONVEYOR 2				
092	LIMESTONE AND GYPSUM HANDLING SUBSTATION				
206	LIMESTONE/GYP COMBINED CONVEYOR FOUNDATION				
210	STORM WATER DIRTY DAM				
211	EMERGENCY LIMESTONE UNLOADING				

EXISTING FACILITIES LEGEND

ID	FACILITY	FOUNDATION	TIEDOWN LOCATION		REMARKS
			NORTH	EAST	
109	EXISTING DIESEL GENERATION BUILDING				
110	EXISTING COMPRESSOR HOUSE SOUTH SUBSTATION				
111	EXISTING COMPRESSOR HOUSE SOUTH				
112	EXISTING INCLINED CONVEYOR DRIVE HOUSE				
113	EXISTING ASH CONDITIONING SUBSTATION				
114	EXISTING ASH CONVEYOR SUBSTATION				
115	EXISTING EMERGENCY ASH DUMP				
116	EXISTING OVERLAND ASH CONVEYORS				
117	EXISTING COAL STOCKYARD SUBSTATION SOUTH				
118	EXISTING ASH DUMP SUBSTATION				
119	EXISTING ASH DUMP WORKSHOP				
120	EXISTING COAL STOCKYARD POLLUTION CONTROL DAM				
121	EXISTING BULK FUEL OIL OFFLOADING				
[illegible]	[illegible] P. PIPEWORK FABRIC				
123	EXISTING FLY ASH CONDITIONING PLANT				
125	EXISTING INCLINED COAL CONVEYOR FOUNDATION				
126	EXISTING MAINTENANCE LAYDOWN AREA				
[illegible]	[illegible]				
[illegible]	[illegible] HOUSE				
[illegible]	[illegible]				
133	EXISTING STOCKPILE TERRACE SUMP				
134	EXISTING SILT TRAP				
135	EXISTING ELECTRICAL TUNNEL				
136	EXISTING WAREHOUSE STORES				
137	EXISTING PLANT WASH BAY				
138	EXISTING PLANT WORKSHOP				
139	EXISTING FUEL OIL STATION				
140	EXISTING SEASONAL STOCKPILE				
141	EXISTING LIVE STOCKPILE				
142	EXISTING STRATEGIC STOCKPILE AREA				
143	EXISTING COAL CONTRACTORS YARD				
144	EXISTING WASTE STORAGE AREA				
145	EXISTING CSY TANKER FILLING				
[illegible]	[illegible]				
[illegible]	[illegible]				
148	EXISTING EARTH WORKS AND ROADS CONTRACTORS YD				
149	EXISTING ELECTRICAL TRENCH				
150	EXISTING OVERLAND ASH CONVEYORS				
151	EXISTING SUBSTATION				
[illegible]	[illegible]				
[illegible]	[illegible] FER HOUSE #4				
[illegible]	EXISTING COAL CONVEYOR TRANSFER HOUSE #5				
155	EXISTING COAL CONVEYOR TRANSFER HOUSE #6				
156	EXISTING MAGNET STRUCTURE				
[illegible]	[illegible] R				
[illegible]	[illegible] HOUSE SOUTH				
[illegible]	EXISTING INCLINED COAL CONVEYOR				
160	EXISTING DIESEL FUEL TANK				
161	EXISTING OVERLAND LINK CONVEYOR				
162	EXISTING WAGON POSITIONER				
163	EXISTING YARD CONTROLLER'S OFFICE				

EXTENSIVE REVISIONS
SEE PREVIOUS REVISION

GENERAL LEGEND

[symbol]	NEW STRUCTURES/FACILITIES	[symbol]	AGGREGATE SURFACING
[symbol]	EXISTING STRUCTURES/FACILITIES	[symbol]	CONCRETE SURFACING
—x—x—	EXISTING FENCE	— — —	PROPERTY LINE

NOT TO BE USED FOR CONSTRUCTION

THE DISTRIBUTION AND USE OF THE NATIVE FORMAT CAD FILE OF THIS DRAWING IS UNCONTROLLED. THE USER SHALL VERIFY TRACEABILITY OF THIS DRAWING TO THE LATEST CONTROLLED VERSION.

PLANT NORTH — TRUE NORTH — 30°

1:2000 — 0 50 100 150 — SCALE IN METERS

REV	DATE	REVISION	REV BY	CHKD BY	AUTH BY		REFERENCE DRAWINGS
5	01/JAN/14	EXTENSIVE REVISIONS	MED		JLG	0	174330-DS-10
4	15/NOV/13	EXTENSIVE REVISIONS	MED		JLG	0	174330-DS-10
3	26/SEP/13	EXTENSIVE REVISIONS	MED		JLG	0	174330-DS-10
2	15/AUG/13	EXTENSIVE REVISIONS	MED		JLG	0	174330-DS-10
1	18/JUN/13	ISSUED FOR TEAM REVIEW	WAH		JLG		

DRAWN BY: WAH
SCALE: 1:2000

steinmüller engineering
BLACK & VEATCH
Eskom Enterprises

MEDUPI POWER STATIO[N]
MEDUPI FGD RETROFIT PROJECT
PLOT PLAN

178771-CGAU-G1000

0.84/30759 DDL

DWNR060 ACAD 18.2s (LMS Tech)
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6. Changes in project packaging

Scoping Phase	**Integrated EIA/WML & WULA** FGD, RAIL, LIME, INFRAS, ADF, *on-site* WDF				
Bridging Document, Nov 2016	**Integrated EIA/WML 1 & WULA** FGD, RAIL, LIME, INFRAS	**Integrated EIA/WML 2** *Off-site* WDF	**WML Variation** ADF	**WULA** FGD, RAIL, LIME, INFRAS, ADF	
Bridging Document 2, Nov 2017	**EIA** FGD, RAIL, LIME (*NEMA*), INFRAS	**GN926** LIME (Registration of storage facility prior construction)	**Integrated EIA/WML 2** *Off-site* WDF	**WML Variation** ADF	**WULA** FGD, RAIL, LIME, INFRAS, ADF

FGD = FGD system, **RAIL =** Rail Yard, **LIME =** Limestone / Gypsum handling & storage, **INFRAS =** Associated Infrastructure, **ADF =** Disposal of ash & gypsum on existing Ash Disposal Facility (4-20 yrs), **WDF =** Disposal of ash, gypsum, salts & sludge on new Waste Disposal Facility (21-50 yrs)

7. Legislative requirements – EIA

EIA - National Environmental Management Act (Act 107 of 1998) as amended

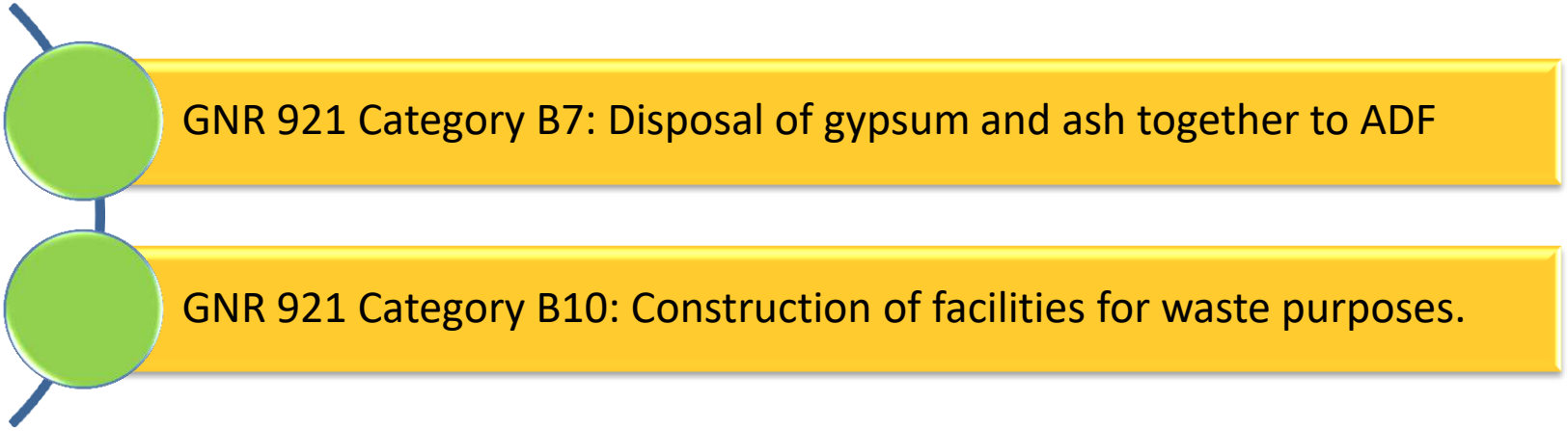
EIA Regulations of 2010 (GNR 543), as amended

- GNR 545 activity 3: Storage and handling of diesel within the FGD footprint and rail yard.
- GNR 545 activity 11: Construction of railway yard for purposes of transport of products and wastes relating to FGD process.
- GNR 545 activity 15: Alteration of undeveloped land for the railway yard of more than 20ha.

Activities 9 and 18 of GNR 544 (Basic Assessment), and 14(a)(i) of GNR 546 also triggered

7. Legislative requirements – WML

WML Variation Application – National Environmental Management: Waste Act (Act 59 of 2008) as amended.



Registration of temporary waste storage facility for storage of salts and sludge i.t.o. Schedule C of GN 921 (list of waste management activities) of the NEM:WA, and GN 926 of 29 November 2013 (Norms and Standards for Storage of Waste).

7. Legislative requirements – WULA

WULA – National Water Act (Act 36 of 1998) as amended.

- 21(c) – Construction activities associated with FGD system and rail yard carried out within the 500 m buffer of the water resources
- 21(i) – Construction activities associated with FGD system and rail yard carried out within the 500 m buffer of the water resources
- 21(g) – disposal of waste in a manner that may be detrimental to a water resource.

Environmental Impact Assessment
DEA REF: 14/12/16/3/3/3/110

FGD Infrastructure (within MPS footprint)
Rail Yard Infrastructure and Buildings
Limestone and Gypsum Handling Facilities
Associated Infrastructure (incl. fuel storage areas)
Waste Water Treatment Plant and Waste Storage Area

8. Alternatives considered (EIA)

1. Location / Layout

None – infrastructure to be fitted to footprint predefined by power station layout and infrastructure

2. Technology

Dry FGD: Slightly lower water consumption that WFGD, cannot fit within existing available space, very high capital and operating costs

Wet FGD: Fit within site space constraints, high efficiency to remove SO_2, uses more water than DFGD

Wet FGD (gas cooler): uses less water than WFGD, layout and space constraints, high maintenance & problematic during operation, reduction in unit power output, high capital and operation cost

8. Alternatives considered (EIA)

3. No-go Option

The no-go option is to continue operation of the Medupi Power Station without the FGD retrofit.

- Medupi PS not be compliant with AEL
- Need to shut down the power station
- Significant impact on economy and stability of electricity supply
- Considered FATALLY FLAWED

9. Key issues identified

- Air Quality
- Waste handling and disposal
- Water allocation and use
- Social and economic impacts of FGD
- Biodiversity and wetland impacts

10. Studies undertaken

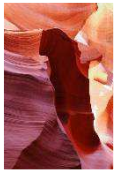

Terrestrial ecology (Biodiversity)


Aquatic and wetland ecology


Socio-economic


Air Quality


Waste classification


Groundwater


Surface water


Heritage, Archaeology


Palaeontology


Traffic


Noise


Geotechnical


Soils and land capability

11. Specialist conclusions

Study area	Conclusion	Residual impact / Impact significance
Geology / Geotechnical	Standard footing/ foundations systems.	**No significant** geotechnical hazards or fatal flaws identified.
Soils and Land capability	Site already disturbed, but loss of soil resources probable.	Residual impact **Moderate to Low.**
Groundwater	Impact on groundwater quality, volume and flow minor for all phases.	**Low** significance, groundwater monitoring to be undertaken.
Surface water	No significant changes in surface water runoff or flooding, no expected increases in pollutant loads.	Residual impact **Low**, implement SWMP and continue surface water monitoring.

11. Specialist conclusions (cont.)

Study area	Conclusion	Residual impact / Impact significance
Biodiversity and Wetlands	Loss of vegetation species, habitat, catchment area and fauna mortality identified . Direct loss of pans and wetlands.	Residual impact **Moderate**, in some cases **High**. Avoid / reduce vegetation clearing and impact on Sandloop tributary FEPA, "Search and Rescue", Wetland offset and rehabilitation plan.
Air quality	Scenarios included baseline air quality, Medupi PS with a/ without FGD. With FGD no exceedances of NAAQS for SO_2, NO_2, PM_{10} and $PM_{2.5}$ at sensitive receptors.	Impact significance found to be **Low, i.e. retrofit of FGD positive impact on air quality.** Specialist recommended that the FGD Retrofit Project be implemented.
Noise levels	Noise levels in the area during operation representative of suburban districts, but notable yet local during construction and decommissioning.	Specialist concluded that with noise mitigation, noise levels from the project will be **Low**. Mitigation include management of traffic and construction site.

11. Specialist conclusions (cont.)

Study area	Conclusion	Residual impact / Impact significance
Socio-economic environment	Although some negative impacts identified, **overall impact of the FGD project is overwhelmingly positive**, especially benefits from economic and employment opportunities, local economic development and *quality of life.*	Specialist concluded that significance of positive social impacts generally exceeds the significance of negative social impacts. Specialist recommend implementation of FGD retrofit.
Heritage, Archaeology & Palaeontology	No heritage, archaeological or palaeontological resources / sensitivities identified within the development footprint.	No potential / expected impact exist.
Traffic	Potential traffic delays at major intersections around Medupi PS identified.	Significance of residual impacts regarded as **Low**, recommended upgrade of identified intersections and traffic calming measures.

Variation Application for existing Medupi Waste Management Licence

WML No: 12/9/11/L50/5/R1

Disposal of gypsum and ash on existing disposal facility

Gypsum Handling Infrastructure

Associated Infrastructure, including Conveyor,

transfer houses, temp. gypsum loading area and Gypsum Storage Building

Storage of WWTP salts and sludge i.t.o. N&S for Storage of Waste (GN 926) prior construction

12. WML Variation Application

Variation application included activities:

- Disposal of ash and gypsum together on the existing ADF
- Reduction of ADF footprint, but increase in height from 60m to 72m
- Inclusion of infrastructure associated with the handling and management of gypsum waste, including:
  - Conveyor for transport of gypsum,
  - Transfer houses
  - Temporary gypsum loading area for loading of saleable gypsum onto trucks
  - Gypsum Storage Building for the storage of saleable gypsum via rail

13. Studies undertaken


Visual


Waste classification


Air Quality


ADF Concept Design


Terrestrial ecology (Biodiversity)


Aquatic and wetland ecology


Groundwater


Surface water

Impacts associated with construction of infrastructure as per the findings and conclusions of EIA

14. Specialist conclusions

Study area	Conclusion	Residual impact / Impact significance
Waste Assessment (disposal of ash and gypsum on ADF)	Gypsum is a Type 3 waste, same as Ash. Therefore can be disposed together with ash on disposal facility with Class C barrier system, as is the case for the Medupi ADF.	No additional impact for disposal of ash and gypsum disposed together on Class C barrier system is expected, as apposed to disposal of ash only on the Class C barrier.
Groundwater (disposal of ash and gypsum on ADF)	A specialist opinion on the impact of disposal of ash and gypsum together on groundwater concluded **no significant impact** on the groundwater regime expected.	Class C barrier system itself is a management measure to reduce any groundwater impacts. No significant residual impact expected.
Surface Water (disposal of ash and gypsum on ADF)	No additional impact on surface water runoff or quality has been identified by the surface water specialist	Surface water management system for existing ADF will continue to manage potential surface water quality and quantity impacts.

14. Specialist conclusions

Study area	Conclusion	Residual impact / Impact significance
Visual (Increase in height of WDF)	Original visual assessment for Medupi PS found impact to be Moderate (45-50m facility). VIA for increased height to 72m also Moderate, i.e. equivalent to existing ADF.	Residual impact rated as Moderate significance, same as original assessment.
Air quality (Increase in height of WDF)	Disposal of ash and gypsum together expected to create crust when mixed with water, but could contribute to dust nuisance. Simulations found no exceedances of NAAQS for PM_{10} and $PM_{2.5}$	Increase in height will have **LOW** impact significance.
Biodiversity and wetlands (Increase in height of WDF)	Gypsum is not likely to a have a major toxicological impact on biodiversity / wetlands. Probability of contamination event expected to be **Low**.	Residual impact expected to be of Moderate significance. Dust management and control main method in reducing impact potential.

Water Use Licence Application (WULA)

FGD Infrastructure (within MPS footprint)

Rail Yard Infrastructure and Buildings

Limestone and Gypsum Handling Facilities

Associated Infrastructure (incl. fuel storage areas)

Waste Water Treatment Plant and Temporary Waste Storage Area

Existing Ash Disposal Facility

15. WULA

Water Use	Infrastructure to be licenced
Section 21 (c) - Impeding or diverting the flow of water in a watercourse	Existing waste disposal facility, including the associated PCDs, and Medupi FGD footprint
Section 21 (i) - Altering the bed, banks, course or characteristics of a watercourse	Existing waste disposal facility and Medupi FGD footprint
Section 21 (g) - disposing of waste in a manner which may detrimentally impact on a water resource;	• Gypsum Transfer Houses • Gypsum Storage Building and temporary storage area • Limestone Storage Area • Limestone unloading facility at rail yard • Emergency Limestone unloading area • Pollution Control Dams (also 21(h)) • Existing Disposal Facility footprint • Sludge and Salts handing and storage areas • Dust suppression of disposal facility during construction, operation and rehabilitation

16. Stakeholder Engagement

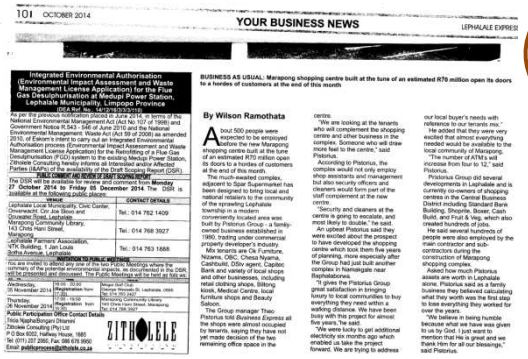
Scoping Phase

EIA Process Advert (06 June 2014) → Site Notices & BID Distribution (06 June 2014) → Draft Scoping Report (27 Oct – 05 Dec 2014 – ext to 09 January 2015)

Draft Scoping Report → KSW & Public Meetings (05 & 06 Nov 2014) → FSR (12 June – 13 July 2015)

EIA Process (Mogol Post)

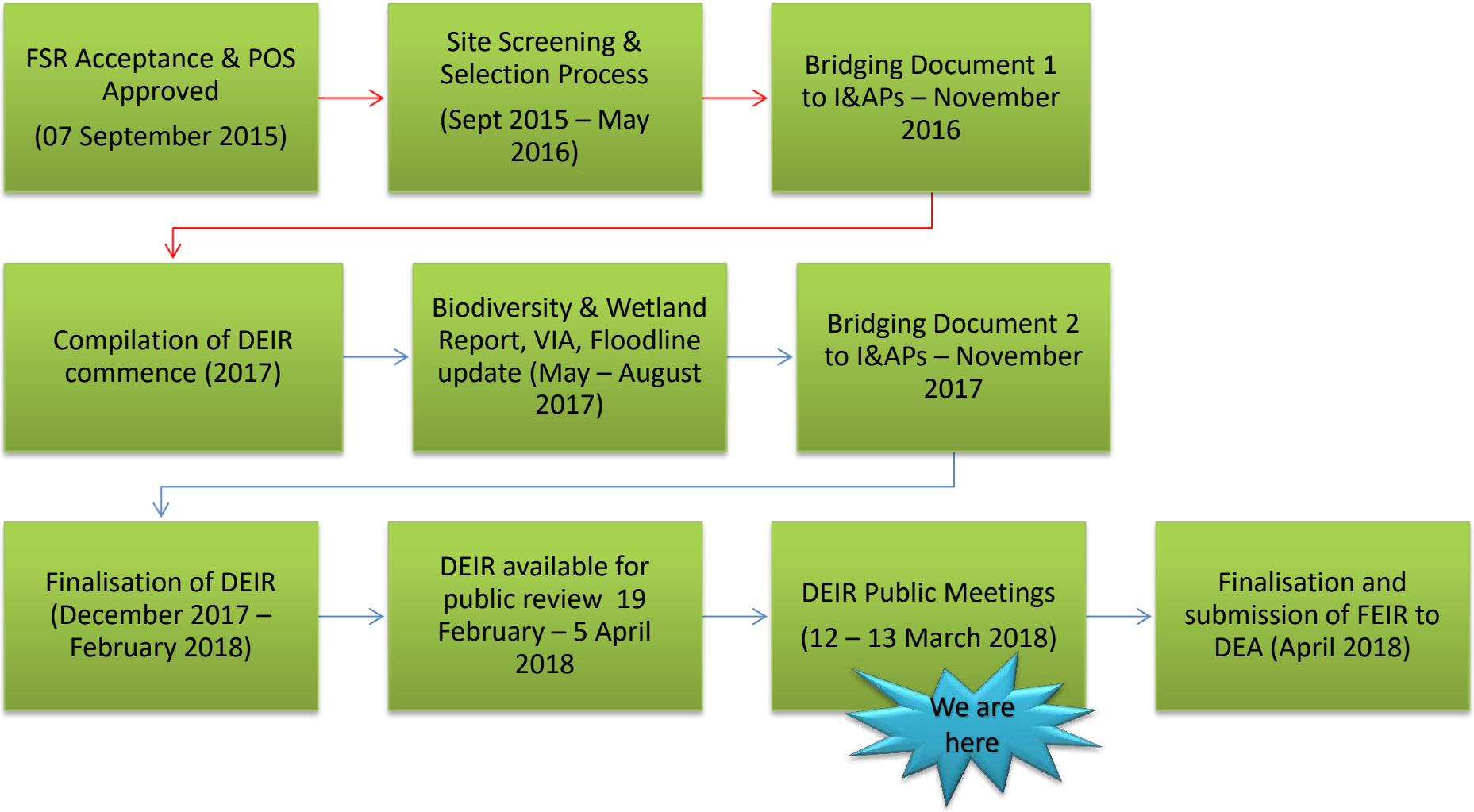
BID Distribution



DSR & PM (Lephalale Express/Mogol Post/Northern News)

16. Stakeholder Engagement

Impact Phase



17. Authority engagement

08 July 2014	• DEA • Intro project • Post application meeting
11 Nov 2014	• DEA Waste Directorate • Project info • Waste disposal methods
02 July 2015	• DEA and DWS • Gypsum disposal method
01 Oct 2015	• DEA • Dynamic info post Scoping Phase
23 February 2016	• DEA and DWS • CBA and NFEPA on site
30 November 2017	• DWS • NFEPA on site, wetland offset requirements and rehabilitation plan

9. Discussion

Mathys Vosloo / Bongani Dhlamini

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ENVIRONMENTAL IMPACT ASSESSMENT, VARIATION TO EXISTING WASTE MANAGEMENT LICENCE, AND WATER USE LICENCE APPLICATION FOR THE PROPOSED RETROFITTING OF A FLUE GAS DESULPHURISATION (FGD) SYSTEM AT MEDUPI POWER STATION, LEPHALALE, LIMPOPO PROVINCE

KEY STAKEHOLDER WORKSHOP

Tuesday, 13 March 2018 @ 14h00

Mogol Golf Club, George Wells St., Onverwacht, Lephalale

A G E N D A

Facilitator: Mathys Vosloo, Zitholele Consulting

13:30 – 14:00	Registration for the meeting	
14:00 – 14:10	Welcome, Evacuation Procedures, Introductions	M. Vosloo
14:10 – 14:30	Project Background	T. Blom
14:30 – 15:15	Presentation of application process and findings	M. Vosloo
15:15 – 15:45	Discussion	All
15:45 – 16:00	Closing and Way Forward	M. Vosloo

ENVIRONMENTAL IMPACT ASSESSMENT, WASTE MANAGEMENT LICENSE VARIATION APPLICATION, AND WATER USE LICENCE APPLICATION FOR THE PROPOSED RETROFITTING OF A FLUE GAS DESULPHURISATION (FGD) SYSTEM AT MEDUPI POWER STATION, LEPHALALE, LIMPOPO PROVINCE

Key Stakeholder Workshop

Mogol Golf Club
Lephalale
2pm – 4pm

Zitholele Consulting
Mathys Vosloo
13 March 2018

Objectives of the Meeting

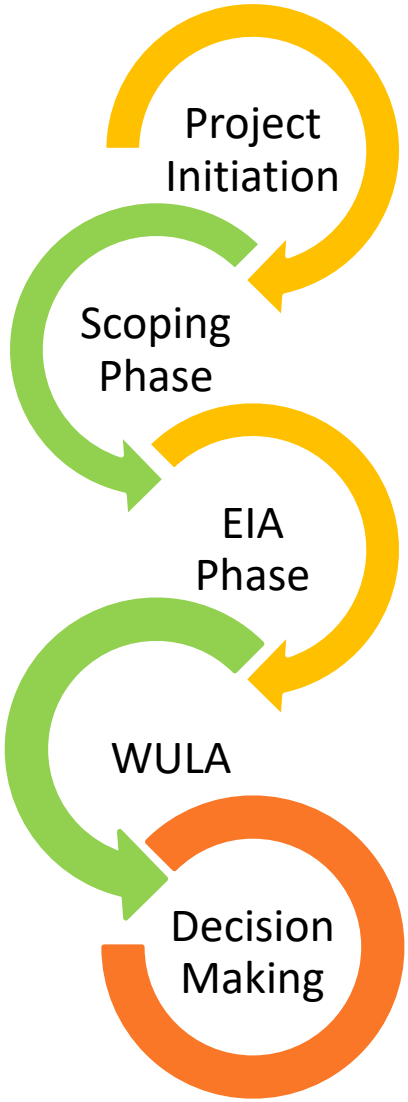
- Meeting to focus on Medupi FGD Retrofit Project only
- Provide key stakeholders overview of project activities and applications
- Present findings of specialist studies
- Present recommendation of the EAP
- Way forward

1. Project Motivation

- Medupi PS Air Emissions Licence (AEL) amended in 2015
  - Continue operation of commissioned units
  - Operate and maintain a Flue Gas Desulphurisation (FGD) plant for SO_2 control
  - Reduce SO_2 to below 500 mg/Nm^2 by 1 April 2025
- Funder requirements

Result in need to retrofit a FGD system to the Medupi PS before 2025.

2. Project Progression



December 2013 – April 2014

May 2014 – July 2015

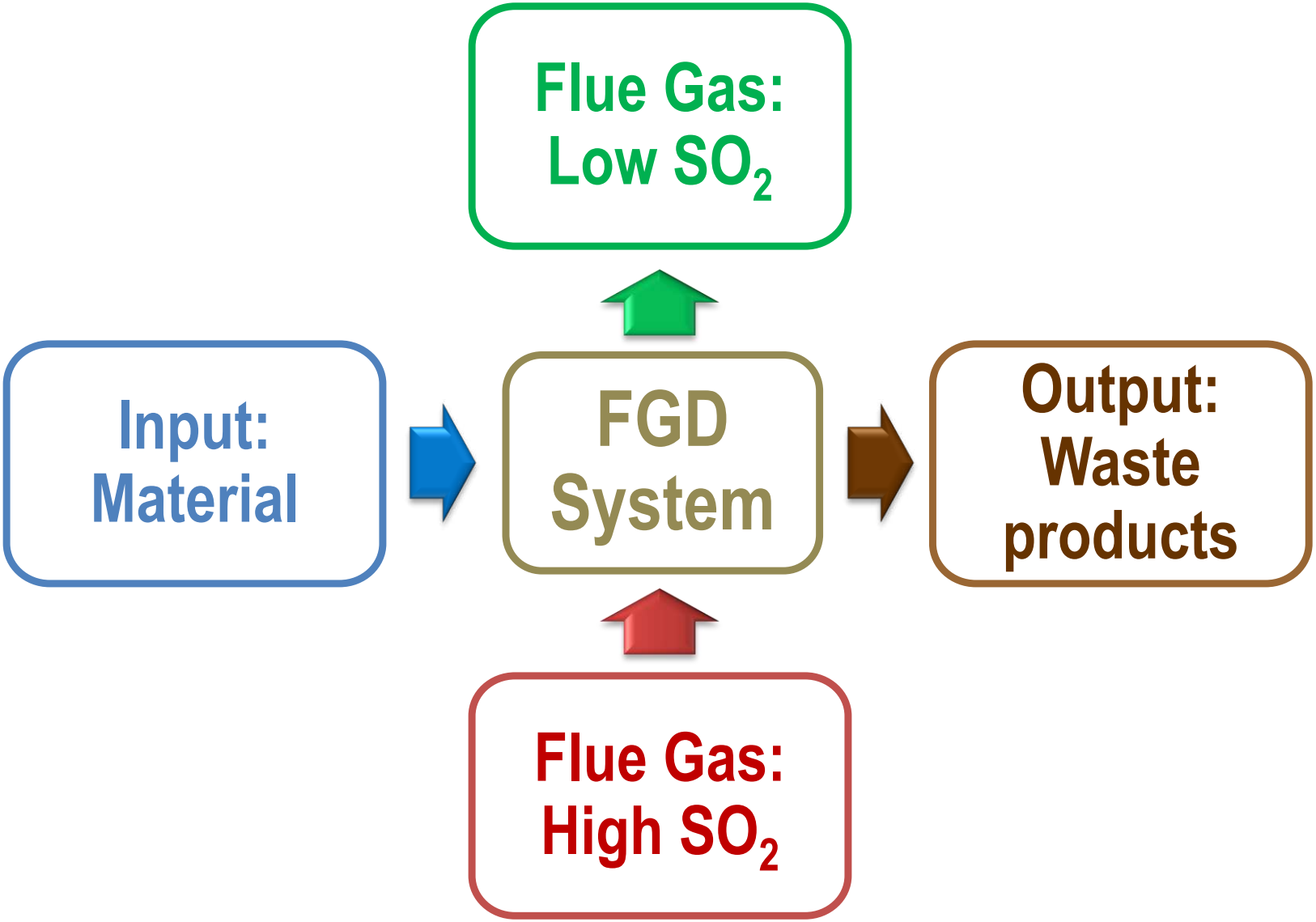
August 2015 – April 2018

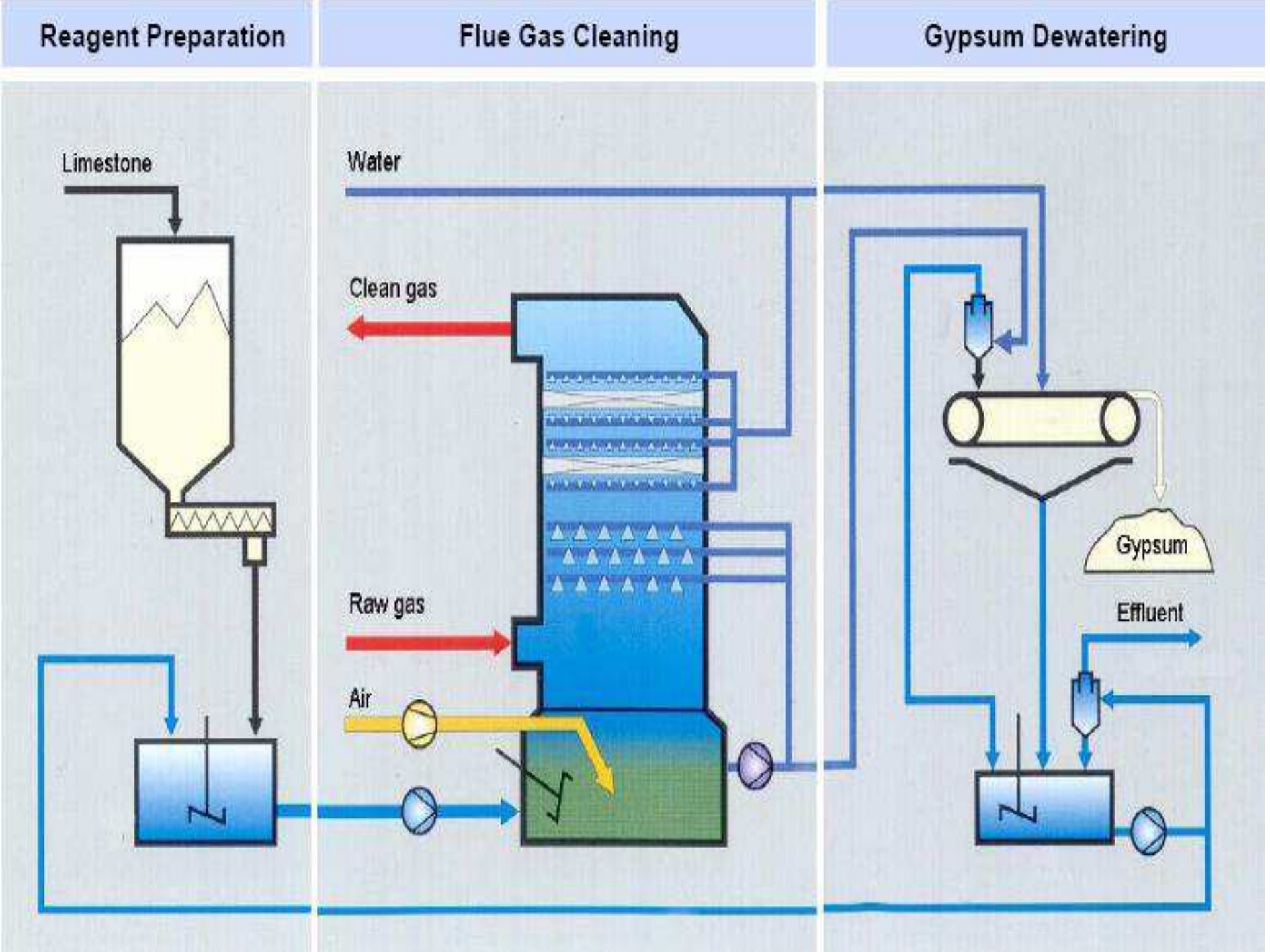
August 2016 – May 2018

May 2018 – August 2018 (EIA)

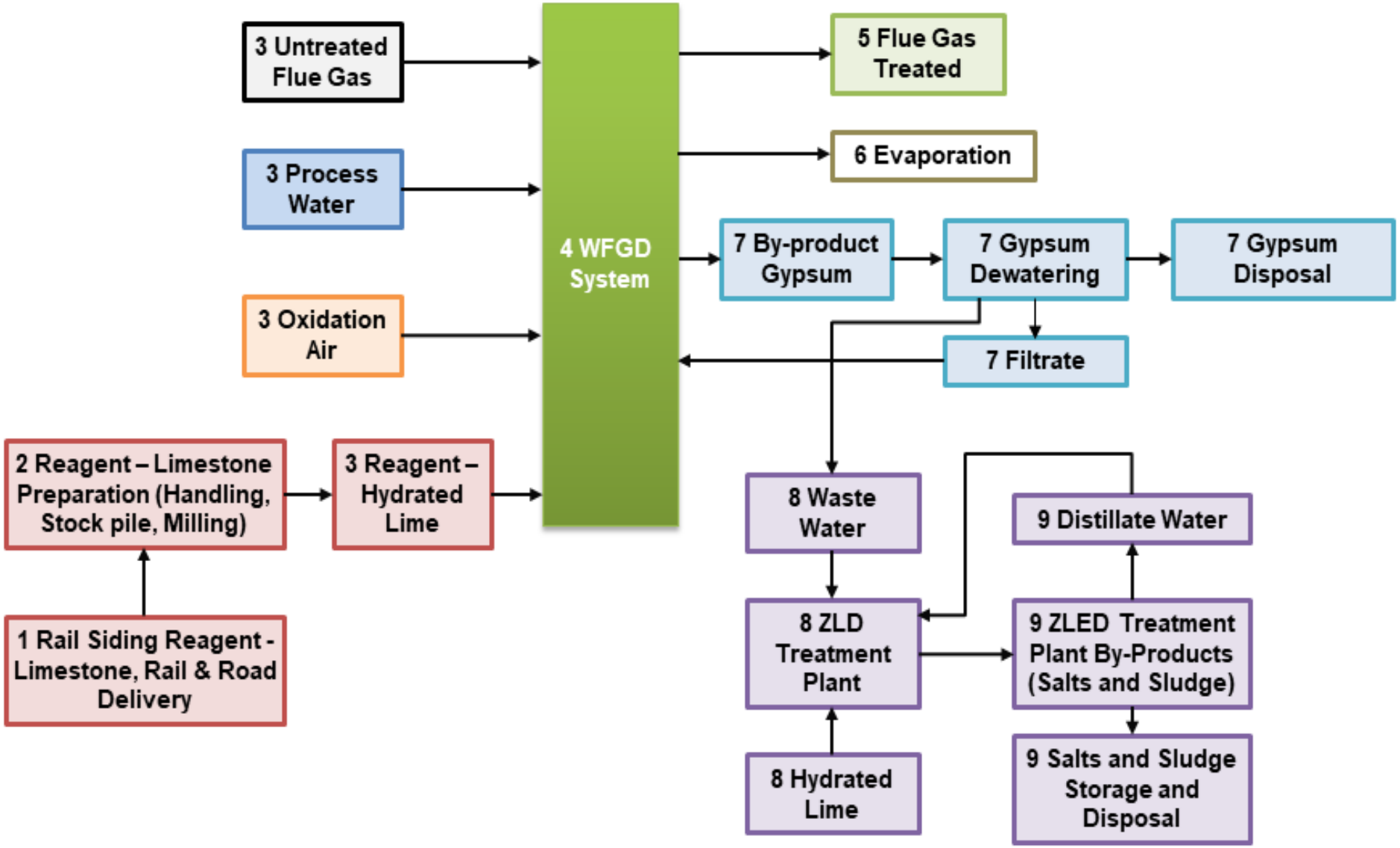
May 2018 – February 2019 (WULA)

3. FGD Simplified




Reagent Preparation
Flue Gas Cleaning
Gypsum Dewatering
Limestone
Water
Clean gas
Raw gas
Air
Gypsum
Effluent

4. FGD Components Diagram



5. Development site

6. Changes in project packaging

Scoping Phase	**Integrated EIA/WML & WULA** FGD, RAIL, LIME, INFRAS, ADF, *on-site* WDF				
Bridging Document, Nov 2016	**Integrated EIA/WML 1 & WULA** FGD, RAIL, LIME, INFRAS	**Integrated EIA/WML 2** *Off-site* WDF	**WML Variation** ADF	**WULA** FGD, RAIL, LIME, INFRAS, ADF	
Bridging Document 2, Nov 2017	**EIA** FGD, RAIL, LIME (*NEMA*), INFRAS	**GN926** LIME (Registration of storage facility prior construction)	**Integrated EIA/WML 2** *Off-site* WDF	**WML Variation** ADF	**WULA** FGD, RAIL, LIME, INFRAS, ADF

FGD = FGD system, **RAIL =** Rail Yard, **LIME =** Limestone / Gypsum handling & storage, **INFRAS =** Associated Infrastructure, **ADF =** Disposal of ash & gypsum on existing Ash Disposal Facility (4-20 yrs), **WDF =** Disposal of ash, gypsum, salts & sludge on new Waste Disposal Facility (21-50 yrs)

7. Legislative requirements – EIA

EIA - National Environmental Management Act (Act 107 of 1998) as amended

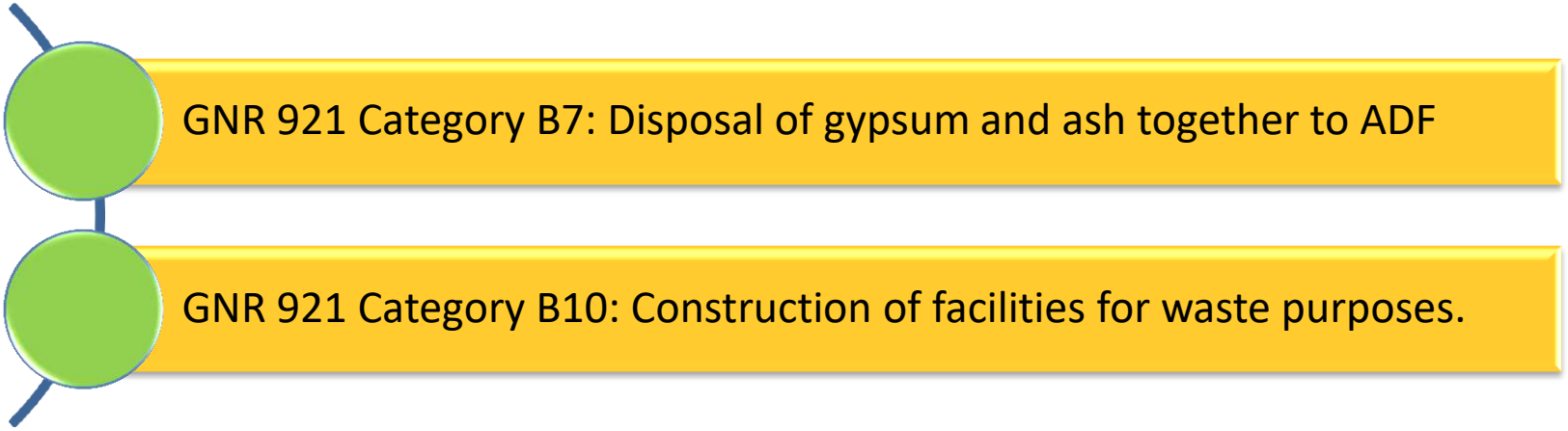
EIA Regulations of 2010 (GNR 543), as amended

- GNR 545 activity 3: Storage and handling of diesel within the FGD footprint and rail yard.
- GNR 545 activity 11: Construction of railway yard for purposes of transport of products and wastes relating to FGD process.
- GNR 545 activity 15: Alteration of undeveloped land for the railway yard of more than 20ha.

Activities 9 and 18 of GNR 544 (Basic Assessment), and 14(a)(i) of GNR 546 also triggered

7. Legislative requirements – WML

WML Variation Application – National Environmental Management: Waste Act (Act 59 of 2008) as amended.



Registration of temporary waste storage facility for storage of salts and sludge i.t.o. Schedule C of GN 921 (list of waste management activities) of the NEM:WA, and GN 926 of 29 November 2013 (Norms and Standards for Storage of Waste).

7. Legislative requirements – WULA

WULA – National Water Act (Act 36 of 1998) as amended.

- 21(c) – Construction activities associated with FGD system and rail yard carried out within the 500 m buffer of the water resources
- 21(i) – Construction activities associated with FGD system and rail yard carried out within the 500 m buffer of the water resources
- 21(g) – disposal of waste in a manner that may be detrimental to a water resource.

Environmental Impact Assessment
DEA REF: 14/12/16/3/3/3/110

FGD Infrastructure (within MPS footprint)
Rail Yard Infrastructure and Buildings
Limestone and Gypsum Handling Facilities
Associated Infrastructure (incl. fuel storage areas)
Waste Water Treatment Plant and Waste Storage Area

8. Alternatives considered (EIA)

1. Location / Layout

None – infrastructure to be fitted to footprint predefined by power station layout and infrastructure

2. Technology

Dry FGD: Slightly lower water consumption that WFGD, cannot fit within existing available space, very high capital and operating costs

Wet FGD: Fit within site space constraints, high efficiency to remove SO_2, uses more water than DFGD

Wet FGD (gas cooler): uses less water than WFGD, layout and space constraints, high maintenance & problematic during operation, reduction in unit power output, high capital and operation cost

8. Alternatives considered (EIA)

3. No-go Option

The no-go option is to continue operation of the Medupi Power Station without the FGD retrofit.

- Medupi PS not be compliant with AEL
- Need to shut down the power station
- Significant impact on economy and stability of electricity supply
- Considered FATALLY FLAWED

9. Key issues identified

- Air Quality
- Waste handling and disposal
- Water allocation and use
- Social and economic impacts of FGD
- Biodiversity and wetland impacts

10. Studies undertaken

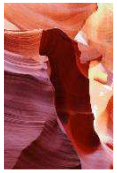

Terrestrial ecology (Biodiversity)


Aquatic and wetland ecology


Socio-economic


Air Quality


Waste classification


Groundwater


Surface water


Heritage, Archaeology


Palaeontology


Traffic


Noise


Geotechnical


Soils and land capability

11. Specialist conclusions

Study area	Conclusion	Residual impact / Impact significance
Geology / Geotechnical	Standard footing/ foundations systems.	**No significant** geotechnical hazards or fatal flaws identified.
Soils and Land capability	Site already disturbed, but loss of soil resources probable.	Residual impact **Moderate to Low.**
Groundwater	Impact on groundwater quality, volume and flow minor for all phases.	**Low** significance, groundwater monitoring to be undertaken.
Surface water	No significant changes in surface water runoff or flooding, no expected increases in pollutant loads.	Residual impact **Low**, implement SWMP and continue surface water monitoring.

11. Specialist conclusions (cont.)

Study area	Conclusion	Residual impact / Impact significance
Biodiversity and Wetlands	Loss of vegetation species, habitat, catchment area and fauna mortality identified . Direct loss of pans and wetlands.	Residual impact **Moderate**, in some cases **High**. Avoid / reduce vegetation clearing and impact on Sandloop tributary FEPA, "Search and Rescue", Wetland offset and rehabilitation plan.
Air quality	Scenarios included baseline air quality, Medupi PS with a/ without FGD. With FGD no exceedances of NAAQS for SO_2, NO_2, PM_{10} and $PM_{2.5}$ at sensitive receptors.	Impact significance found to be **Low, i.e. retrofit of FGD positive impact on air quality.** Specialist recommended that the FGD Retrofit Project be implemented.
Noise levels	Noise levels in the area during operation representative of suburban districts, but notable yet local during construction and decommissioning.	Specialist concluded that with noise mitigation, noise levels from the project will be **Low**. Mitigation include management of traffic and construction site.

11. Specialist conclusions (cont.)

Study area	Conclusion	Residual impact / Impact significance
Socio-economic environment	Although some negative impacts identified, **overall impact of the FGD project is overwhelmingly positive**, especially benefits from economic and employment opportunities, local economic development and *quality of life.*	Specialist concluded that significance of positive social impacts generally exceeds the significance of negative social impacts. Specialist recommend implementation of FGD retrofit.
Heritage, Archaeology & Palaeontology	No heritage, archaeological or palaeontological resources / sensitivities identified within the development footprint.	No potential / expected impact exist.
Traffic	Potential traffic delays at major intersections around Medupi PS identified.	Significance of residual impacts regarded as **Low**, recommended upgrade of identified intersections and traffic calming measures.

Variation Application for existing Medupi Waste Management Licence

WML No: 12/9/11/L50/5/R1

Disposal of gypsum and ash on existing disposal facility

Gypsum Handling Infrastructure

Associated Infrastructure, including Conveyor,

transfer houses, temp. gypsum loading area and Gypsum Storage Building

Storage of WWTP salts and sludge i.t.o. N&S for Storage of Waste (GN 926) prior construction

12. WML Variation Application

Variation application included activities:

- Disposal of ash and gypsum together on the existing ADF
- Reduction of ADF footprint, but increase in height from 60m to 72m
- Inclusion of infrastructure associated with the handling and management of gypsum waste, including:
  - Conveyor for transport of gypsum,
  - Transfer houses
  - Temporary gypsum loading area for loading of saleable gypsum onto trucks
  - Gypsum Storage Building for the storage of saleable gypsum via rail

13. Studies undertaken


Visual


Waste classification


Air Quality


ADF Concept Design


Terrestrial ecology (Biodiversity)


Aquatic and wetland ecology


Groundwater


Surface water

Impacts associated with construction of infrastructure as per the findings and conclusions of EIA

14. Specialist conclusions

Study area	Conclusion	Residual impact / Impact significance
Waste Assessment (disposal of ash and gypsum on ADF)	Gypsum is a Type 3 waste, same as Ash. Therefore can be disposed together with ash on disposal facility with Class C barrier system, as is the case for the Medupi ADF.	No additional impact for disposal of ash and gypsum disposed together on Class C barrier system is expected, as apposed to disposal of ash only on the Class C barrier.
Groundwater (disposal of ash and gypsum on ADF)	A specialist opinion on the impact of disposal of ash and gypsum together on groundwater concluded **no significant impact** on the groundwater regime expected.	Class C barrier system itself is a management measure to reduce any groundwater impacts. No significant residual impact expected.
Surface Water (disposal of ash and gypsum on ADF)	No additional impact on surface water runoff or quality has been identified by the surface water specialist	Surface water management system for existing ADF will continue to manage potential surface water quality and quantity impacts.

14. Specialist conclusions

Study area	Conclusion	Residual impact / Impact significance
Visual (Increase in height of WDF)	Original visual assessment for Medupi PS found impact to be Moderate (45-50m facility). VIA for increased height to 72m also Moderate, i.e. equivalent to existing ADF.	Residual impact rated as Moderate significance, same as original assessment.
Air quality (Increase in height of WDF)	Disposal of ash and gypsum together expected to create crust when mixed with water, but could contribute to dust nuisance. Simulations found no exceedances of NAAQS for PM_{10} and $PM_{2.5}$	Increase in height will have **LOW** impact significance.
Biodiversity and wetlands (Increase in height of WDF)	Gypsum is not likely to a have a major toxicological impact on biodiversity / wetlands. Probability of contamination event expected to be **Low**.	Residual impact expected to be of Moderate significance. Dust management and control main method in reducing impact potential.

Water Use Licence Application (WULA)

FGD Infrastructure (within MPS footprint)

Rail Yard Infrastructure and Buildings

Limestone and Gypsum Handling Facilities

Associated Infrastructure (incl. fuel storage areas)

Waste Water Treatment Plant and Temporary Waste Storage Area

Existing Ash Disposal Facility

15. WULA

Water Use	Infrastructure to be licenced
Section 21 (c) - Impeding or diverting the flow of water in a watercourse	Existing waste disposal facility, including the associated PCDs, and Medupi FGD footprint
Section 21 (i) - Altering the bed, banks, course or characteristics of a watercourse	Existing waste disposal facility and Medupi FGD footprint
Section 21 (g) - disposing of waste in a manner which may detrimentally impact on a water resource;	• Gypsum Transfer Houses • Gypsum Storage Building and temporary storage area • Limestone Storage Area • Limestone unloading facility at rail yard • Emergency Limestone unloading area • Pollution Control Dams (also 21(h)) • Existing Disposal Facility footprint • Sludge and Salts handing and storage areas • Dust suppression of disposal facility during construction, operation and rehabilitation

16. Stakeholder Engagement

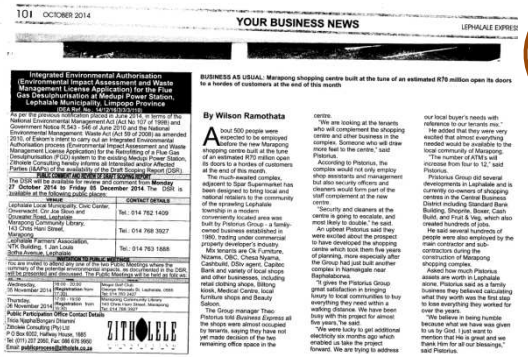
Scoping Phase

EIA Process Advert (06 June 2014) → Site Notices & BID Distribution (06 June 2014) → Draft Scoping Report (27 Oct – 05 Dec 2014 – ext to 09 January 2015)

Draft Scoping Report → KSW & Public Meetings (05 & 06 Nov 2014) → FSR (12 June – 13 July 2015)

EIA Process (Mogol Post)

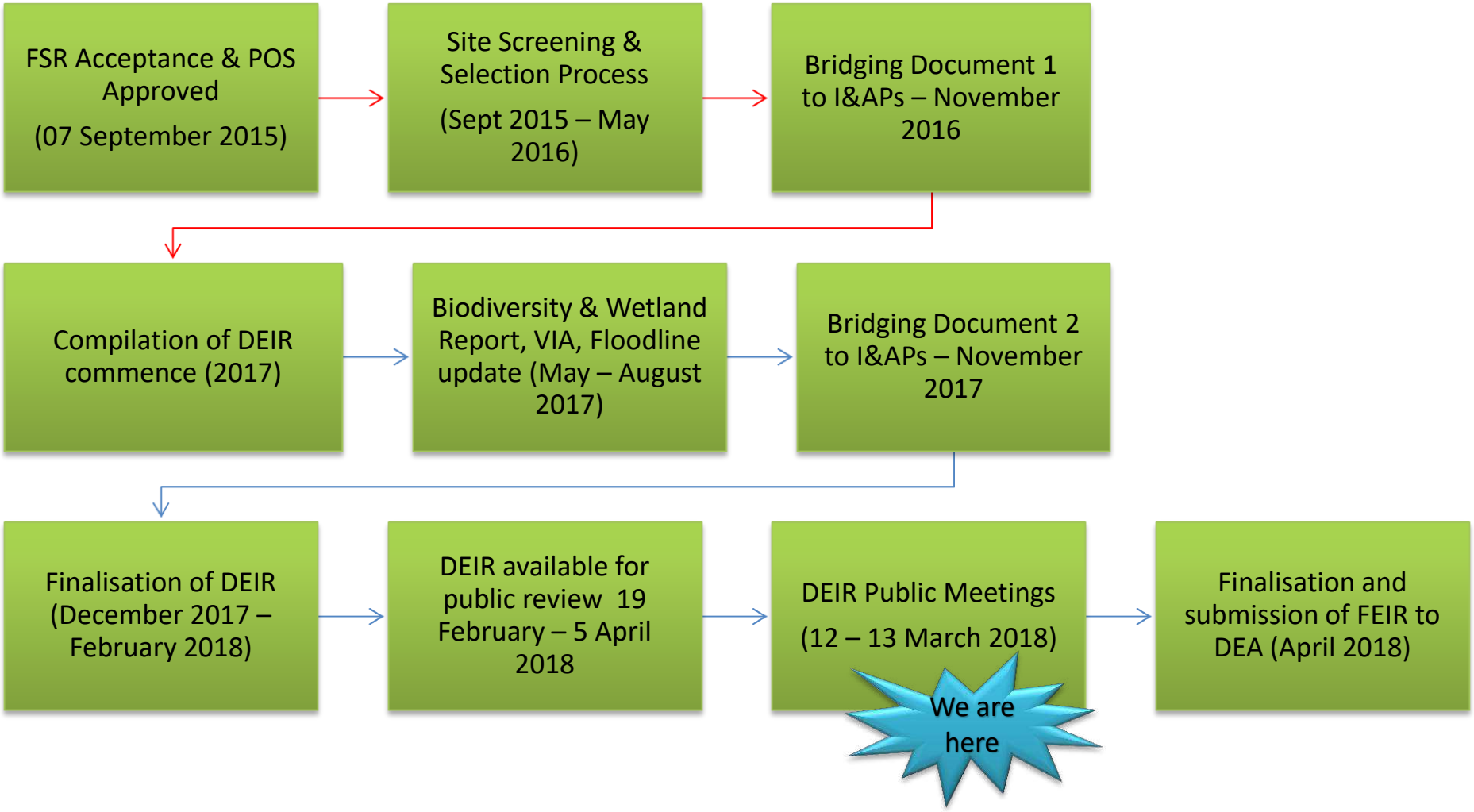
BID Distribution



DSR & PM (Lephalale Express/Mogol Post/Northern News)

16. Stakeholder Engagement

Impact Phase



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23 February 2016	• DEA and DWS • CBA and NFEPA on site
30 November 2017	• DWS • NFEPA on site, wetland offset requirements and rehabilitation plan

18. Conclusions

- Air Quality: FGD successfully reduce impact on air quality (+ve)
- Waste handling and disposal:
    - Disposal of gypsum with ash on existing ADF – WML Variation Application
    - Storage of Salts & Sludge i.t.o. N&S Storage of Waste (GN926)
- Water allocation and use: Water allocation from MCWAP 1 & 2a
- Social and economic impacts: Residual positive impact
- Biodiversity and wetland impacts: Moderate significance with wetland loss, but residual impact with offset requirements within acceptable limits

18. Recommendation

- EAP recommendation to implement FGD system and authorised Medupi FGD Retrofit Project

19. Discussion

Mathys Vosloo / Bongani Dhlamini

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ENVIRONMENTAL IMPACT ASSESSMENT FOR THE PROPOSED RETROFITTING OF A FLUE GAS DESULPHURISATION (FGD) SYSTEM AT MEDUPI POWER STATION, LEPHALALE, LIMPOPO PROVINCE

Key Stakeholder Workshop (KSW)

DEA Ref.: 14/12/16/3/3/2/1060

Draft Minutes

CLIENT	:	Eskom Holdings SOC Ltd
CONSULTANT	:	Zitholele Consulting (Pty) Ltd
PROJECT	:	Medupi FGD Retrofit Project EIA
CONTRACT NO.	:	DEA REF.: 14/12/16/3/3/2/1060
PROJECT NO.	:	12949
DATE	:	13 March 2018
TIME	:	14h00-16h00
VENUE	:	Mogol Golf Club, George Wells St., Onverwacht, Lephalale.

PRESENT

Please refer to the attendance register

APOLOGIES

None tendered

ITEM	DISCUSSION POINTS	ACTION, DATE
1	**WELCOME AND ATTENDANCE:** Dr Mathys Vosloo, Zitholele Consulting, welcomed all present and requested that the team and the delegates introduce themselves, including the department or organisation that they are representing. The Agenda proposed for the workshop, as below, was circulated and accepted by the delegates. The agenda, attendance register and presentations given are provided in Appendix A.	
2	**MEETING OBJECTIVES:** • Meeting to focus on Medupi FGD Retrofit Project **ONLY**; any other issues relating to operations of the Power Station will be allowed at the end of the meeting. • To present information regarding the proposed development • To present the EIA and Public Participation Processes followed to date • Provide key stakeholders overview of project activities and applications • Present findings of specialist studies • Present recommendation of the EAP and Way forward.	
3	**Project Background** Dr. Mathys Vosloo presented the project background to the attendees. Mr. Theuns Blom	

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	from Eskom presented an update to the FGD process on Eskom's behalf after the presentation given by Dr. Vosloo.	
4	**Presentation of application process and findings** Dr. Mathys Vosloo presented the EIA process followed, specialist findings, conclusions and recommendations to the attendees.	
5	**DISCUSSIONS** • [redacted]**:** Will there no temporary waste disposal sites in Lephalale? Mathys Vosloo: The EIA deals only with the existing disposal facility. Gypsum will be disposed with ash on the existing facility, while salts and sludge will be temporarily stored on site within the Medupi Power Station footprint, before being trucked to an existing disposal facility. Theuns Blom: Eskom is running a project to investigate future disposal facilities for Medupi, which include finding an extension to the existing ash disposal and a new hazardous disposal facility. The intent is to establish a regional hazardous disposal facility or for Eskom to at least be the front runner in providing this solution. This is currently in a pre-feasibility stage and will move towards a feasibility stage by the end of 2018. Emile Marrel: There is already a shortage of space on existing facilities in Lephalale. Eskom is looking at piloting the regional disposal site to cater for regional waste instead of trucking it all the way to Johannesburg. This initiative will be looking at creating employment opportunities for the broader community. Tobile Bokwe: The original planning included a proposed space for the remaining 30 years of disposal, but upon investigation this site was not suitable. Therefore, in order to support the implementation of the FGD, investigation of a new site was proposed as a separate process to streamline the FGD authorization process. • [redacted] Are there any plans for using the gypsum in downstream beneficiation to help locals to make use of this opportunity? Theuns Blom: Considering the quality of coal that the power station is burning and the quality of limestone the FGD process is designed for, Eskom is anticipating that it will end up with a gypsum of a quality usable for agriculture. That said, once we have a stable production of gypsum, it will be re-classified as a resource and only at that point can we understand what the gypsum will be most suitable for. Sifiso Mazibuko: You need to wait for all the units to be running in order to get a representative sample of the gypsum to be re-classified. Leon van Wyk: The power station has been designed to allow for future offtake of gypsum. If Eskom comes to a decision to use gypsum then the plant will be ready to implement this future offtake. • [redacted] How labour intensive is it to construct the FGD units and will locals have employment opportunities based on skills levels required? Theuns Blom: Eskom is in the process of establishing an execution entity, which will have a set number of Eskom employees and unskilled, semi-skilled and skilled laborers. Eskom is working with the Medupi sustainability department to see how it will manage labour requirements. Eskom is planning to mobilise more than one team during construction of the units which will mean that there will be a shorter construction time but with more labour at peak time, i.e. a group of about 4000 people, which will include un-skilled, semi-skilled and skilled labour. • [redacted] What is plan B if MCWAP Phase 2A does not deliver water in time? Theuns Blom: Currently the station already has guaranteed water allocation for the	

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	entire Medupi Power Station and 3 of the FGD units. If you look at timelines it is more than adequate in advance to supply water until MCWAP Phase 2 is operational. Eskom is also having regular engagement with DWS and TCTA regarding the MCWAP delivery, which shows a general support from the government to move the MCWAP project forward. • [redacted] Why is Eskom not driving the water use license application concurrently with the EIA process? Mathys Vosloo: The process has been run concurrently, but due to detailed information requirements the WULA has run behind. Late in 2017 a meeting with DWS regarding the sensitive wetland area indicated that a wetland offset would be required. This has filtered into the staggered submission of the WULA. Felicia Sono: The DWS is now running an online submission system, but a number of activities required by the system is already been undertaken. We will be uploading the existing data in order to move through the different phases of the online submission. One the main application has been completed it will be uploaded into the system in order to meet decision making timeframes. Therefore, Eskom is not looking at the full 300 days from submission of the application as it has uploaded the previous documents as per the requirements of the online submission system. Tobile Bokwe: From a PPP perspective, once the WULA documentation is completed it will be made available to the public for review. The public meetings include aspects of the WULA well so therefore once the WULA is available another public meeting will not be undertaken as the public is made aware of the WULA at this stage to allow discussion on any aspects. • [redacted] Has a source of the limestone been determined yet, and if so where will it be sourced from? Theuns Blom: The source of Limestone is going to be from the Northern Cape from where it will be transported via rail to the Vaal Triangle. From the Vaal Triangle it will be trucked to Medupi. Eskom is investigating how best to transport the limestone via rail to the station. Eskom is however, considering using limestone from closer sources in Limpopo, but until such time the business case has been presented and accepted by the Eskom board the primary division cannot approve new suppliers for the limestone. Leon van Wyk: Limestone and lime are very different materials. Lime is a product of limestone once it has been manipulated through calcination. Limestone is available in the area and as a company we go to the worst case in terms of our planning, that is sourcing out of the Northern Cape. Eskom is perusing the option to source the limestone from local sources. It was also quite an effort to redesign the FGD to take lower quality limestone. • [redacted] Is it a complicated process to separate the gypsum from the water, sludge and salts, heavy metals, etc? Is there a plant that does that? Leon van Wyk: It is actually very simple to separate the waste. Liquids are separated from the limestone slurry. The fluids go to the hydrocyclones plant which again separate liquids from the solids. The liquids are treated and re-used in the system, while the solids are sent to the disposal facility. • [redacted] Can we have a monthly record of emissions from the Medupi Power Station? Peak exceedances were presented, so how peak is the peaks and how does that effect the communities? Emile Marrel: There are two sets of emission standards that are set for emissions. Currently it is the 2015 emission standards. With the spikes a problem that the power station face is varying qualities of coal. The coal in this area has a higher Sulphur content that in the highveld. A specification for the coal is set for the Medupi Power Station and	

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	if we can keep within this spec which levels out at about 1.8% Sulphur content, then the station can confidently remain within the 2015 standards. With the life of mine plan what we find is that the Sulphur content of the coal steadily increases, therefore when coal is used that has a Sulphur content higher than 1.8% it generally causes these spikes in the Sulphur emissions. At this stage, due the power station being under construction we cant consistently blend the coal to achieve an average Sulphur content below 1.8% to remain within the applicable limits. That is where we have these spikes. It is usually only on hourly periods. The average power station emission is well below 3500mg/Nm^3. You are more than welcome to join the EMC where details of the emission profile can be discussed on a quarterly basis. With the commissioning of the FGD the new emission standards will be consistently complied with. Therefore, at this point in time there is very little influence from SO_2 emission on the Lephalale area and surrounding area. • [redacted] If FGD is only using 2% of what the Limpopo River dumps in the sea, why is this area called a water scarce area? Emile Marrel: As the MCWAP Phase 2 comes online, more water will become available in the area. Eskom also broadly rely on the planning and implementation of programs by the DWS. The MCWAP Phase 2 conceptually shows how water from a high rainfall area is transferred to an area of low rainfall for equitable use of water by all parties. Mathys Vosloo: The MCWAP Phase 2 also caters for water to the region not only for Eskom. Emile Marrel: MCWAP will also provide water for other industries, mines, municipalities and communities. Eskom is therefore one of the users, it is the largest users but certainly not the only user. Leon van Wyk: A benefit of the MCWAP Phase2 program is that it will free up better quality water for human consumption due to users such as Eskom rather making use of lower quality water through MCWAP Phase2 as opposed to its current use of good quality water through the MCWAP Phase1.	
6	**Closure** The meeting was closed after discussions has been concluded.	

ACTION	FUNCTION	NAME	DATE	SIGNATURE
Prepared				
Reviewed				
Approved				

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ENVIRONMENTAL IMPACT ASSESSMENT, VARIATION TO EXISTING WASTE MANAGEMENT LICENCE, AND WATER USE LICENCE APPLICATION FOR THE PROPOSED RETROFITTING OF A FLUE GAS DESULPHURISATION (FGD) SYSTEM AT MEDUPI POWER STATION, LEPHALALE, LIMPOPO PROVINCE

PUBLIC MEETING

Tuesday, 13 March 2018 @ 18h00

Mogol Golf Club, George Wells St., Onverwacht, Lephalale

A G E N D A

Facilitator: Mathys Vosloo, Zitholele Consulting

17:30 – 18:00	Registration for the meeting	
18:00 – 18:10	Welcome, Evacuation Procedures, Introductions	M. Vosloo
18:10 – 18:30	Project Background	T. Blom
18:30 – 19:15	Presentation of application process and findings	M. Vosloo
19:15 – 19:45	Discussion	All
19:45 – 20:00	Closing and Way Forward	M. Vosloo

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ENVIRONMENTAL IMPACT ASSESSMENT FOR THE PROPOSED RETROFITTING OF A FLUE GAS DESULPHURISATION (FGD) SYSTEM AT MEDUPI POWER STATION, LEPHALALE, LIMPOPO PROVINCE

Public Meeting

DEA REF.: 14/12/16/3/3/2/1060

Minutes

CLIENT	:	Eskom Holdings SOC Ltd
CONSULTANT	:	Zitholele Consulting (Pty) Ltd
PROJECT	:	Medupi FDG Retrofit Project EIA
CONTRACT NO.	:	DEA REF.: 14/12/16/3/3/2/1060
PROJECT NO.	:	12949
DATE	:	13 March 2018
TIME	:	18h00-20h00
VENUE	:	Mogol Golf Club, George Wells St, Onverwacht, Lephalale

PRESENT

Please refer to the attendance register

APOLOGIES

None tendered

ITEM	DISCUSSION POINTS	ACTION, DATE
1	**Welcome and Attendance:** Dr Mathys Vosloo, Zitholele Consulting, welcomed all present and requested that the team and the delegates introduce themselves, including the department or organisation that they are representing. The Agenda proposed for the workshop, as below, was circulated and accepted by the delegates. The agenda, attendance register and presentations given are provided in Appendix A.	
2	**Meeting Objectives:** • Meeting to focus on Medupi FGD Retrofit Project **ONLY**; any other issues relating to operations of the Power Station will be allowed at the end of the meeting. • To provide I&APs overview of project activities and applications; • To present findings of specialist studies; • Present recommendations of the EAP; and • To advise on the way forward.	
3	**Project Background** Dr. Mathys Vosloo presented the project background to the attendees. Mr. Theuns Blom from Eskom presented an update to the FGD process on Eskom's behalf after the presentation given by Dr. Vosloo.	
4	**Presentation of application process and findings** Dr. Mathys Vosloo presented the EIA process followed, specialist findings, conclusions and recommendations to the attendees.	

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5	**DISCUSSION** • [redacted] What happens to the dirt water that is used from the WFGD system? **Mr Leon van Wyk:** The system uses water for two reasons, namely for evaporative cooling and process induced water for the reaction, accordingly the evaporative water evaporates to the sky it can be seen as a plume from the chimneys, and the process water is cycled back in to the Zero Liquid Discharge (ZLD) system. • [redacted] What happens to the effluent discharge from the WFGD system? **Mr Leon van Wyk:** The effluent will be treated from a waste treatment plant within the Power Station. • [redacted] Is the Eskom going to use clean water or grey water from the system? **Mr Leon van Wyk:** There no specifics on the water requirement on the system, even processed water can be used. Currently there is a plan to get the processed water from Pretoria via the MCWAP Phase 2A scheme. • [redacted] What are the characteristics of the ash composition? **Mr Leon van Wyk:** The composition will remain the same accept that there will be an addition of calcium sulphide and or calcium sulphate in the mixture. **Mr Emile Marrel** (Eskom) offered to extend meeting invitations to Mrs Pretorius on their Environmental Management Committee (EMC). • [redacted] Was the cumulative assessment on air quality done? **Dr Mathys Vosloo:** Yes, cumulative impacts were assessed by the air quality specialist through the scenarios that was modelled and also since it's an air quality priority area.	
	Meeting closed and adjourned	

ACTION	FUNCTION	NAME	DATE	SIGNATURE
Prepared				
Reviewed				
Approved				

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ENVIRONMENTAL IMPACT ASSESSMENT, VARIATION TO EXISTING WASTE MANAGEMENT LICENCE, AND WATER USE LICENCE APPLICATION FOR THE PROPOSED RETROFITTING OF A FLUE GAS DESULPHURISATION (FGD) SYSTEM AT MEDUPI POWER STATION, LEPHALALE, LIMPOPO PROVINCE

KEY STAKEHOLDER WORKSHOP

Wednesday, 14 March 2018 @ 08h00

Medupi Power Station Visitor Center, Lephalale

A G E N D A

Facilitator: Mathys Vosloo, Zitholele Consulting

13:30 – 14:00	Registration for the meeting	
14:00 – 14:10	Welcome, Evacuation Procedures, Introductions	M. Vosloo
14:10 – 14:30	Project Background	T. Blom
14:30 – 15:15	Presentation of application process and findings	M. Vosloo
15:15 – 15:45	Discussion	All
15:45 – 16:00	Closing and Way Forward	M. Vosloo

ENVIRONMENTAL IMPACT ASSESSMENT, WASTE MANAGEMENT LICENSE VARIATION APPLICATION, AND WATER USE LICENCE APPLICATION FOR THE PROPOSED RETROFITTING OF A FLUE GAS DESULPHURISATION (FGD) SYSTEM AT MEDUPI POWER STATION, LEPHALALE, LIMPOPO PROVINCE

Key Stakeholder Workshop

Medupi PS Gate 1
Visitor Center
Lephalale
8am – 9am

Zitholele Consulting
Mathys Vosloo
14 March 2018

Objectives of the Meeting

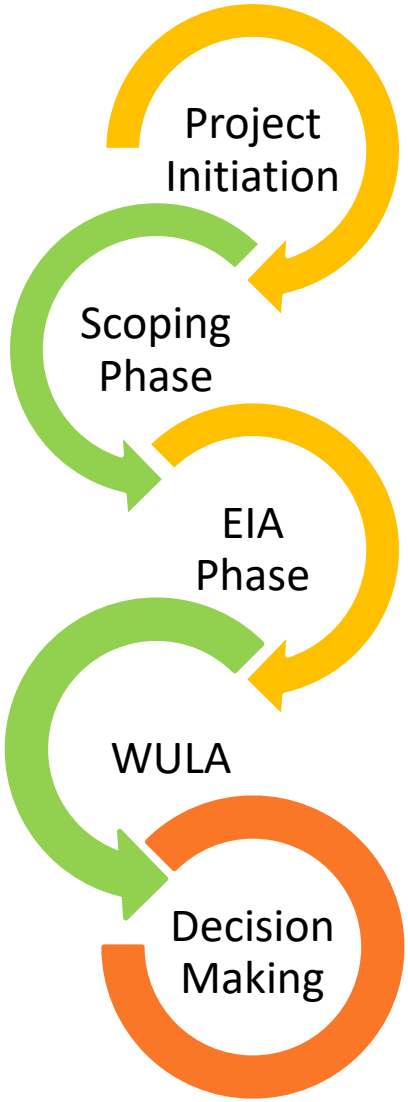
- Meeting to focus on Medupi FGD Retrofit Project only
- Provide key stakeholders overview of project activities and applications
- Present findings of specialist studies
- Present recommendation of the EAP
- Way forward

1. Project Motivation

- Medupi PS Air Emissions Licence (AEL) amended in 2015
  - Continue operation of commissioned units
  - Operate and maintain a Flue Gas Desulphurisation (FGD) plant for SO_2 control
  - Reduce SO_2 to below 500 mg/Nm^2 by 1 April 2025
- Funder requirements

Result in need to retrofit a FGD system to the Medupi PS before 2025.

2. Project Progression



December 2013 – April 2014

May 2014 – July 2015

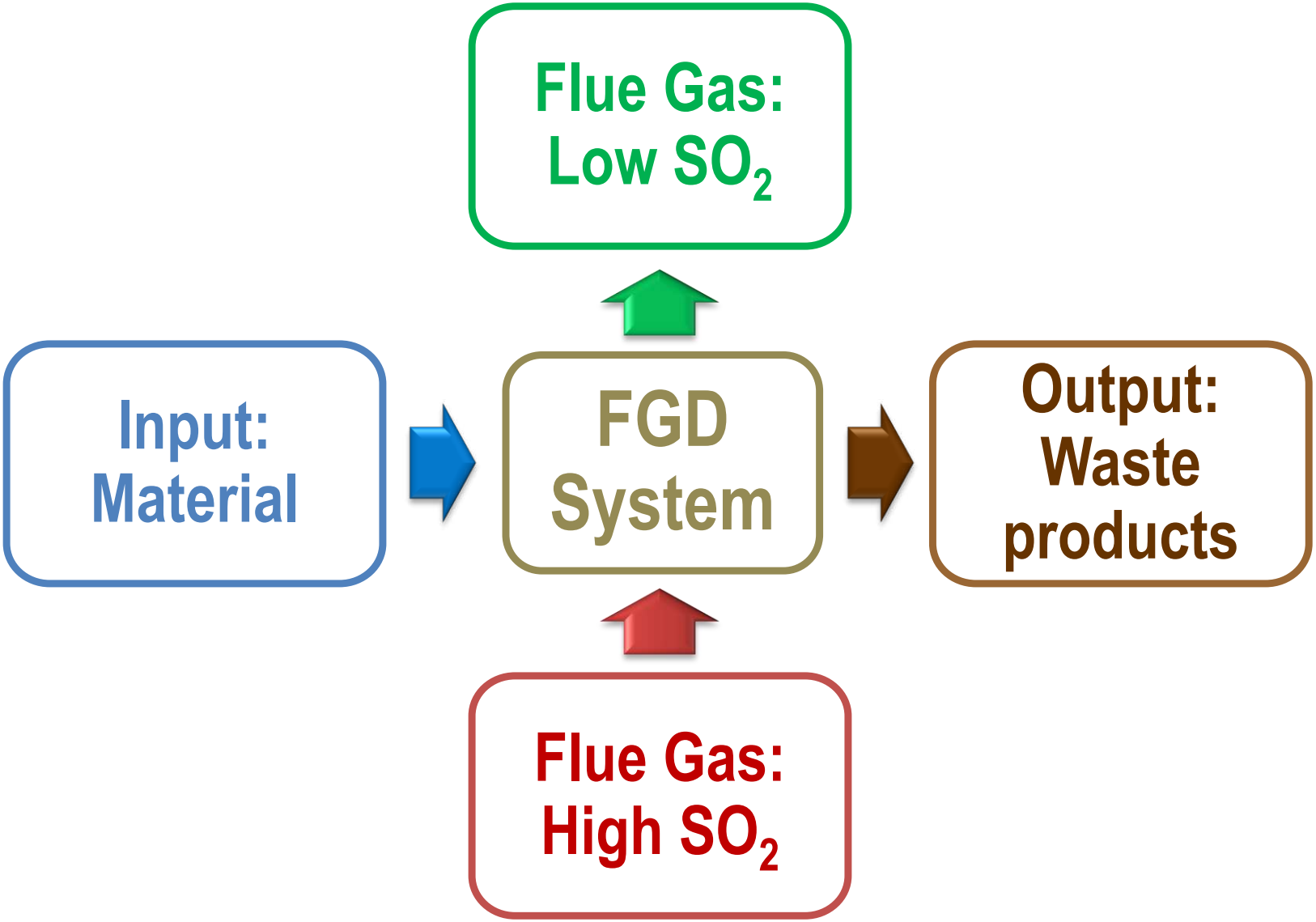
August 2015 – April 2018

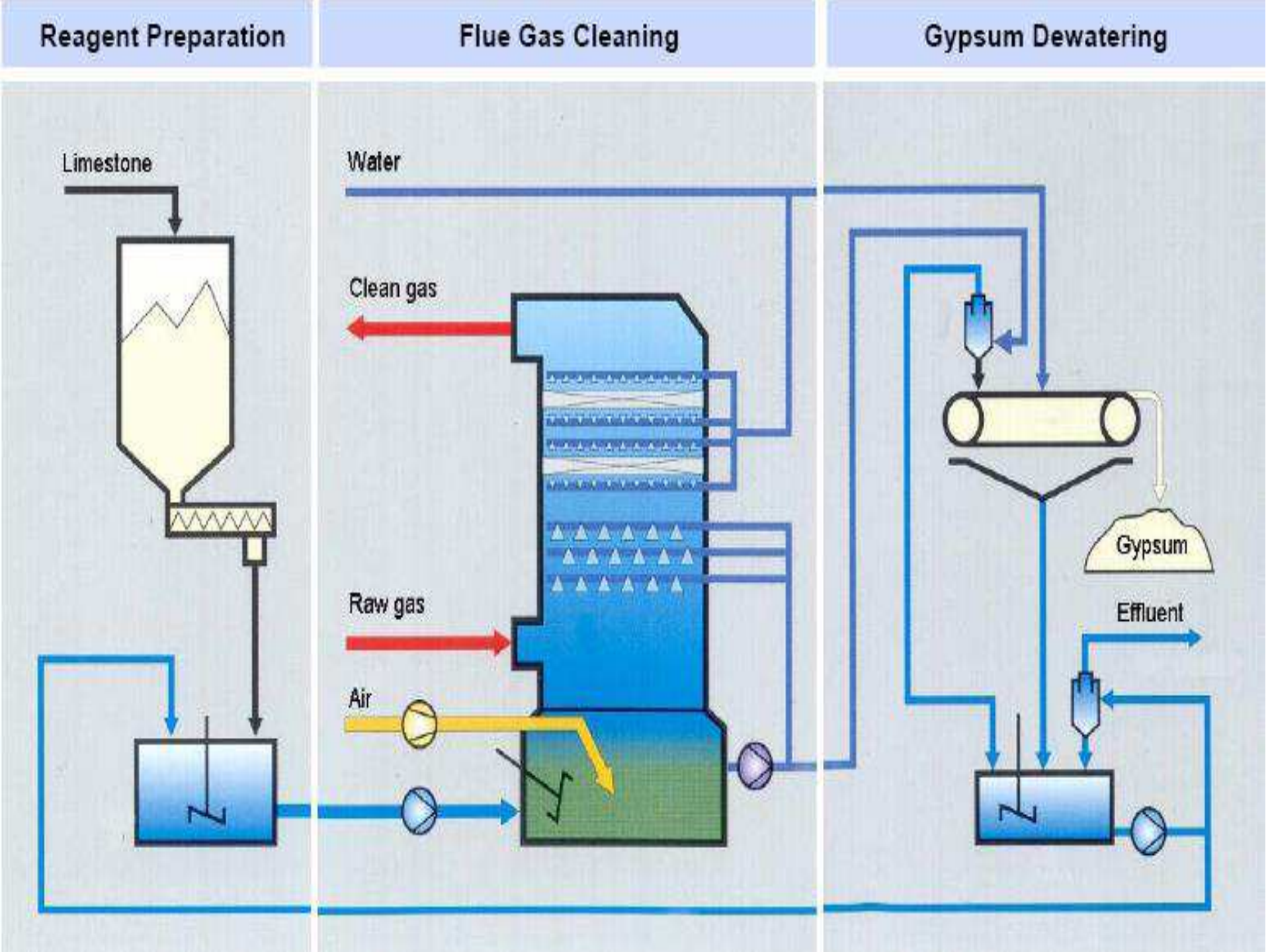
August 2016 – May 2018

May 2018 – August 2018 (EIA)

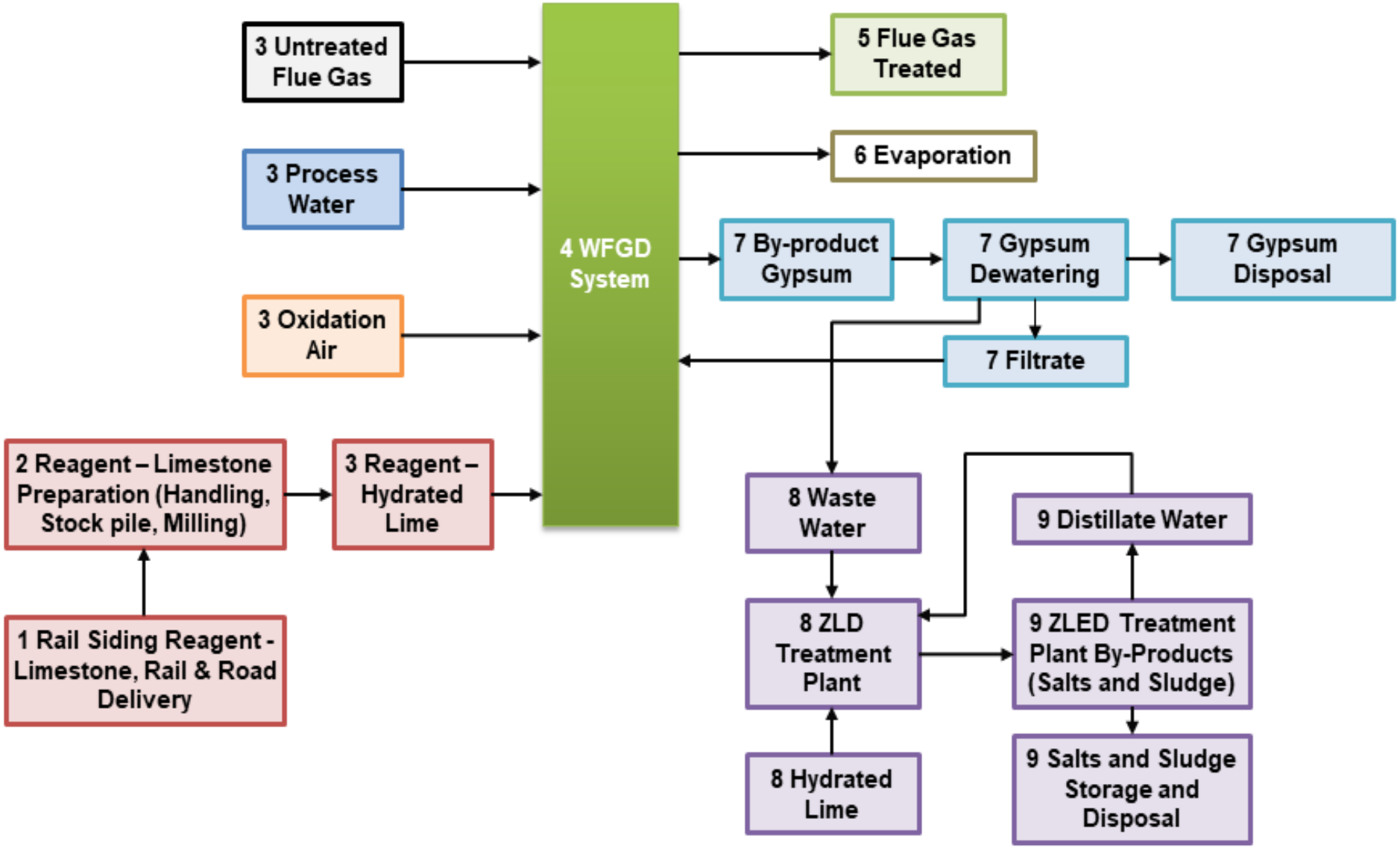
May 2018 – February 2019 (WULA)

3. FGD Simplified




Reagent Preparation
Flue Gas Cleaning
Gypsum Dewatering
Limestone
Water
Clean gas
Raw gas
Air
Gypsum
Effluent

4. FGD Components Diagram



5. Development site

6. Changes in project packaging

Scoping Phase	**Integrated EIA/WML & WULA** FGD, RAIL, LIME, INFRAS, ADF, *on-site* WDF				
Bridging Document, Nov 2016	**Integrated EIA/WML 1 & WULA** FGD, RAIL, LIME, INFRAS	**Integrated EIA/WML 2** *Off-site* WDF	**WML Variation** ADF	**WULA** FGD, RAIL, LIME, INFRAS, ADF	
Bridging Document 2, Nov 2017	**EIA** FGD, RAIL, LIME (*NEMA*), INFRAS	**GN926** LIME (Registration of storage facility prior construction)	**Integrated EIA/WML 2** *Off-site* WDF	**WML Variation** ADF	**WULA** FGD, RAIL, LIME, INFRAS, ADF

FGD = FGD system, **RAIL =** Rail Yard, **LIME =** Limestone / Gypsum handling & storage, **INFRAS =** Associated Infrastructure, **ADF =** Disposal of ash & gypsum on existing Ash Disposal Facility (4-20 yrs), **WDF =** Disposal of ash, gypsum, salts & sludge on new Waste Disposal Facility (21-50 yrs)

7. Legislative requirements – EIA

EIA - National Environmental Management Act (Act 107 of 1998) as amended

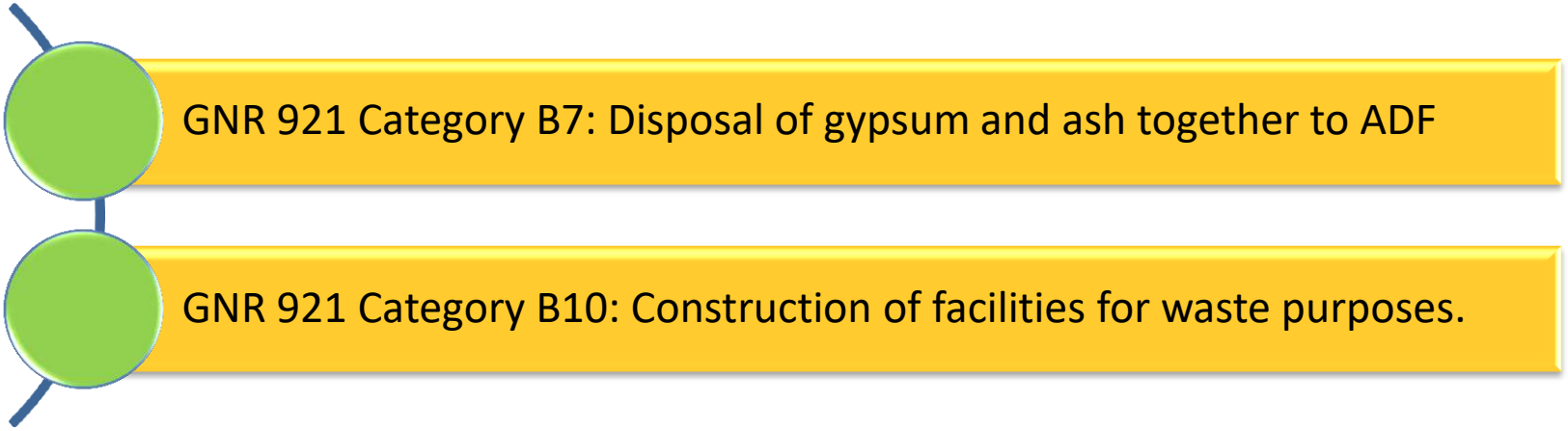
EIA Regulations of 2010 (GNR 543), as amended

- GNR 545 activity 3: Storage and handling of diesel within the FGD footprint and rail yard.
- GNR 545 activity 11: Construction of railway yard for purposes of transport of products and wastes relating to FGD process.
- GNR 545 activity 15: Alteration of undeveloped land for the railway yard of more than 20ha.

Activities 9 and 18 of GNR 544 (Basic Assessment), and 14(a)(i) of GNR 546 also triggered

7. Legislative requirements – WML

WML Variation Application – National Environmental Management: Waste Act (Act 59 of 2008) as amended.



Registration of temporary waste storage facility for storage of salts and sludge i.t.o. Schedule C of GN 921 (list of waste management activities) of the NEM:WA, and GN 926 of 29 November 2013 (Norms and Standards for Storage of Waste).

7. Legislative requirements – WULA

WULA – National Water Act (Act 36 of 1998) as amended.

- 21(c) – Construction activities associated with FGD system and rail yard carried out within the 500 m buffer of the water resources
- 21(i) – Construction activities associated with FGD system and rail yard carried out within the 500 m buffer of the water resources
- 21(g) – disposal of waste in a manner that may be detrimental to a water resource.

Environmental Impact Assessment
DEA REF: 14/12/16/3/3/3/110

FGD Infrastructure (within MPS footprint)
Rail Yard Infrastructure and Buildings
Limestone and Gypsum Handling Facilities
Associated Infrastructure (incl. fuel storage areas)
Waste Water Treatment Plant and Waste Storage Area

8. Alternatives considered (EIA)

1. Location / Layout

None – infrastructure to be fitted to footprint predefined by power station layout and infrastructure

2. Technology

Dry FGD: Slightly lower water consumption that WFGD, cannot fit within existing available space, very high capital and operating costs

Wet FGD: Fit within site space constraints, high efficiency to remove SO_2, uses more water than DFGD

Wet FGD (gas cooler): uses less water than WFGD, layout and space constraints, high maintenance & problematic during operation, reduction in unit power output, high capital and operation cost

8. Alternatives considered (EIA)

3. No-go Option

The no-go option is to continue operation of the Medupi Power Station without the FGD retrofit.

- Medupi PS not be compliant with AEL
- Need to shut down the power station
- Significant impact on economy and stability of electricity supply
- Considered FATALLY FLAWED

9. Key issues identified

- Air Quality
- Waste handling and disposal
- Water allocation and use
- Social and economic impacts of FGD
- Biodiversity and wetland impacts

10. Studies undertaken

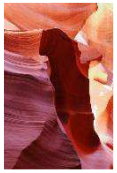

Terrestrial ecology (Biodiversity)


Aquatic and wetland ecology


Socio-economic


Air Quality


Waste classification


Groundwater


Surface water


Heritage, Archaeology


Palaeontology


Traffic


Noise


Geotechnical


Soils and land capability

11. Specialist conclusions

Study area	Conclusion	Residual impact / Impact significance
Geology / Geotechnical	Standard footing/ foundations systems.	**No significant** geotechnical hazards or fatal flaws identified.
Soils and Land capability	Site already disturbed, but loss of soil resources probable.	Residual impact **Moderate to Low.**
Groundwater	Impact on groundwater quality, volume and flow minor for all phases.	**Low** significance, groundwater monitoring to be undertaken.
Surface water	No significant changes in surface water runoff or flooding, no expected increases in pollutant loads.	Residual impact **Low**, implement SWMP and continue surface water monitoring.

11. Specialist conclusions (cont.)

Study area	Conclusion	Residual impact / Impact significance
Biodiversity and Wetlands	Loss of vegetation species, habitat, catchment area and fauna mortality identified . Direct loss of pans and wetlands.	Residual impact **Moderate**, in some cases **High**. Avoid / reduce vegetation clearing and impact on Sandloop tributary FEPA, "Search and Rescue", Wetland offset and rehabilitation plan.
Air quality	Scenarios included baseline air quality, Medupi PS with a/ without FGD. With FGD no exceedances of NAAQS for SO_2, NO_2, PM_{10} and $PM_{2.5}$ at sensitive receptors.	Impact significance found to be **Low, i.e. retrofit of FGD positive impact on air quality.** Specialist recommended that the FGD Retrofit Project be implemented.
Noise levels	Noise levels in the area during operation representative of suburban districts, but notable yet local during construction and decommissioning.	Specialist concluded that with noise mitigation, noise levels from the project will be **Low**. Mitigation include management of traffic and construction site.

11. Specialist conclusions (cont.)

Study area	Conclusion	Residual impact / Impact significance
Socio-economic environment	Although some negative impacts identified, **overall impact of the FGD project is overwhelmingly positive**, especially benefits from economic and employment opportunities, local economic development and *quality of life*.	Specialist concluded that significance of positive social impacts generally exceeds the significance of negative social impacts. Specialist recommend implementation of FGD retrofit.
Heritage, Archaeology & Palaeontology	No heritage, archaeological or palaeontological resources / sensitivities identified within the development footprint.	No potential / expected impact exist.
Traffic	Potential traffic delays at major intersections around Medupi PS identified.	Significance of residual impacts regarded as **Low**, recommended upgrade of identified intersections and traffic calming measures.

Variation Application for existing Medupi Waste Management Licence

WML No: 12/9/11/L50/5/R1

Disposal of gypsum and ash on existing disposal facility

Gypsum Handling Infrastructure

Associated Infrastructure, including Conveyor,

transfer houses, temp. gypsum loading area and Gypsum Storage Building

Storage of WWTP salts and sludge i.t.o. N&S for Storage of Waste (GN 926) prior construction

12. WML Variation Application

Variation application included activities:

- Disposal of ash and gypsum together on the existing ADF
- Reduction of ADF footprint, but increase in height from 60m to 72m
- Inclusion of infrastructure associated with the handling and management of gypsum waste, including:
  - Conveyor for transport of gypsum,
  - Transfer houses
  - Temporary gypsum loading area for loading of saleable gypsum onto trucks
  - Gypsum Storage Building for the storage of saleable gypsum via rail

13. Studies undertaken


Visual


Waste classification


Air Quality


ADF Concept Design


Terrestrial ecology (Biodiversity)


Aquatic and wetland ecology


Groundwater


Surface water

Impacts associated with construction of infrastructure as per the findings and conclusions of EIA

14. Specialist conclusions

Study area	Conclusion	Residual impact / Impact significance
Waste Assessment (disposal of ash and gypsum on ADF)	Gypsum is a Type 3 waste, same as Ash. Therefore can be disposed together with ash on disposal facility with Class C barrier system, as is the case for the Medupi ADF.	No additional impact for disposal of ash and gypsum disposed together on Class C barrier system is expected, as apposed to disposal of ash only on the Class C barrier.
Groundwater (disposal of ash and gypsum on ADF)	A specialist opinion on the impact of disposal of ash and gypsum together on groundwater concluded **no significant impact** on the groundwater regime expected.	Class C barrier system itself is a management measure to reduce any groundwater impacts. No significant residual impact expected.
Surface Water (disposal of ash and gypsum on ADF)	No additional impact on surface water runoff or quality has been identified by the surface water specialist	Surface water management system for existing ADF will continue to manage potential surface water quality and quantity impacts.

14. Specialist conclusions

Study area	Conclusion	Residual impact / Impact significance
Visual (Increase in height of WDF)	Original visual assessment for Medupi PS found impact to be Moderate (45-50m facility). VIA for increased height to 72m also Moderate, i.e. equivalent to existing ADF.	Residual impact rated as Moderate significance, same as original assessment.
Air quality (Increase in height of WDF)	Disposal of ash and gypsum together expected to create crust when mixed with water, but could contribute to dust nuisance. Simulations found no exceedances of NAAQS for PM_{10} and $PM_{2.5}$	Increase in height will have **LOW** impact significance.
Biodiversity and wetlands (Increase in height of WDF)	Gypsum is not likely to a have a major toxicological impact on biodiversity / wetlands. Probability of contamination event expected to be **Low**.	Residual impact expected to be of Moderate significance. Dust management and control main method in reducing impact potential.

Water Use Licence Application (WULA)

FGD Infrastructure (within MPS footprint)

Rail Yard Infrastructure and Buildings

Limestone and Gypsum Handling Facilities

Associated Infrastructure (incl. fuel storage areas)

Waste Water Treatment Plant and Temporary Waste Storage Area

Existing Ash Disposal Facility

15. WULA

Water Use	Infrastructure to be licenced
Section 21 (c) - Impeding or diverting the flow of water in a watercourse	Existing waste disposal facility, including the associated PCDs, and Medupi FGD footprint
Section 21 (i) - Altering the bed, banks, course or characteristics of a watercourse	Existing waste disposal facility and Medupi FGD footprint
Section 21 (g) - disposing of waste in a manner which may detrimentally impact on a water resource;	• Gypsum Transfer Houses • Gypsum Storage Building and temporary storage area • Limestone Storage Area • Limestone unloading facility at rail yard • Emergency Limestone unloading area • Pollution Control Dams (also 21(h)) • Existing Disposal Facility footprint • Sludge and Salts handing and storage areas • Dust suppression of disposal facility during construction, operation and rehabilitation

16. Stakeholder Engagement

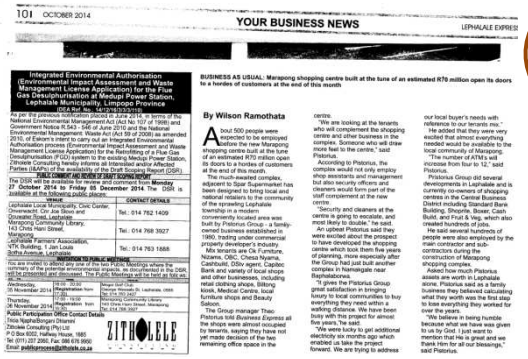
Scoping Phase

EIA Process Advert (06 June 2014) → Site Notices & BID Distribution (06 June 2014) → Draft Scoping Report (27 Oct – 05 Dec 2014 – ext to 09 January 2015)

KSW & Public Meetings (05 & 06 Nov 2014) → FSR (12 June – 13 July 2015)

EIA Process (Mogol Post)

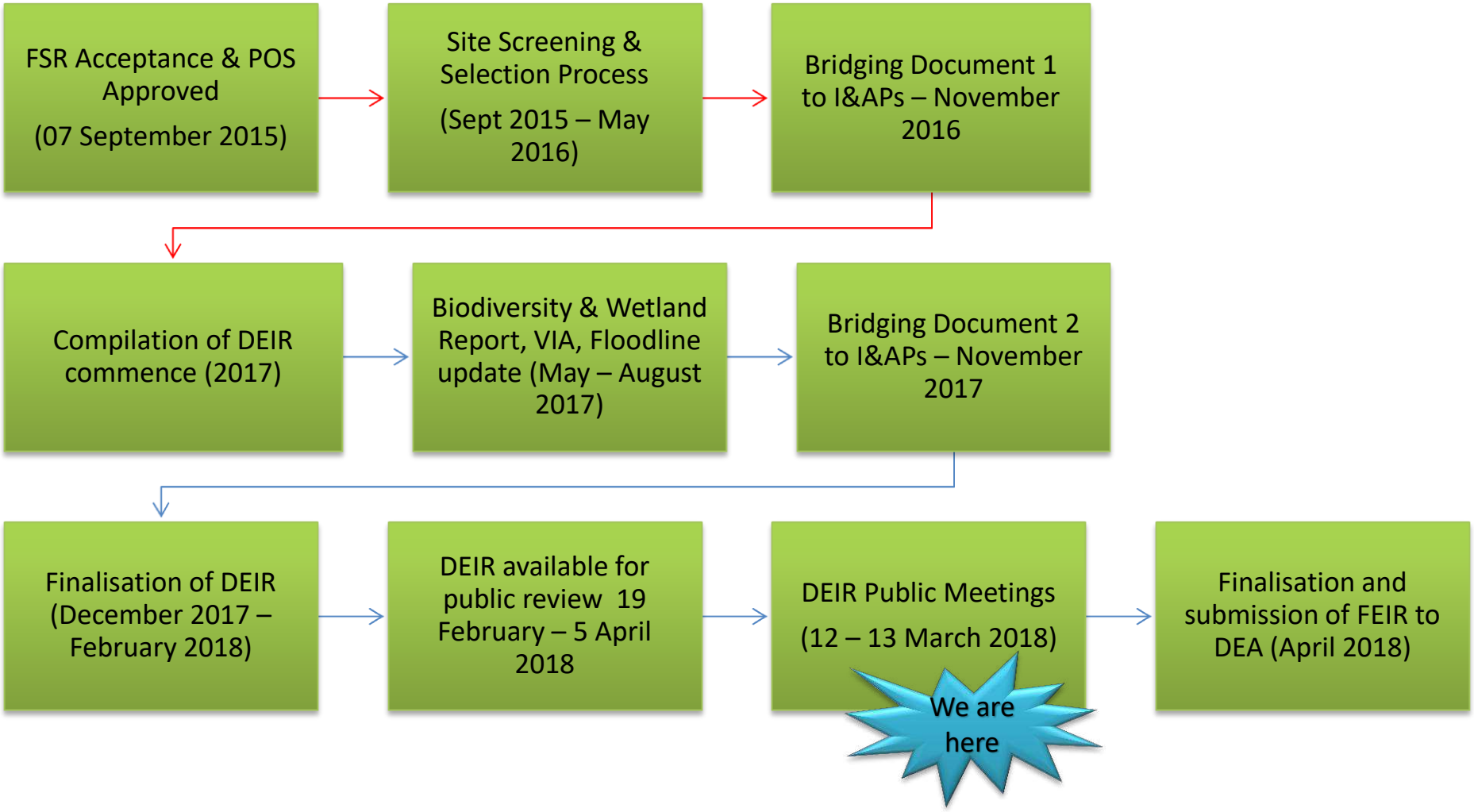
BID Distribution



DSR & PM (Lephalale Express/Mogol Post/Northern News)

16. Stakeholder Engagement

Impact Phase



17. Authority engagement

08 July 2014	• DEA • Intro project • Post application meeting
11 Nov 2014	• DEA Waste Directorate • Project info • Waste disposal methods
02 July 2015	• DEA and DWS • Gypsum disposal method
01 Oct 2015	• DEA • Dynamic info post Scoping Phase
23 February 2016	• DEA and DWS • CBA and NFEPA on site
30 November 2017	• DWS • NFEPA on site, wetland offset requirements and rehabilitation plan

18. Conclusions

- Air Quality: FGD successfully reduce impact on air quality (+ve)
- Waste handling and disposal:
    - Disposal of gypsum with ash on existing ADF – WML Variation Application
    - Storage of Salts & Sludge i.t.o. N&S Storage of Waste (GN926)
- Water allocation and use: Water allocation from MCWAP 1 & 2a
- Social and economic impacts: Residual positive impact
- Biodiversity and wetland impacts: Moderate significance with wetland loss, but residual impact with offset requirements within acceptable limits

18. Recommendation

- EAP recommendation to implement FGD system and authorised Medupi FGD Retrofit Project

19. Discussion

Mathys Vosloo / Bongani Dhlamini

Public Participation Office

Zitholele Consulting

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Halfway House

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Email: fgd@zitholele.co.za

Tel: 011 207 2060

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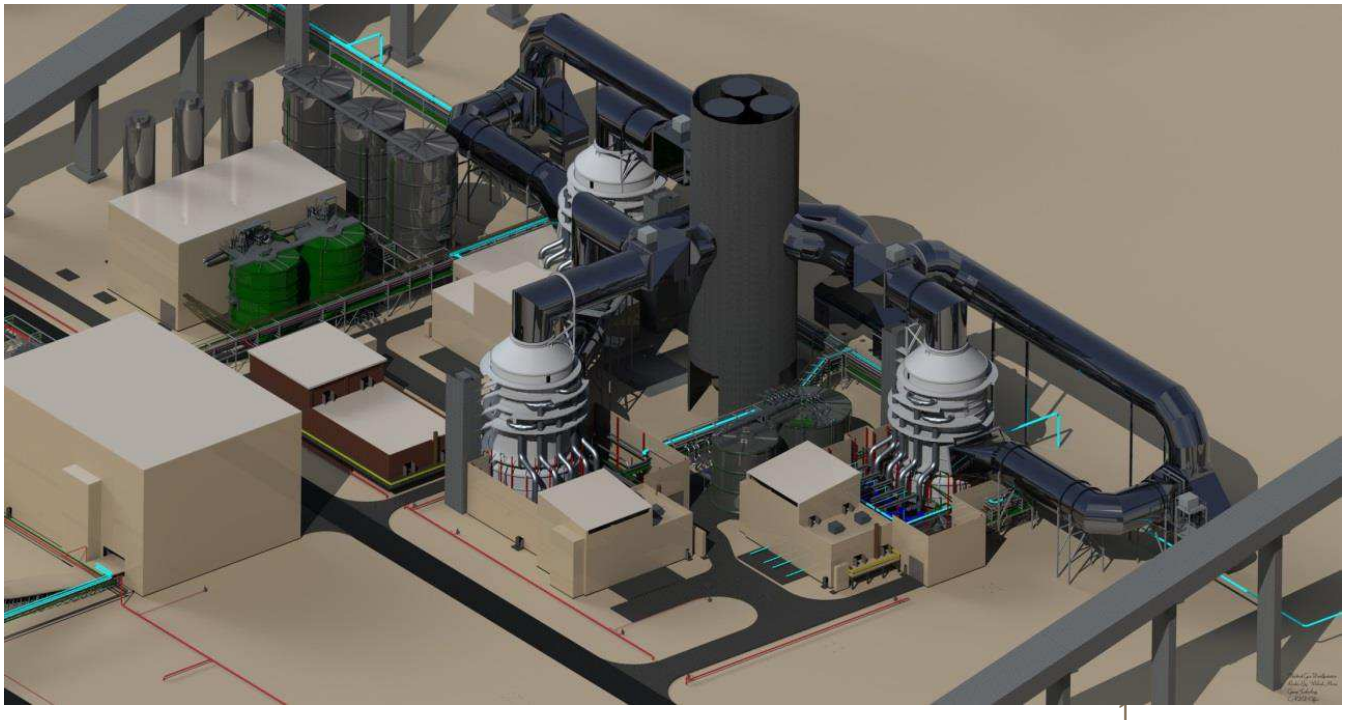
Public Meetings
Medupi Flue Gas Desulphurisation Project

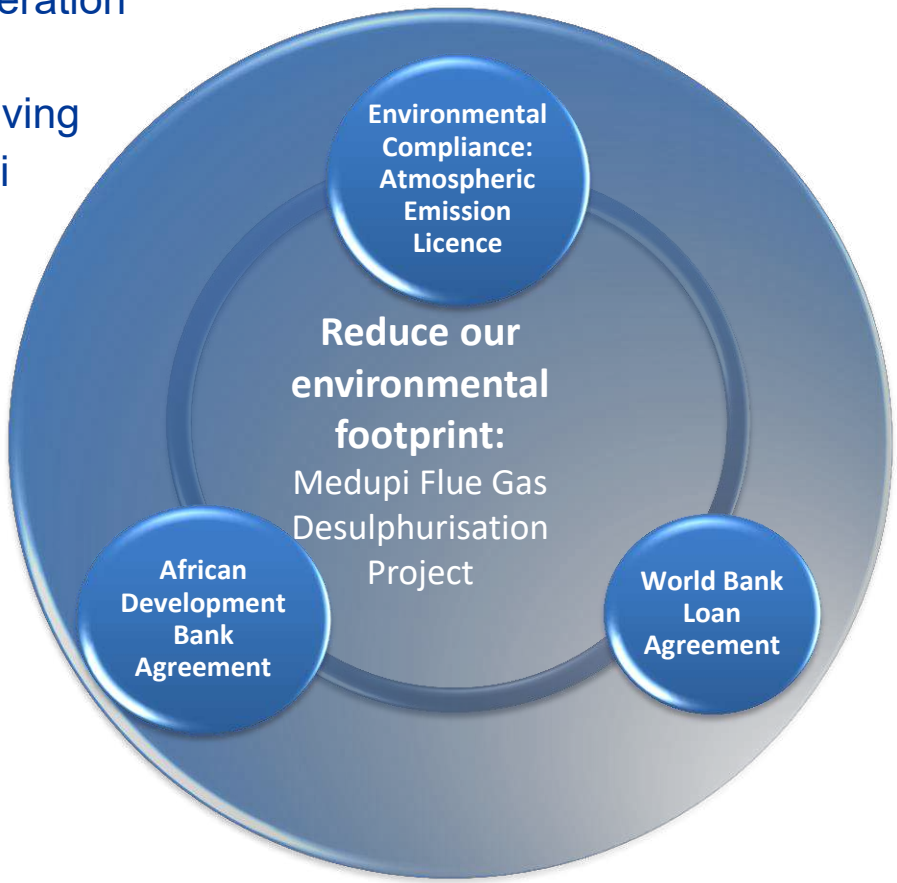
Project Update and Status



Strategic Context and Justification

STRATEGIC CONTEXT

- This project is to retrofit Flue Gas Desulphurisation (FGD) to each of the 6 Medupi units 6 years after each unit was put into commercial operation
- Eskom as a responsible Corporate Citizen have a socio-economic responsibility towards the people living and working in the immediate vicinity of the Medupi Power Station
- The project is linked to the Eskom Air Quality Strategy with the reference ESG 32-1143 of 2011 and Minimum Emission Standard application and World Bank Loan Agreement Conditions (Condition 2), the African Development Bank Loan Agreement (Article IV).



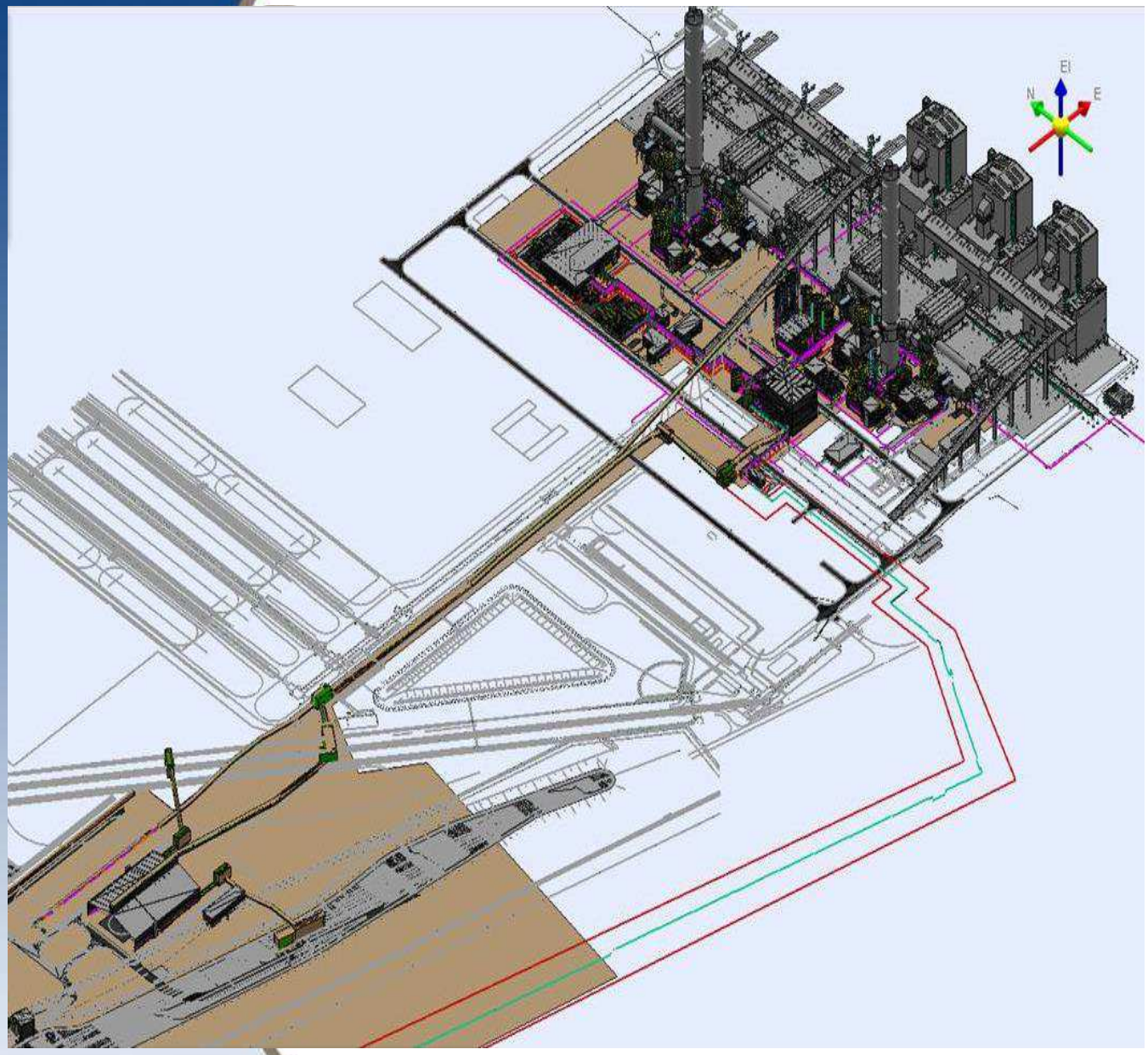
JUSTIFICATION

- Socio-Economic impact responsibility
- The project is needed to ensure compliance to:
  i.) the National Air Quality Act 39 of 2004 and the Minimum Emission Standards for SO_2 and,
  ii.) the conditions of the loan granted to Eskom by the World Bank and African Development Bank for the construction of Medupi Power Station.

Medupi Flue Gas Desulphurisation (FGD)

Summary of statements and conclusion

- Schedule optimisation: Eskom actively pursuing schedule acceleration to meet committed dates for retrofit of four FGD units with the potential for the remaining two units under review; normal schedule indicate significant project delays. Not able to align retrofit of FGD with commercial operation of last generation units
- Technology selection: Eskom to continuing with the retrofit installation of wet flue gas desulphurisation technology at Medupi Power Station
- Direct Sorbent Injection: Eskom will not continue with the investigation into direct sorbent injection as a possible interim abatement technology
- Water Reduction Technology: Eskom will not add a flue gas cooler to the Medupi FGD retrofit project – spatial allowance will be made for future considerations



Eskom

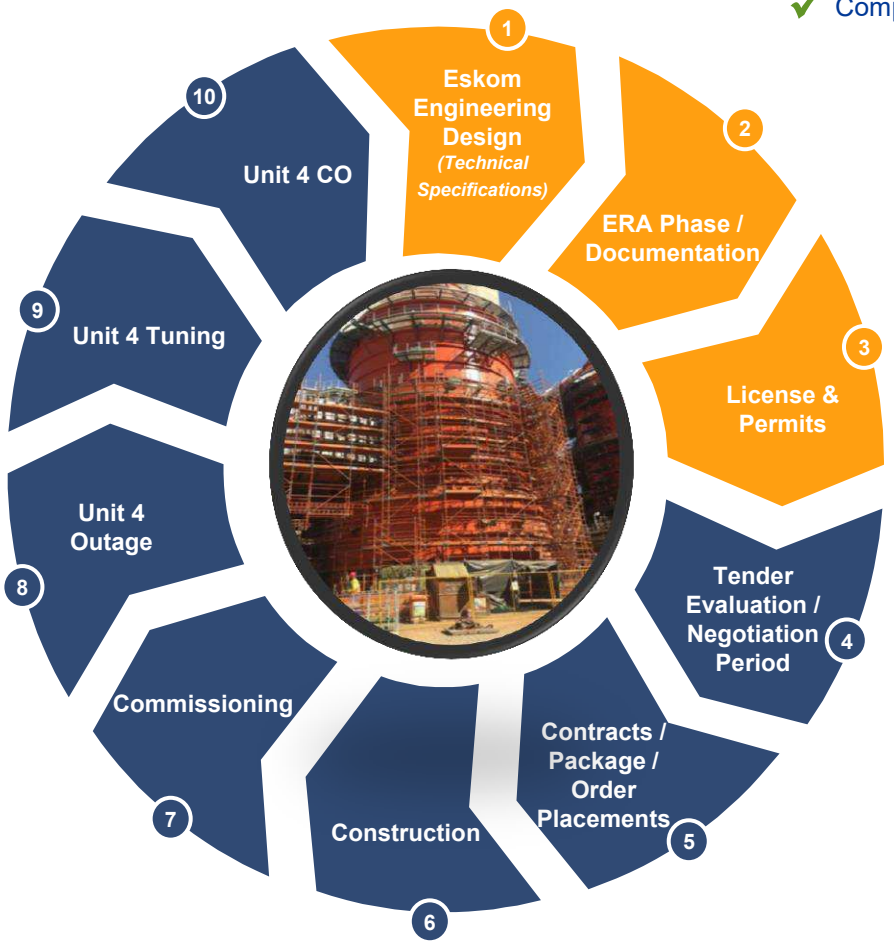
Project Schedule

Schedule Delay

- The draft schedule dates for completion of each FGD unit outlined in Table below

Milestone Objective	Committed dates (6yrs after Unit CO)	Project schedule dates - **Jan 2018** (14 mths float
Commercial Operation U6 FGD	August 2021	**December 2027**
Commercial Operation U5 FGD	April 2023	**November 2026**
Commercial Operation U4 FGD	November 2023	**October 2025**
Commercial Operation U3 FGD	August 2024	**May 2026**
Commercial Operation U2 FGD	January 2025	**June 2027**
Commercial Operation U1 FGD	June 2025	**July 2028**

Project Key Milestones



✓ Complete | Complete (Actual Date) | Target | Current milestone in progress

	Main activities	Underlying activities	Norm Finish Date
1	Eskom Engineering Design *(Technical Specifications)*	Engineering Input for Business Case P1 – Rail, Limestone & Gypsum Storage P2 – Main Works P3 – Limestone Slurry. Dewater Gypsum P4 – Controls & Instruments P5 – Electrical P6 – Waste Water Treatment Plant P7 – Civils	23 Jan 18 21 May18 31 May 18 26 Apr 18 31 May 18 21 May 18 29 May 18 14 May18
2	ERA Phase / Documentation	Limestone Source Information PDRA Independent Project Review GCIMC – Departmental Governance CAPCOM – Divisional Governance Board IFC – Corporate Governance PFMA Sent to DPE	12 Mar18 30 Jul 18 26 Apr 18 04 Sep 18 05 Oct 18 05 Nov 18 18 Dec 18
3	License & Permits	Waste Management License (WML) Environmental Authorisation (EA) Water Usage License (WUL)	**24 Jul 18** **01 Aug 18** **28 Jan 19**
4	Tender Evaluation / Neg. Period	Contracting Strategy Approved Works Information Complete RFPs Issued to Market	02 Jul18 30 Jul 18 16 Sep19
5	Contracts / Package / Order Placements	Contract Placed (P2) Last Contract Placed (P06 on Expedited)	17 Mar 21 17 Mar 21
6	Construction	Manufacturing/ Construction	27 Feb 24
7	Commissioning	Check out/Startup/Commission	07 May 24
8	Unit 4 Outage	Unit 4 Tie In (During Outage)	11 Jun 24
9	Unit 4 Tuning	Tuning & Performance Testing Float	19 Sept 24 14 months
10	All Unit CO	Commercial Operation U4 (Nov 2023) U3 (Aug 2024) U5 (Apr 2023) U2 (Jan 2025) U6 (Aug 2021) U1 (Jun 2025)	29 Oct 25 13 May 26 25 Nov 26 09 Jun 27 22 Dec 27 05 Jul 28

Requested Dates:
U6 Date – Aug 2021
U5 Date – Apr 2023
U4 Date – Nov 2023
U3 Date – Aug 2024
U2 Date – Jan 2025
U1 Date – Jun 2025

Schedule Delay

- The draft schedule dates for completion of each FGD unit outlined in Table below

Milestone Objective	Committed dates (6yrs after Unit CO)	Project schedule dates - Jan 2018 (14 mths float	Project recovery schedule delivery dates - Jan 2018 (0 mths float)
Commercial Operation U6 FGD	August 2021	**December 2027**	**November 2024**
Commercial Operation U5 FGD	April 2023	**November 2026**	**December 2023**
Commercial Operation U4 FGD	November 2023	**October 2025**	**July 2023**
Commercial Operation U3 FGD	August 2024	**May 2026**	**November 2023**
Commercial Operation U2 FGD	January 2025	**June 2027**	**May 2024**
Commercial Operation U1 FGD	June 2025	**July 2028**	**May 2025**

**** The recovery schedule does not include PPPFA exemption or the revised Constructability schedule. Including them will result in a 9 month delay*

Eskom will not retrofit the WFGD technology in alignment with the commercial operation of the last generation units .

Project Schedule

- The construction of the Medupi FGD plant from start to completion of the first unit is likely to be forty-two (42) months, as benchmarked against international construction norms and experience.

- However, as per previous experiences in Kusile, Medupi and Ingula, Eskom has encountered that the rate of progress of Construction is lower than the International Standards.

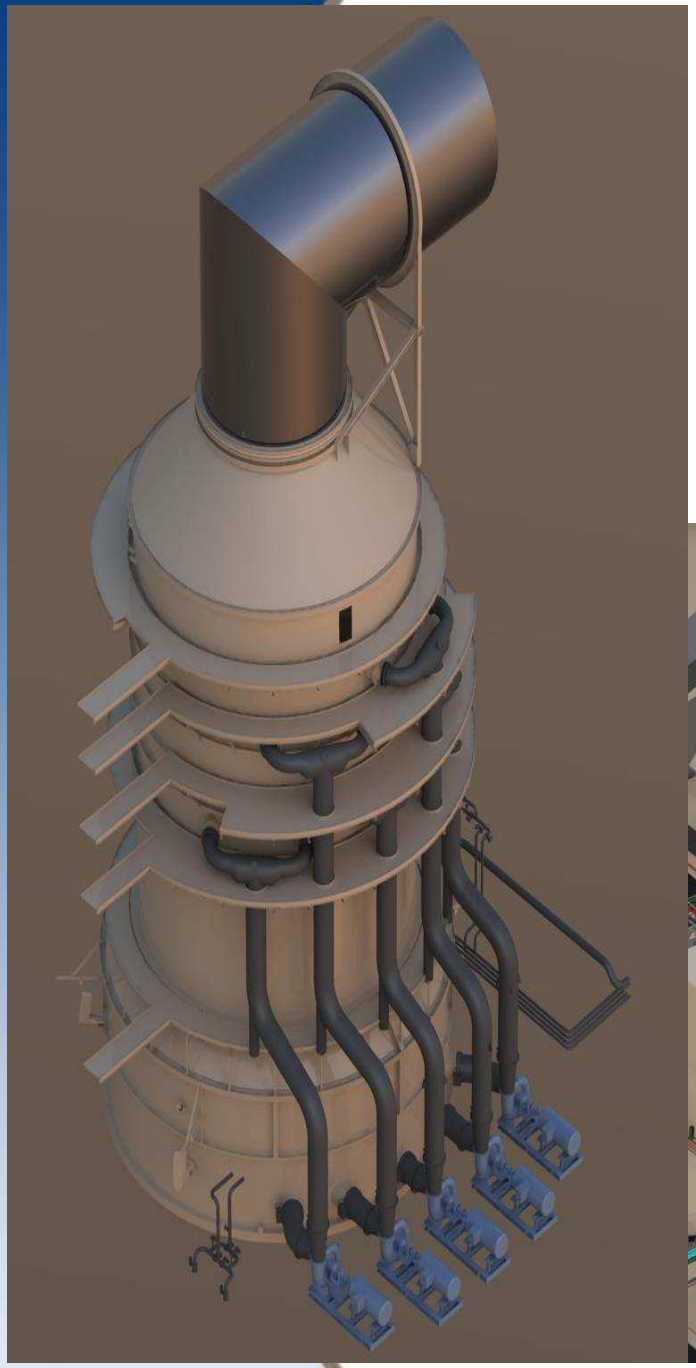
- The following limiting factors, potential risks and cost drivers which should be considered specifically for the Medupi FGD Project and have not been allowed for in these programmes. Hence, it is of the opinion that the actual completion period would be approximately fifty (50) months due to the following factors:

  - Main vendor not yet identified – Country, technology, shipping, language and cultural influences
  - Localisation of labour and manufacturing – availability of skills and location of suitable manufacturing facilities
  - Local productivity factors – weather, labour agreements, unions, etc.
  - Particular Conditions of Contract – Legal, Guarantees, Payment terms, SD&L, SHEQ, etc.
  - Variations and claims during the construction process

Project Schedule Cont.

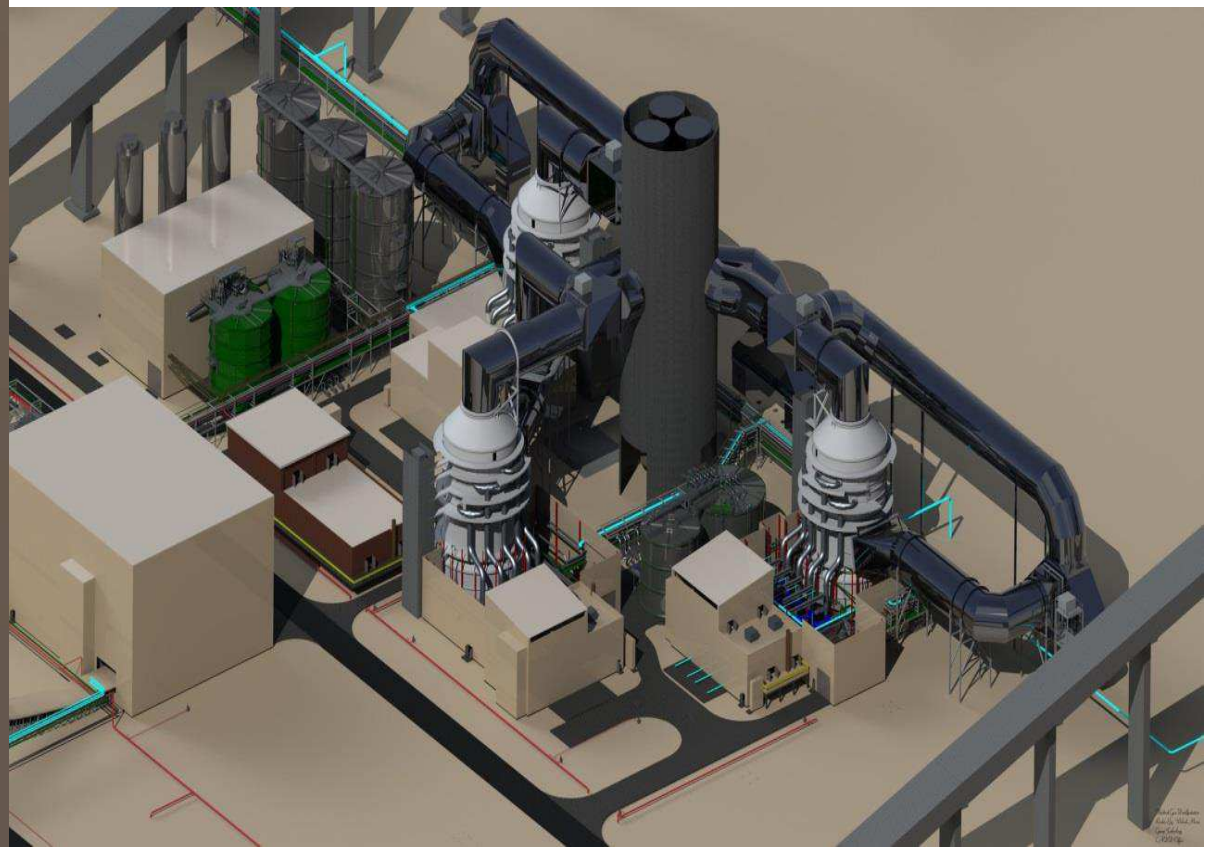
- Since the FGD project is of utmost importance, it is critical that the Project should be completed within thirty-six (36) months. This would imply that the schedule would be expedited. There will be additional cost to achieve a thirty-six (36) months programme linked to an increase in construction resources and this impact needs to be quantified.

- The undertaking from Eskom is to drive the construction period to a maximum of thirty-six (36) months

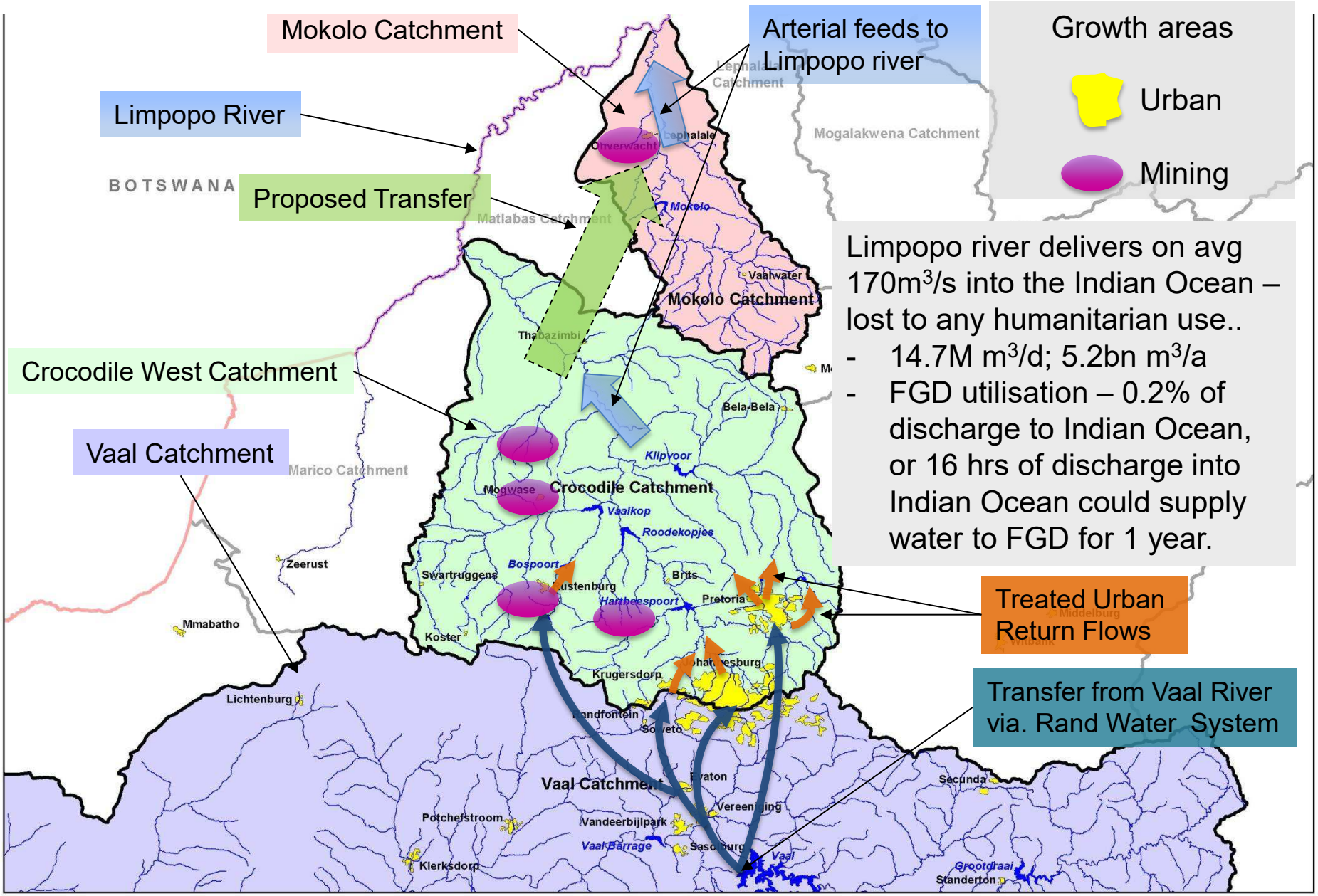


Eskom

Technology discussion



Water Resource Systems



Medupi Flue Gas Desulphurisation (FGD)
Technology selection

- Eskom did a comparable evaluation of available technologies based on performance, operational requirements, and station impact during retrofit
- The application of dry or semi-dry FGD at Medupi poses a number of challenges:
  - Extended outage durations
  - Additional and replacement infrastructure, e.g. new FFP plant
  - A larger footprint than available within the design constraints of the as-built station
  - An increased capital outlay
  - Approximately 3-4 times higher operating expenses due to sorbent cost and transportation
  - Negative environmental impacts of lime as reagent
  - Possibility of more stringent disposal conditions and changes to the waste facility liner
  - Inability to recover saleable gypsum from the waste stream
  - Require significant re-work, should atmospheric emission limits increase
- The evaluation and subsequent reviews confirmed WFGD as the preferred technology. Based on the original technology assessment Medupi has been designed and constructed to be Wet FGD ready.
- Significant plant modifications would be required to accommodate any other technology or any interim abatement solution
- The project is making spatial provision for the fitment of a flue gas cooler at a later date – a flue gas cooler will not be fitted now during the retrofit of the Medupi FGD plant

Interim Mitigation Proposal – sorbent injection

- The World Bank has requested Eskom to investigate direct in-line sorbent injection as: i.) a SO_2 peak management solution, and ii.) an interim solution to the implementation of the FGD technology under development for retrofit at Medupi.

- Group Technology has draft various documents in response to the request to investigate direct sorbent injection

- IEA Clean Coal Centre highlight the benefits of direct injection as:
  - Consume no water or a minimal amount if the sorbent needs hydrating or the flue gas is humidified to improve performance
  - Lower SO_2 removal efficiency (~40%)
  - Higher SO_3 removal efficiency (80-98%)
  - Lower parasitic power consumption
  - Smaller footprint, easier to retrofit
  - Lower capital cost, but higher operating costs
  - CO_2 emissions (carbonate-based sorbents)

Interim Mitigation Proposal – sorbent injection

- The retrofit of direct sorbent injection will be managed as a new project; new designs, new environmental impact assessment required, amendment of waste management license as the constituents of the waste stream collectively referred to as ash would change. The time to implement a direct sorbent injection solution at Medupi would take an estimated 4-5 years.

- Pertinent points that has been mentioned include –
  - Impact on plant performance and guarantees
  - Impact on bulk material handling system requirements
  - availability of space for the implementation of two SO2 reduction projects
  - Increase in erosion rates and fouling due to solid deposits leading to blockages/plugging
  - high cost of lime (as a sorbent)
  - water to be used in the case sorbent needs to be hydrated
  - EIA impacts - unknown impact on the waste from the generation process; additional time needed for new EIA process (12-18 mths)
  - Low capital cost; extremely high operations cost for limited SO2 reduction

Interim Mitigation Proposal – sorbent injection

- The implementation of **sorbent injection** at Medupi Power Station is seen as **questionable due to the technical concerns** relating to the boiler and air preheater. The environmental concerns and timelines need to be addressed as well as the sorbent reactivity and achievable reduction efficiency proven. Furthermore, the technical capability of the current installed plant (i.e. the air heater, FFP, DHP and road infrastructure) needs to be confirmed during a conceptual engineering phase as part of a business case development process – an in-depth engineering study and pilot project would need to be conducted.
- The availability of the **specialised sorbent needed** is a challenge – need **to be engineered**. In addition there are logistical challenges to source and bring the sorbent to Medupi site. A **significant amount of sorbent** will be required for a **limited reduction of SO_2**. An estimate of **20 - 30 truckloads of sorbent per unit per day** is estimated to be required.
- The cost of the specialised sorbent is prohibitively high.
- The construction time of the sorbent injection solution has not been quantified. The execution of the wet FGD retrofit at Medupi is planned to commence in 2018. **Sorbent injection solution improbable to be implemented before the operation of the wet FGD solution**

Eskom continue with its plan to not implement any interim abatement technologies at Medupi Power Station.

Water Reduction Technology – flue gas cooling

2007

Initial basis for WFGD technology selection:
- **Technology maturity**
- **High level of commercialized operation**
- **Low life-cycle cost**

WFGD "ready" Engineering Design

2017/18

Questions surrounding:
- **Maturity of CDS?**
- **Efficient use of raw resources (water, sorbent)?**

Is WFGD (without flue gas cooling) still the most *efficient*, *sustainable* and *broadly (i.e. cost, social, technical) responsible* solution for Medupi?

3-STEP EVALUATION

TECHNICAL
1. SO_2 removal eff.
2. Technology maturity
3. Waste management
4. Water reduction
5. Infrastructure

COST
1. CAPEX
2. OPEX
3. Tariff

RAW RESOURCES
1. Cradle to grave (Sorbent, water, energy)
2. Sorbent Supply
3. Water Supply

Water Reduction Technology – 3-step Evaluation

Step 1: Technical

TECHNOLOGY MATURITY

FGD technology	SO_2 removal efficiency achievable (%)	Worldwide installed capacity (%)	Water req. (l/kWh)
WFGD	98	80	0.21
SDA/CFB	90-95	10	0.14
DSI	30-60	2	Negligible

WASTE MANAGEMENT

By-product Quantities Generated	Wet FGD	Dry FGD
Gypsum (tonnes/tonne of SO_2)	5.62	
By-product + Ash (tonnes / tonne of SO_2)		7.43
Crystallizer Salts (tonnes / tonne of SO_2)	0.48	0
Pre-treatment Solids (tonnes / tonne of SO_2)	0.92	0

- **WFGD salts & sludge- hazardous waste facility**
- **Gypsum is marketable.**
- **CDS by-product is not marketable & by-product-ash mix must be stored in a lined facility- cannot be isolated from the ash.**

WATER REDUCTION

- Medupi is ZLED and dry cooled (Energy Penalty-1.75% eff_{therm}).
- WFGD + Drying cooling- 0.35 l/kW
- Conventional Wet Cooling- 2 l/kW
- Water can only be reduced on WFGD
- Option 1: Regenerative Type H-EX
  - Large footprint req.
  - Cannot construct at Medupi.
- Option 2: Shell-&-tube cross flow H-EX
  - Acid corrosion- operation under sulphur dew point. Ash does not have a neutralisation effect.
  - Wear corrosion due to abrasive ash. Plugging of tubes due to dust fall out. Ash contamination.
  - Expensive materials (PFA, SS alloys)
  - Maintenance intensive, problematic operation, plant downtime.

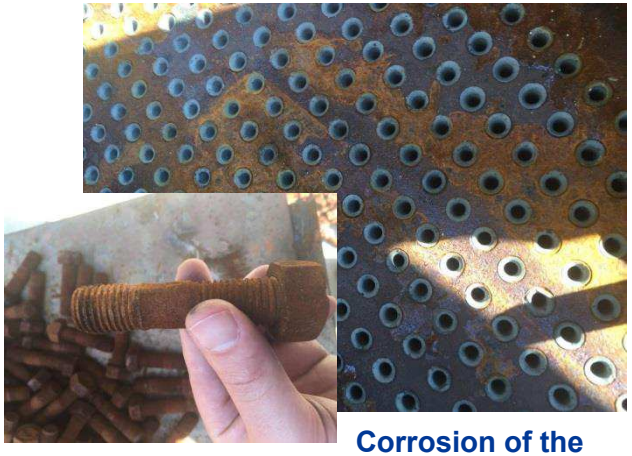
Flue gas cooling benchmarking exercise (3 power stations in Europe and 2 in China)

Side view of a tubular flue gas cooler.

Corrosion of a carbon steel tube.

Wear damage of carbon steel tube.

Water washing system cracking due to corrosion.



Corrosion of carbon steel bolt.

Corrosion of the stainless steel tube sheet.

Discolouration of the PFA tubes due to fly ash contamination.

Fly Ash build-up retrieved from the tubes during maintenance.

All three power stations in Europe advised against the installation of the system .

Flue gas cooling is not a responsible solution for Medupi-not considered further.

Water Reduction Technology – 3-step Evaluation

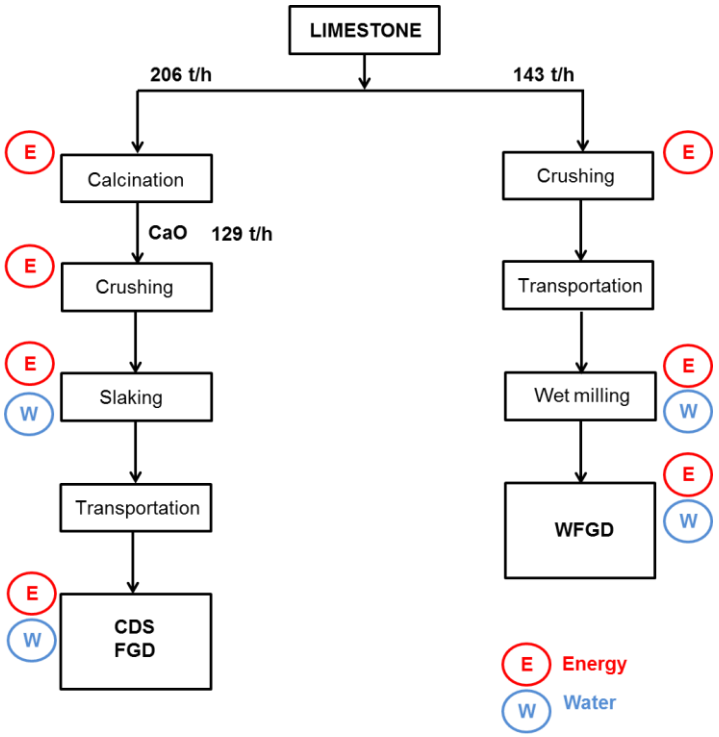
Step 2: Cost Implications

Refer to Appendix A of 474-10175 Medupi FGD Technology Study Report Rev 3.0)

Description	Option 1 Wet FGD	Option 2 Wet FGD + Gas Cooler #	Option 3 Dry FGD
Total Capital Requirements	17,677,732	18,122,432	19,277,632
Total Operating Costs	1,213,335,037	1,170,979,109	1,887,352,330

The incremental difference in terms of the **"tariff increase"** between the wet and CFB-FGD technologies is expected to be approximately **0.45%.**

Step 3: Utilisation of Raw Resources



	WFGD	WFGD (with Cooler 100°C)	CFB-FGD
Total Water (m^3/annum)	6 498 402	4 638 100	3 707 546
Total Power (MW/annum)	247 642	254 533	1 015 367
Power to Water (m^3/annum)	49 450	50 826	202 752
Total Water (m^3/annum)	6 547 852	4 688 927	3 910 298
% of Base Case	100%	72%	60%

SORBENT SUPPLY

WFGD can utilise lower quality limestone available closer to the power station. CDS requires the calcination of high quality limestone that can only be sourced from the Northern Cape.

WATER SUPPLY

Water for the WFGD will be provided from Phase 2A of the Mokolo and Crocodile Water Augmentation Project which is being developed to bring additional water to the Lephalale area from the Crocodile River Catchment

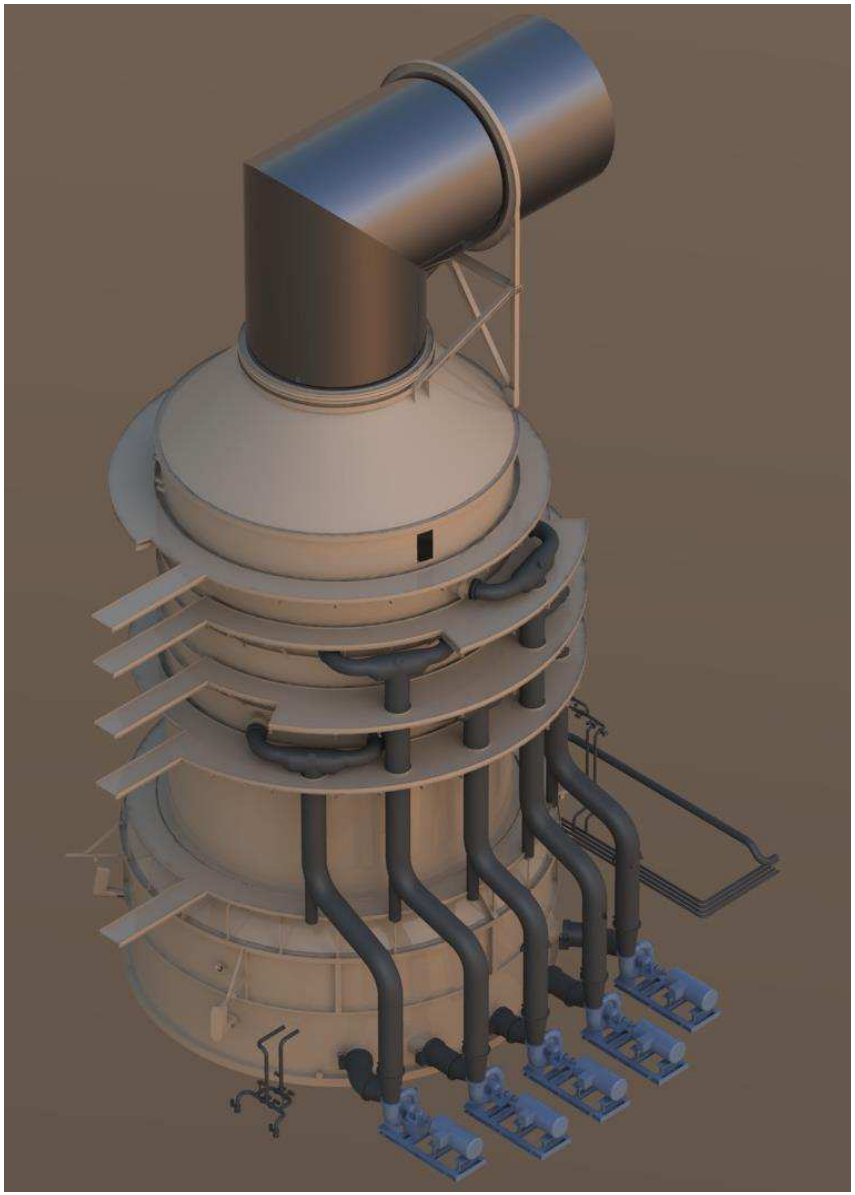
WFGD has the potential to contribute to the broader local socio-economic development- will not be possible with CDS!

Technology Discussion

- The Medupi FGD Retrofit Project will not be fitted with any flue gas cooler technology.

- The Eskom detail design of the scrubber island will include elements to enable flue gas cooler readiness for future incorporation once: i.) the technology has matured to a level acceptable by Eskom, ii.) the operational philosophy of the flue gas cooler aligns to Eskom prescripts, and iii.) the maintenance philosophy aligns with that of Medupi Power Station. iv) the business case for such a retrofit can be developed.

Eskom continue with its plan to construct the WFGD technology without the inclusion of a flue gas cooler at Medupi.



CONCLUSION

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ENVIRONMENTAL IMPACT ASSESSMENT FOR THE PROPOSED RETROFITTING OF A FLUE GAS DESULPHURISATION (FGD) SYSTEM AT MEDUPI POWER STATION, LEPHALALE, LIMPOPO PROVINCE

Key Stakeholder Workshop (KSW)

DEA Ref.: 14/12/16/3/3/2/1060

Draft Minutes

CLIENT	:	Eskom Holdings SOC Ltd
CONSULTANT	:	Zitholele Consulting (Pty) Ltd
PROJECT	:	Medupi FGD Retrofit Project EIA
CONTRACT NO.	:	DEA REF.: 14/12/16/3/3/2/1060
PROJECT NO.	:	12949
DATE	:	14 March 2018
TIME	:	08h00-10h00
VENUE	:	Medupi Power Station Visitor Center, Lephalale

PRESENT

Please refer to the attendance register

APOLOGIES

None tendered

ITEM	DISCUSSION POINTS	ACTION, DATE
1	**WELCOME AND ATTENDANCE:** Dr Mathys Vosloo, Zitholele Consulting, welcomed all present and requested that the team and the delegates introduce themselves, including the department or organisation that they are representing. The Agenda proposed for the workshop, as below, was circulated and accepted by the delegates. The agenda, attendance register and presentations given are provided in Appendix A.	
2	**MEETING OBJECTIVES:** • Meeting to focus on Medupi FGD Retrofit Project **ONLY**; any other issues relating to operations of the Power Station will be allowed at the end of the meeting. • To present information regarding the proposed development • To present the EIA and Public Participation Processes followed to date • Provide key stakeholders overview of project activities and applications • Present findings of specialist studies • Present recommendation of the EAP and Way forward.	
3	**Project Background** Dr. Mathys Vosloo presented the project background to the attendees.	

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4	**Presentation of application process and findings** Dr. Mathys Vosloo presented the EIA process followed, specialist findings, conclusions and recommendations to the attendees.	
5	**DISCUSSIONS** • [redacted]**:** Issue raised with regards to the pollution control for thegypsum, salt and sludge**.** What is the plan for after the 5 years of trucking the waste to the disposal site has ended. Mathys Vosloo: Gypsum is generated and taken to the disposal facility via the conveyor or. The normal pollution control procedure will be followed for the handling and management of the wastes. Disposal will also conform to the waste control procedure of the existing waste facility at the Medupi Power Station. The temporary storage of the salts and sludge will take place for a period of 5 years. During this time constructed of a new waste disposal facility should be commissioned. Sludge and salt will be transported together to the waste disposal facility. Control measures such as washing the wheels of the trucks will be implemented at the storage facility to avoid pollution, while the service provider's control measures will be implemented once the waste is loaded onto truck and transported to the appropriate waste disposal facility. Emile Marrel: Eskom is investigating the development of a regional waste facility together with local roleplayers. Eskom has scheduled a workshop with roleplayers to discuss the potential for the development of such a regional waste disposal facility. Space constraints seem to affect the proposed disposal facility and space options for access for future recovery of the sludge are being investigate which includes the constructing a regional landfill facility locally for disposal and recycling. Benefits from such a facility include environmental and socio-economic opportunities such as recycling opportunities. • [redacted]**:** What will the timeframe for construction of the FGD be? Emile Marrel: Construction timelines are benchmarked against international time frames on similar projects. Eskom has internally relooked how they can accelerate the construction program even by employing more people on the construction teams. The planning guys are looking at how to change the sequence of construction to and optimize the construction schedule to fast track and optimize the process. It will take approximately 52-months for construction of each unit, while if we put in multiple teams Eskom should be able to complete a unit in 36 months instead of 52 months. Mathys Vosloo: So, we are looking at a construction period from about 2019 to 2025 for construction of the FGD units. Emile Marrel: The appeal process can also have a huge knock-on effect on timelines if the authorisation is appealed. Emile also explained the water system around the catchment areas from a SA perspective and how it links into the project through the MCWAP Phase 2A project, and how this link with the project is important for compliance reasons. • [redacted]**:** Eskom has not started with the FGD installment? How long will the authorization take? Mathys Vosloo: No, the commissioning of the FGD units has not commenced yet. In order to start the authorization process currently underway must be completed only then can the construction begin. This process is on a critical pathway and Eskom is already behind on its schedule for implementation. Emile Marrel: In order to start the Department of Environmental Affairs need to give permission for construction to start. We are currently in that process of providing the documentation to the authorities to make a decision for the FGD project to commence. Only once the authorization has been granted can Eskom commence with construction.	

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Mathys Vosloo: The decision-making process will take to about August 2018 to make a decision. Once a decision is made an appeal period must run its course, with construction likely to start a month or two after the appeal period has expired.

- [redacted]: Do you already know where the infrastructure will be placed?

Mathys Vosloo: Yes, Eskom knows exactly where they want to place the infrastructure.

- [redacted]: What is the difference between the existing water in the catchment and MCWAP Phase 2 water?

Emile Marrel: Phase 1 of MCWAP is now complete and unblocks bottlenecks for the supply of water to users. The water from MCWAP Phase 2 is not as pristine as the water in the Mokolo catchment, as it comes from Johannesburg to supply poor quality water for industrial uses. This will free up more water for agricultural use and human consumption.

- [redacted]: How many storage areas will there be for the gypsum and limestone? Will it be stored separately?

Mathys Vosloo: there is only 1 limestone storage area within the railway yard. For Gypsum there is a temporary storage area near the gypsum dewatering plant. If the gypsum is suitable for offtake, gypsum will be stored at 1 storage area within the railway yard. They gypsum and limestone will be stored together, but if gypsum is disposed it will be disposed together with ash on the Ash Disposal Facility.
Ms Lucy Make: The FGD reduces only SO_2?
Mathys Vosloo: Yes, the FGD infrastructure only reduce the SO2 emissions.
Emile Marrel: Other already installed infrastructure, such as fabric filter press, reduce the concentrations of the other gasses and particulates.

- [redacted]: What is the difference between the different technologies?

Mathys Vosloo: The FDG with the gas cooler requires more space and far more expensive as opposed to the wet FDG system which can be modified to be fitted into to the existing infrastructure.
Sifiso Mazibuko: Gas cooler has no long-term technical benefit at this stage to the power station and long-term viability is limited as the wear and tear on the system is a major limiting factor.

- [redacted]: **What will Eskom do after 20 years if the existing disposal facility is closed?**

Emile Marrel: A separate process will be undertaken to find an additional facility for disposal of ash and gypsum after 20 years. Other options of minimizing disposal of ash and gypsum is also being investigated by Eskom. Disposal of ash in existing mine pits is being investigated for future use, while ash can also be used to form part of other environmental process like treating acid mine drainage.

- [redacted] I just want to advise on communication with communities in this area. The proper delivery of the message is important and proper structures and channels should be used to engage with the community more meaningfully and for the communities to become more involved. Consultations should be structured to maintain integrity and reduce the chances of appeals. It is advised that community liaison people should be appointed and the ease of language for better interpretation and communication.

Emile Marrel: It is a very important point that you are raising. It is something that we are all struggling with and we are learning from it.
Mathys Vosloo: It is something that we will focus on more specifically. We did put up posters and send out notifications and smsed. The point is taken, thank you for your

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	comments.	
6	**Closure** The meeting was closed after discussions has been concluded.	

ACTION	FUNCTION	NAME	DATE	SIGNATURE
Prepared				
Reviewed				
Approved				

Appendix F-7: Comments and Responses Report

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REPORT

Comments and Responses Report for the Medupi FGD Retrofit Project Environmental Impact Assessment

Report No : 12949

Submitted to :

Eskom Holdings SOC Limited
PO Box 1091
Johannesburg
2000

23 May 2018 12949

TABLE OF CONTENTS

SECTION **PAGE**

LIST OF ACRONYMS

AEL	Air Emissions Licence
ADF	Ash Disposal Facility
CER	Centre for Environmental Rights
CRR	Comments and Responses Report
DEA	Department of Environmental Affairs
DWS	Department of Water and Sanitation
DEIR	Draft Environmental Impact Assessment
EAP	Environmental Assessment Practitioner
EIA	Environmental Impact Assessment
FEIR	Final Impact Assessment Report
FSR	Final Scoping Report
FGD	Flue Gas Desulphurisation
GN	Government Notice
IRP	Integrated Resource Plan
West	Mokolo and Crocodile River
NAAQS	National Ambient Air Quality Standards
PPP	Public Participation Process
RFI	Request for Information
WML	Waste Management Licence
WWTP	Waste Water Treatment Plant
WULAs	Water Use Licence Applications
WFGD	Wet Flue Gas Desulphurisation

Comments and Responses Report for the Medupi FGD Retrofit Project Environmental Impact Assessment

This Comments and Responses Report (CRR) captures the comments and issues raised by stakeholders during the announcement, Scoping and Impact Phase of the EIA process for the proposed retrofitting of Flue Gas Desulphurisation (FGD) technology at the Medupi Power Station in Lephalale, Limpopo Province.

Comments received during the review period of the Draft Environmental Impact Assessment (DEIR), is captured in the CRR that will form part of the Final Impact Assessment Report (FEIR), which will be submitted to the Department of Environmental Affairs (DEA) for consideration and decision-making after conclusion of the Public Participation Process (PPP).

For easy reference and review, comments / concerns / issues / recommendations have been categorised according to proposed impacts and captured alphabetically according to surname under each category.

NO	COMMENTS / CONCERN / RECOMMENDATION	RAISED BY & WHEN	RESPONSE
1	**COMMENTS RAISED ON THE DRAFT ENVIRONMENTAL IMPACT REPORT (DEIR)**		
1.1	**Comments raised by Centre for Environmental Rights (CER)**		
1.1.1	**Objection to separate WML variation process and deferring of important considerations relevant to the EIA.** CER stated in Paragraph 5: "the applicant cannot defer important considerations relevant to the EIA in a piecemeal fashion, irrespective of whether other legal provisions apply. The applicant is still bound, by the provisions of NEMA, to consider all effects of activities before actions are taken. Instead, the applicant proposes, through the bridging documents, to exclude the most important aspects of FGD project from the EIA process, until a later stage." CER further states in Paragraph 8: "Throughout the process, however, the applicant has not produced the necessary documentation to address these primary concerns, and now seeks to address most of these issues through other channels at a later stage, such as through Water Use Licence Applications (WULAs), Waste Management Licence (WML) Applications, under "gaps in knowledge", through a registration process in terms of Norms and Standards for the Storage of Waste, or other means."	CER, Comments Letter dated 19 April 2018: Paragraphs 4, 5, 8, and 65	Clarification is provided that, there is an Ash Disposal Facility (ADF) which has a Waste Management Licence (WML, DEA Ref: 12/9/11/L50/5/R1), which will service the station for 20 years, but it has been determined that this ADF will not be adequate to service the ashing requirements of the power station operations for the full station life. For this reason, the station requires an additional ADF. The variation application being pursued is applicable to the existing WML, with the objective to dispose gypsum with the ash. A separate EIA application will be undertaken for the additional required ADF which will service the station beyond the 20-year horizon, as was discussed in the Bridging Documents and DEIR. The applicant can only operate within the confines of the legislation and within the provisions that are allowed to obtain authorisation, i.e. in this case an existing WML is in place for the Medupi ADF, where all impacts prior to the authorisation of the licence were assessed by an independent Environmental Assessment Practitioner (EAP) and considered by the Competent Authority. Given the fact that the ADF has an existing WML, which can accommodate both the ash and gypsum it is not deemed necessary at this point to submit an application for a new WML. There is a provision in the waste act to undertake a variation application to an existing WML. The WML Variation Application will deal with potential additional impacts associated with the disposal of ash and gypsum together on the already approved footprint for ash disposal, in terms of the existing WML, the reduction of the footprint of the ADF to avoid sensitive wetland areas to the southwest of the ADF, and to assess potential impacts of the increase in height of the disposal facility from 60m to 72m if ash and gypsum are disposed together on the same authorised ADF footprint. Since gypsum and ash have the same classification the existing ashing facility can

			accommodate the additional waste. At commencement of the EIA process (DEA Ref: 14/12/16/3/3/3/110) the project scope had included authorisation processes for the additional ADF. That said, the WML Variation Application being undertaken does not consider impacts associated with the future[1] disposal of ash, gypsum, or FGD salts and sludge on a greenfields site located outside of the Medupi Power Station footprint as had been the plan at the end of the Scoping Phase. The project aimed at authorisation of an additional waste disposal facility to, potentially, cater for the disposal of the Type 1 (FGD salts and sludge) and Type 3 (ash and gypsum) waste was removed from the scope of the current EIA to allow consideration of additional proposals to deal with disposal of Type 1 and 3 in a separate authorisation process. One such proposal is to consider a possible regional waste management[2] facility commissioned by Eskom, which could allow hazardous and general waste generated by other

[1] This facility will be required beyond the 20-year horizon, after consumption of the current authorized ADF footprint or waste disposal facilities
[2] The scope of this facility may include various options as provided for in the waste hierarchy, considering business opportunities and needs.

			industries to be managed at such a regional disposal facility or such a waste disposal facility can be for Eskom use only. It must, furthermore, be noted that the application for a Water Use Licence (WUL) cannot be dealt with by incorporating it in the EIA reports, although most of the impacts are duplicated in the application for environmental authorisation in terms of NEMA, and WULA in terms of the National Water Act. The findings of the WULA may be reported separately from the Environmental Impact report, but the processes are undertaken in an integrated fashion. ***Mathys Vosloo, EAP***
1.1.2	**Delay in implementation of the FGD and the need for co-commissioning of FGD.** CER claims that Eskom has continually resisted retrofitting FGD on any of its plants therefore suggesting that Eskom has actively and deliberately stalled retrofitting of FGD to its plants in as far "never to comply with the new plant SO_2 MES". CER and its clients furthermore state the following: • "The EA process for the FGD Retrofit Project has been substantially delayed, as evidenced by the Bridging Reports, and the current plans are for Medupi only to be fully fitted with FGD by 2026 (with each unit retrofitted 6 years after it becomes operational). It furthermore aims to comply with the 2020 MES standards only by 2030. **As we have consistently maintained, FGD should have been included in Medupi's initial design plan and at least, once construction started, integrated into as many units as possible (rather than retrofitting it 6 years after each becomes operational)**." • "It is not clear why the rest of Medupi construction should not be abandoned, given that the electricity is no longer required." • "Alternatively, it is unclear why Eskom repeatedly	CER, Comments Letter dated 19 April 2018: Paragraphs 11.2, 13.5, 63 - 64	The original RoD for the Medupi Power Station (12/12/20/695) issued on 21 September 2006 stated that "Eskom shall install, commission and operate any required SO_2 abatement measures that may be necessary to ensure compliance with any applicable emissions or ambient air quality standards published in terms of the National Environmental Management: Air Quality Act, 2004 (Act No. 39 of 2004)." At the time no emissions or ambient air quality standards were promulgated (the National Ambient Air Quality Standards (NAAQS) were only promulgated in December 2009). As no promulgated air quality standards existed to guide the selection of SO_2 abatement technology, Eskom opted for the worst-case scenario and designed the Medupi Power Station to be Wet Flue Gas Desulphurisation (WFGD) ready. WFGD was identified as the most efficient abatement technology with the highest SO_2 removal efficiency. Eskom, however, could not stall development and construction of the Medupi Power Station at the time as it needed to be constructed as soon as possible to meet the demand for electricity at the time. It was therefore decided to investigate the retrofitting of FGD technology in parallel with the construction of the Medupi Power Station. The construction of the remaining 3 generation units at the Medupi Power Station cannot simply be "abandoned" as construction and completion of the Medupi Power Station is driven by the requirements of the Integrated Resource Plan (IRP), which is a national electricity planning process. Electricity generated at the Medupi Power Station is, amongst others, aimed at supporting growth in the economy, especially in the Limpopo region,

	refuses to consider the co-commissioning of the FGD retrofit. To date, this issue has not been adequately addressed." • CER further claim that Eskom seeks to delay and/or avoid the most pertinent issues pertaining to the FGD retrofit, which include: o Production, storage, disposal (or sale) of gypsum, ash, salt, and sludge; o Water security as water from MCWAP2 is not definite, while water saving gas cooler technology is considered unfeasible; o Management and disposal of polluted water; o Salt and sludge waste is only catered for the first 5 years; o High quality lime required for high quality gypsum production has not been not secured; o Ash disposal is only possible for the next 20 years and also situated within the 1: 100 year floodline; o A claim of "no space" is put forward for certain FGD infrastructure, but no specialist engineering attached to the DEIR; o The timeline for the FGD retrofit is vague and unenforceable; o The impacts on health from operation of the station prior to FGD implementation.		resulting in higher electricity demands. Co-commissioning of the FGD infrastructure to the remaining generation units is not possible as the commissioning of the FGD infrastructure cannot meet the construction schedules for the remaining units, as the construction processes are guided by a plan that should have been in sync. The construction of the Medupi FGD plant from start to completion of the first unit, for example, is likely to be 42 months, as benchmarked against international construction norms and experience. Several of the pertinent issues referenced by CER are discussed in detail in subsequent sections hereafter. Nonetheless, the applicant and/or EAP's responses to these issues is briefly summarised below: <u>Production, storage, disposal (or sale) of gypsum, ash, salt, and sludge:</u> The production, storage and disposal of waste streams generated by the FGD process is discussed in sections 6.4, 6.5, 6.9, 6.10 and 6.11 of the DEIR. The potential sale of gypsum is furthermore discussed in sections 6.4 and 6.9 of the DEIR. The gypsum re-use or sale of gypsum is also specifically considered in these sections. It was concluded that, in the absence of a proven market demand, the construction of special gypsum offtake conveyance and handling/storage infrastructure would be commissioned only once a market demand has been established. The above-mentioned sections clarify that the gypsum conveyance system does make provision for an under the conveyor belt abstraction of gypsum on the system conveying to the ADF. The salts and sludge will be temporarily stored on site, in an appropriately prepared facility, pending disposal at a Hazardous Waste Facility. <u>Water security as water from MCWAP2 is not definite, while water saving gas cooler technology is considered unfeasible:</u> The Mokolo and Crocodile River (West): Water Augmentation Project (MCWAP) is an extensive programme driven by the Department of Water and Sanitation (DWS) and has been under development for a number of years. There are, furthermore, several phases associated with the programme aimed at augmenting water to the Limpopo region for use by a wide spectrum of water users. If alternative water sources existed in the region that could

			support the economic growth in the region it is unlikely that investment in the MCWAP scheme would have been necessary. <u>Management and disposal of polluted water:</u> The philosophy for the management of polluted water revolve around the separation of dirty and clean water, with dirty water either being treated in the proposed Waste Water Treatment Plant (WWTP), or captured and contained in Pollution Control Dams (PCDs), i.e Zero Liquid Effluent Discharge (ZLED). The dirty water management infrastructure is discussed as part of the various infrastructure requirements associated with the FGD in Chapter 6 of the DEIR. <u>Salt and sludge waste is only catered for the first 5 years:</u> It should be noted that current planning is such that salts and sludge disposal is only catered for, for the first 5 years from time gypsum production. Therefore, it could still be a number of years before salts and sludge will be produced and need to be disposed. During the planning stage for the Medupi Power Station and FGD it was anticipated that salts and sludge would be treated and/or disposed at the proposed new waste disposal facility, in this same 5-year planning horizon. Due to the challenges faced in finding a suitable disposal site in the immediate future, Eskom proposed a different management strategy, through which these salts and sludge would be disposed of at a registered landfill site. Eskom estimated that it would be able to develop a suitable disposal site within the next 5 to 10 years. The management strategy from year 6 of production is a function of a process to be commenced with. Such a strategy could include identifying a facility only for Eskom's use or developing a regional facility that can be used for business needs in the greater region. Such a process will be executed as soon as the current submissions are made to the DEA, and all due permitting processes will be followed. <u>High quality limestone required for high quality gypsum production has not been not secured</u>: Medupi Power Station FGD was designed to operate with Limestone quality that will achieve a 90% minimum SO_2 removal efficiency (i.e. flexibility to use

			lower purity limestone to meet required removal efficiency) and is deemed an appropriate sorbent quality. The procurement of suitable limestone is subject to the finalisation of commercial contracts with a service provider. However, commercial contracts are only entered into once the FGD is ready to be commissioned. Therefore, the source of limestone would not be confirmed at this stage of the project lifecycle. The choice of the source of limestone is furthermore influenced by the market demand in the region, which might not require high quality gypsum. In the event that high quality gypsum presents a feasible business case in future, the FGD at Medupi will be able (i.e. capable by design) to operate with high purity limestone to produce high quality gypsum. It is anticipated that business opportunities may roll out from such a production, but business case would have to be made for such. <u>Ash disposal is only possible for the next 20 years and also situated within the 1:100 year floodline</u>: A separate process to assess the potential management, re-use or disposal of ash and FGD wastes, beyond the 20-year operational window, will be commissioned towards the end of 2018 to identify the best possible disposal site. As mentioned previously, the planning of the Medupi Flue Gas Desulphurisation (FGD) environmental permitting processes had included the additional ashing (waste management) footprint. <u>A claim of "no space" is put forward for certain FGD infrastructure, but no specialist engineering attached to the DEIR</u>: Space within the footprint of the Medupi Power Station is available for the gas cooler only if placed after the Fabric Filter Press (FFP). However, Eskom's initial understanding of the gas cooler technology was that it did not have extensive maintenance provisions. After the benchmarking exercise undertaken, at five (5) international power stations, it became apparent that more infrastructure is needed to deal with the maintenance requirements, something that the vendors did not allude to, but is required. From this review (2016) it is clear that additional infrastructure is required, but with the current station configuration, space is not fully available in the area. <u>The timeline for the FGD retrofit is vague and unenforceable</u>: No commercial contracts with any service providers that will be involved in the

			commissioning of the FGD infrastructure have been negotiated and signed. This is the reason milestone dates are given instead. However, Eskom is still committed to ensuring the FGD is installed as soon as possible so that it can achieve compliance. The impacts on health from operation of the station prior to FGD implementation: The aim of the air quality investigation was to quantify the possible impacts resulting from the proposed activities on the surrounding environment and human health. In order to understand the potential impact the specialist ran 2 baseline scenarios, i.e. a 2014 baseline considering only emissions from the Matimba Power Station, and a 2020 baseline considering Matimba and Medupi Power Station with all 6 units operational without FGD. The specialist found that of the closest sensitive receptor communities to the Medupi and Matimba Power stations, i.e. the settlement of Marapong, a settlement NW of Matimba Power Station and the town of Lephalale, the National Ambient Air Quality Standards (NAAQS) were infrequently exceeded at the settlement NW of the Matimba Power Station. SO_2 concentrations were also found to infrequently exceed short-term NAAQ limits at the monitoring stations located at Marapong and Lephalale, while modelled SO_2 concentrations also indicate infrequent short-term exceedances of the NAAQ limits at these sensitive receptors. It was however concluded that there is however compliance with the NAAQS. The specialist further concluded that the Matimba Power Station is likely to be the main contributing source to the ambient SO2 ground level concentrations in the study area due to the magnitude of its emissions, while other sources which may contribute significantly due to their low release level include: spontaneous combustion of coal discards associated with mining operations, clamp firing emissions during brickmaking at Hanglip and potentially household fuel burning within Marapong. It can therefore be deduced that during the period where the Medupi units will be operated without FGD, the impact from Medupi Power Station on sensitive community receptors is likely to be within acceptable limits. ***Eskom, the applicant***
1.1.3	**Waste management, minimisation of waste streams and by-products, and market availability of gypsum**	CER, Comments Letter dated 19 April 2018:	In terms of the waste management hierarchy, the first priority of waste management is avoidance, followed by reduction in the quantities of waste, re-use and recycling, treatment of waste and lastly disposal of waste to

	CER and their clients maintain that almost 9 years after the 2009 Gypsum Market report updated assessments of large-scale commercial uptake and resale of gypsum and ash constitute unacceptable and negligent behaviour. CER and their clients highlight the following: • CER and its clients maintain that gypsum should not be mixed and 'co-disposed' with the ash and has previously recommended market research feasibility for gypsum and coal ash to be undertaken. Co-disposal of gypsum should be considered as a last resort. • Potential benefits of gypsum include potential revenue/ income to Eskom; avoidance of the costs and impacts associated with gypsum disposal, avoidance of the need to mine new gypsum; and the potential for very significant expansion and stimulation of the SA market for the products that use gypsum as a raw material. • CER and its clients maintain that based on the Gypsum Market Research Study, demand for Gypsum will exceed what Kusile plant would produce by 1 million tons per annum, hence suggesting that a sufficient market exists to take off more than half of the total volume of FGD gypsum that will be produced at the Medupi Power Station. • CER and its clients further maintain that Eskom should secure limestone of the requisite quality, with purity greater than 95% if possible, to maximise the gypsum sales potential, but acknowledge that not all identified markets require high quality gypsum. The cement and agricultural sectors would accept gypsum of lower purity. • Eskom should therefore clarify what methodology it uses to conduct quality assessments, and what quality gypsum would be deemed not for sale and disposable.	Par. 7, 8, 13.3 Par. 35 – 42, Par. 44 – 50 Par. 65 - 68	landfill. For the Medupi Power Station neither ash or gypsum production can be avoided. If the station is to meet its power supply contribution to the grid, limited actions can be taken to reduce the production of ash and gypsum, while in the absence of a significant market demand for ash and gypsum, at the current planning period, the only remaining option is to dispose of ash and gypsum on an appropriately designed and licenced facility. Ash and gypsum are produced separately, however, it is proposed to dispose of ash and gypsum mixed together on the existing Ash Disposal Facility (ADF), until a market develops for either of these wastes. CER holds that the reason ash and gypsum should not be mixed together is to allow recovery of gypsum at a later stage after disposal. It is however understood that once gypsum has been exposed to external elements, especially water, its chemical structure is altered thereby rendering it not readily usable for its intended purposes. It is for this reason that the proposed temporary gypsum storage area at the rail yard will be a covered structure. Therefore, long term storage of gypsum on its own is likely to render the gypsum unrecoverable for reuse. The gypsum transportation infrastructure caters for under-the-conveyor collection of gypsum by trucks, in the current infrastructure. Therefore, in the absence of a significant market demand it remains pointless to dispose of ash and gypsum, which is both classified as type 3 wastes, separately. It should also be understood that there is a need for capacity to dispose of gypsum, when lower quality (unusable) gypsum is produced from the operational challenges at the station. Currently the demand for gypsum is not large enough to result in a significant offtake of gypsum from the FGD process. Although Eskom can facilitate the opportunities for the provision of gypsum on a commercial scale, in line with its mandate, it might not be appropriate to drive the expansion of the market to meet the offtake targets for FGD gypsum, although it would support such initiatives. Eskom is currently in the process of lodging applications with the DEA and DWS to unlock economic opportunities associated with the use of ash, which is, otherwise, hindered by the classification of ash as a waste, for example.

	• In paragraph 44 of CER's comments letter, it is stated: "*In spite of our repeated earlier representations and the positive gypsum market assessment, Eskom has not included the construction of facilities for the temporary storage of gypsum or of facilities for the rail dispatch of gypsum in the scope of the project*." • CER and its clients further maintain that the impact of transport of limestone and waste (salts and sludge) by trucks on the air quality has not been adequately addressed. • CER and its clients maintain that the statement in the DEIR that "*given demand and offtake potential from commercial off-takers, infrastructure to convey gypsum from the gypsum transfer house 1 to the gypsum storage building and rail way yard for transport of large volumes of gypsum via rail will be constructed at a future date*" serves as proof that Eskom has not included construction of facilities for the dispatch of gypsum in the Medupi FGD Retrofit Project scope. • Eskom should confirm that the gypsum facilities required for the sale of gypsum are included in the scope of the project. • Concerns highlighted by CER are that there is no provision in the design and construction for separating the gypsum from the ash so that it can be reclaimed and sold as a by-product and that all gypsum surplus to sales will be stored together with the ash, rendering it unrecoverable for future sales if and when the market for gypsum develops. • CER and its clients submit that the licensing of the gypsum disposal as an amendment to the existing licence is therefore not acceptable, as the two are interlinked. • Previous comments regarding the minimisation and		CER references a Gypsum Market Research Study, which is most likely outdated in terms of the figures it states. It is furthermore argued that expecting Eskom to undertake an updated market research study which will result in significant further delays in implementation of the FGD infrastructure is unreasonable at this stage, especially considering the fact that Eskom has included design of all infrastructure required to support commercial offtake of gypsum. In other words, Eskom is in a position to respond to whatever market demand develops, whenever it develops in future. CER's statement in paragraph 44 is therefore also refuted as Chapter 6 of the DEIR explicitly describes the infrastructure associated with gypsum management, handling and conveyance to the rail yard for commercial offtake. Eskom therefore confirms that infrastructure for the offtake of gypsum is included in the scope of this EIA. The quality (with respect to purity) of limestone that will be used may be dictated by the market demand, existing volumes of high quality gypsum already in the market and capital considerations considering the only source of high purity limestone is located in the Northern Cape, but Eskom would have to undertake a full developmental process for any expenses deemed additional to its cause. The transport of limestone will be undertaken via rail, through an existing railway line, from which a rail siding will be established. The impact of the transport of the wastes via trucking was considered by specialists in a qualitative manner. It must also be considered that the service provider appointed to collect and dispose of salts and sludge will be an established service provider, and it will follow its own health, safety and environmental requirements, not to mention compliance with regulations for the transport of hazardous substances by road. CER claims that there is no provision in the design and construction for separating the gypsum from the ash so that it can be reclaimed and sold as a by-product. Sections 6.4 and 6.9, and relevant drawings and reports in **Appendix C** of the DEIR clearly demonstrate that offtake infrastructure for the commercial and small-scale offtake of gypsum has been designed for,

	handling of waste have been disregarded and include: ○ Gypsum should be stored separately from other wastes, allowing for possible future recovery; - ○ Salt and sludge co-disposal with other waste streams should be avoided, stored separately and managed appropriately in accordance with the law ○ Disposal of FGD by-products to Holfontein Landfill Facility should be avoided due to distance costs and environmental impacts. Only three possible disposals should be considered, namely: separate onsite facilities for each waste (preferred); disposal of ash, gypsum, salts and sludge in the ADF, each with its own compartment for future respective recoveries, if appropriate and permissible; disposal of ash, gypsum salts sludge in the ADF with ash and gypsum each in their own compartment, and salt and sludge combined into a third compartment. • CER and its clients claim that previous comments relating to waste management and minimisation seem largely to have been ignored and/or inadequate or inappropriate responses have been provided.		considered and assessed in the DEIR. It should also be noted that gypsum and ash is produced independently and is only mixed together for disposal during the final step of disposal. Further, if gypsum is disposed separately it will not be considered a by-product, but a waste. It was also mentioned previously that exposure of gypsum to the elements may render it unusable for the intended purposes, therefore offtake of gypsum can only be sustainable if taken directly from the waste stream as it exists the gypsum dewatering building or conveyed to an enclosed storage building prior to rail transport. The sampling process for determining the quality of gypsum is a manual process. An operator takes a sample off one of the conveyors and it is then analysed in an onsite laboratory. For the wallboard industry high purity levels are required (95% $CaSO_4$) and moisture contents below 10%. The impact of traffic on air quality was considered and qualitatively assessed by the air quality specialist and was found to be negligible as has been concluded in the Air Quality Impact Assessment included as an Appendix to the DEIR. CER furthermore does not elaborate on the exact aspects of the impact that was not adequately addressed. The existing ADF is licenced through an existing WML. This means that the impacts associated with sterilisation of the ADF footprint and potential pollution associated with the disposal of ash at the facility were considered and assessed already within the initial application for a WML for the ADF. A variation application is specifically catered for in terms of the National Environmental Management: Waste Act (No 59 of 2008), as amended. The WML Variation application therefore considered additional impacts that may result from disposal of ash and gypsum, which are both classified as Type 3 wastes, prior to approval of the variation application that will result in amendments to the conditions of the existing WML, as well as the changes in ADF configurations with respect to a reduced footprint and a raised height.
1.1.4	**Availability of water necessary for the project: water for the full project has not yet been secured.** CER argues that water security for this project is a critical	CER, Comments Letter dated 19 April 2018: Par. 7, 8, 13.2	The Department of Water Affairs and Forestry's Report on the Crocodile West River Reconciliation Strategy (2012) is most likely outdated and current studies associated with MCWAP should be considered in terms of the water demand in the Mokolo and Crocodile West catchments.

	aspect, and as a result, their clients have continuously requested a water minimisation study, to identify how to decrease the need for water. CER maintain that the 2012 Department of Water Affairs and Forestry's Report on the Crocodile West River Reconciliation Strategy, which was submitted as an annexure to the FSR, has indicated that the demand is already exceeding supply, and there are likely to be shortages of up to 16 million m^3 of water per year by 2025. Despite this, no overall water minimisation study has been conducted to date. CER further highlights the following points: • "*it was indicated in the 2018 TSSR that, if the Medupi is equipped with WFGD with an inlet gas cooler, and is operated at 90 degrees C, there would be 36% water requirement. If this is the case, FGD will not be dependent on MCWAP 2, and such technological option should not be dismissed*." • On 11 April 2018, our clients submitted comments on the MCWAP 2 scoping report, indicating that this project is not required, as the energy demand forecast on which MCWAP was based is outdated and significantly inflated. Most recent studies indicate that no new coal is required. • MCWAP 2 had not conducted a Climate Change Impact Assessment (CCIA), and current research suggest that climate change in the Limpopo basin will result in increased evaporation rates and uncertainty with regard to water supply.- • CER maintain that it is vital that a water minimisation study be undertaken and future water needs be settled as part of the EIA process.	Par. 29 - 34	Eskom has engaged and supported DWS in the development of MCWAP since commissioning of the project and is therefore dependant on the outcomes of the MCWAP project. It should be kept in mind MCWAP has various phases to deal with water scarcity and shortages in the region in light of possible climate change impacts and has taken into account long term growth of Lephalale. One of the objectives of MCWAP 2 is also to bring lower quality water to the Limpopo region to be utilised for industrial purposes such as for power generation. Furthermore, consideration of potential water savings as a result of the implementation of gas a cooler technology must be done also considering potential challenges associated with installing and operating this technology. The 2018 TSSR, which represents an updated understanding of the use of gas cooler technology therefore supersedes the 2014 TSSR, clearly lists the technical challenges that is faced with the installation of the gas cooler technology, and although Eskom has made provision in terms of space for the gas cooler infrastructure, its use cannot be justified in light of the numerous challenges Eskom would face by installing gas cooler technology. It is premature to conclude that MCWAP is not required, as the energy demand forecast on which MCWAP was based is outdated and significantly inflated. Economic development is only possible if supported by the availability of services, which include the availability of water and electricity. Supporting a stance that the energy demand forecast is significantly inflated is counterintuitive to economic development. Recent publications, e.g. the Medium-Term System Adequacy Outlook (MTSAO) October 2017 indeed showed that the system will have excess capacity over the next 5 years. The MTSAO report did not state that the excess will persist up to 2050. Therefore, new generation capacity will be needed in the light of power plants that are going to be decommissioned in the next 15 years. Caution should be taken that publications like the MTSAO are not capacity expansion plans, and they should never be used for long term decisions. MCWAP process will identify availability and demand of water in the region which will provide an updated account of water availability.

1.1.5	**FGD technology selection and use of a flue gas cooler in the wet FGD process. A flue gas cooler should be incorporated into the base case FGD design instead of a design alternative.** CER highlighted in paragraphs 14 to 27 of the letter of comments received from CER the following aspects related to the FGD technology selection and use of a flue gas cooler in the wet FGD process: • The 2014 Medupi FGD Technology Selection Study Report (TSSR) indicated a total reduction of process water up to 29%, no significant change in size, type of equipment required, no significant difference in lifecycle costs between WFGD and WFGD with gas cooler, significant savings in water with WFGD with gas cooler option • EIA Clean Coal Centre Report concluded that the use of a cooler at the inlet to the wet scrubber is common practice in Europe and Japan • Various "process area arrangement drawings", and datasheets attached to the 2014 TSSR report not available to public and should be made available immediately for comment. • The 2014 TSSR does not report any impediments or caveats in regard to achieving the estimated operating and maintenance costs of the WFGD + cooler option • DEIR and the accompanying 2018 TSSR does not provide adequate and rational reasons for this decision that the gas cooler is not feasible • Concerns outlined in the DEIR and 2018 TSSR appear to contradict the 2014 TSSR, and/or the findings are unsubstantiated • Shortcomings in the report of oversees plants visited relating to how these plants were chosen, their respective commissioning dates, unit capacities, how	CER, Comments Letter dated 19 April 2018: Par 11.4, 13.1 Par. 14 - 27	The history on this element is important as it puts the various reports into context: <u>In 2014 Technology Selection Report</u> • Eskom conducted a desktop study on the flue gas cooling technology and included this as part of the 2014 Technology Selection Study Report (TSSR). Please refer to 3.2.2.2, 3.2.3.2 and 3.4 of the TSSR. • The intention of the report was to conduct due diligence on the appropriateness of the selection of Wet FGD technology for Medupi. The report was aimed at documenting and explaining the rationale with regards to the selection of Wet FGD for Medupi with the technology information available at the time. • As part of normal technology selections studies during feasibility and conceptual engineering, various design alternatives are considered that will be matured during basic and detail engineering phases. Some of the design considerations (as was the case with the cooler), do not go into too much detail at this stage of the design as the intent is to review feasibility and narrow the scope of focus for the subsequent engineering phases. It was on this basis that the cooler was included as a design alternative, however the details surrounding the actual requirements for the fitment of the cooler, fit-for-purpose design and auxiliary requirements for this technology was not considered (which is typical at this design stage). • Therefore, the report does not consider: o The heat sink that would need to be identified to dissipate the heat recovered from the flue gas and also the costing associated with this infrastructure. o Actual maintenance costs - an industry standard allowance for maintenance costs of 1.25% was considered as the actual costs were not known. Differentiation in maintenance costs for the options with and without the cooler. o Different cooler materials and variances in the cost of materials. o Reliability of the coolers and its impact on Unplanned Capability Loss Factor (UCLF). • Information on these items was very limited at this stage, nevertheless it was decided to incorporate provisions for a potential future installation of

	problems were resolved, and comparison of the inlet cooler gas technologies in comparison to the Medupi proposed technology, amongst other. In this regard CER request a copy of the full site visit reports and outcomes for the China-based plants, for consideration. • The argument by Eskom of a lack of space to retrofit WFGD and gas cooler technology appears to be somewhat speculative. CER request a detailed engineering study of the design and layout of the inlet gas cooler to be done to establish whether or not a layout with adequate maintenance provisions is possible. • Eskom's claims as to increased cost and construction difficulties due to the material selection and weight of the cooler is speculative and CER request a detailed engineering study to confirm this. • Claims of increased downtime to the Medupi plant due to maintenance of the flue gas cooler should be seen in the context of Eskom's target planned average maintenance downtime of 10% per year, i.e 36 days. • Eskom should explain what has changed in the interim between the 2014 and 2018 TSSR. If Eskom continues to insist that space/weight is an issue, they should provide detailed evaluation or studies, including feasible options for overcoming any difficulties. • Eskom's conclusion to reject flue gas cooler technology is not accepted based on the arguments presented by CER. • The 2010 EIA Regulations require the applicants to identify and investigate reasonable and feasible alternatives and the cooler is reasonable, feasible and necessary. It should furthermore be considered as integrated into the basic design.		a flue gas cooler as part of its basic design scope due to the potential water savings that may be realised. • While the desktop lifecycle cost analysis showed that the installation cost of the cooler could be offset with the reduction in operating costs due to the water savings, it is important to note that the above-mentioned items were not considered as part of the cost estimation. In other words, the cost estimate was based on a number of assumptions that needed to be verified in the basic engineering phase for the cooler. <u>2015 Basic engineering and 2016 Benchmarking for the cooler:</u> • During the basic engineering phase, Eskom considered the practicality of the inclusion of the flue gas cooler as well as the material selection and engineering philosophies (such as operating and maintenance). It became apparent that only a limited number of installations exist and the performance data of these were not publicly available. Most OEMs claim information based on performance testing, which is done very early during the life on these assets. It is therefore prudent that longer viewpoint on these elements be taken. • Further to the above, continuous discussions between Eskom and the World Bank due to loan conditions had Eskom look at semi-dry installations again as the technology was being employed on higher capacity units. • Eskom decided to conduct a dual-purpose benchmarking exercise to answer unknowns regarding both semi-dry installations and flue gas cooling. • Eskom therefore travelled to various power stations across Europe, USA and China to better understand the practical implications of this technology and the findings from the exercise form the basis of the update to the document (i.e. the 2018 TSSR). Europe and China were chosen due to their differences in technology applications for flue gas coolers. In Europe, coolers are applied after the particulate abatement technology and in China before the particulate abatement. These brought various design considerations with them which needed to be understood. • The exercise revealed significant concerns relating to the reliability, maintainability and lifecycle cost of Flue Gas Cooler's (FGC's). These coolers use expensive materials i.e. stainless steel or PFA (polymer

			material). Medupi processes coal with a high sulphur and high abrasive ash with no neutralisation (and associated low adsorption) effect for the consideration using carbon steels. There is a high risk of erosion and corrosion damage (operating under sulphur dewpoint) to the heat exchanger tubes which results in reduction in heat exchanger efficiency (and therefore also a reduction in the water savings achievable) and significant plant downtime to plug damaged tubes and manually wash clogged tubes. Furthermore, the tube materials need to be replaced every 6-10 years (at a significantly high cost). Europe has opted for more expensive PFA materials with tube surface area that exceeds the heating elements in the boiler in some installations. The issue with these materials is that the tubes are prone to damage due to fly ash contamination and still prone to acid corrosion. The power stations visited with this installation have still required lifecycle material replacements. • The power stations visited in Europe and Asia as part of the benchmarking exercise were selected based on technology installed and accessibility to visit these plants and engage with the plant personnel. All three power plants visited in Europe advised against the installation. • The technology (flue gas cooling) was originally developed solely for the purposes of achieving the exhaust flue gas temperature legislated to reduce the visible plume from the chimney (in Europe). This requirement has recently been removed from European legislation and power plants with the flue gas cooling technology are starting to decommission the heat exchangers due to the significant operational and maintenance burden. • In China, the cooling technology was introduced to improve the operational removal efficiency of the Electrostatic Precipitators with the added benefit of potential WFGD water savings. • The high risk of erosion and corrosion damage and coupled with the characteristics (i.e. high abrasive ash and sulphur) of the Medupi coal coupled with the experience of the international power plants cannot be ignored by Eskom as part of its decision making. • Water earmarked for Medupi WFGD comes from the return streams from Tshwane. This is a growing resource that is not being utilised, approximately 170 m^3/s is being discharged into the Indian ocean (total Limpopo river discharge). The Medupi WFGD water requirement is

			approximately 0.28 m^3/s for all six units. The Mokolo Crocodile West Augmentation Phase 2 is required to bring this water to the greater Lephalale area to stimulate economic growth. The business case for MCWAP 2 includes the infrastructure CAPEX built into the tariff and is dependent on the portion of off-take. The costs associated with the FGC cannot be offset with water savings due to the MCWAP 2 payment structure. • Water cost savings will therefore not be realised with a FGC installation and Eskom's participation in MCWAP 2 is part of the broader socio-economic strategy for the area. Eskom's Mokolo allocation will also be released for residential use once MCWAP 2 is completed. • Finally, it should be noted that the cost of the inclusion of the cooler was not the sole consideration for not implementing the technology. The technical considerations outweigh the cost implications as the pragmatic considerations of the technology for use in the South African context was deemed not to be viable. <u>2018 Technology Selection Study Report</u> This report was drafted taking into consideration new information which was not known during the 2014 report and therefore replaced the 2014 with an updated version. The report further shows Eskom's continuous commitment to ongoing market research in this space, and to extend this further, not only in the cooling technology but also lower water use technology for FGD (such as semi-dry systems). *Therefore, inclusion of the FGC technology was not considered to be an efficient, sustainable and broadly (i.e. technical, social, cost) responsible solution for Medupi and South Africa at this time. Eskom is committed to water conservation and employed ACC's at Medupi with an energy penalty of approx. 1.75% to reduce water consumption (Wet cooled power plant without WFGD≈ 2 l/kWh vs dry cooled power plant with WFGD ≈ 0.35 l/kWh). Eskom has also maintained the status quo with respect to provisions in design for a potential future installation of a cooler. It is believed that advancements in materials science can improve the reliability and maintainability of the FGC technology to make it more favorable in the future.*
1.1.6	**Impact of the FGD on surrounding water systems**	CER, Comments	Stormwater management was considered in terms of GN704, therefore

	CER and its clients maintain that it is not clear whether proposed mitigation measures to reduce the ADF footprint and implementation of the stormwater management plan will be sufficient measures to mitigate pollution resulting from flooding. It is also uncertain if the impact assessment was adequately conducted since the ADF footprint will be excluded from the EIA, and instead, addressed in the separate WML application for variation. It is unclear how the specialist report reached its conclusion, given that the final footprint and impact of the ADF is unknown, and is excluded from the EIA process. It is therefore important that this is fully investigated in the EIA and not separated considered in the WML process. CER raised the following points: • The Surface Water Assessment specialist report seem to contain rainfall data only from 1903-2000. Since the report was compiled in 2018, rainfall data from 2000-2018 should also be included. The raw data used to compile the report should also be made available. • The surface water specialist report stated that is anticipated that the existing Dirty Water Dam (102 000m^3 capacity) will have insufficient capacity to store new dirty water runoff volumes. Additional dirty water storage will be required, which was not sized as it was not part of the scope. • The loss of wetlands and watercourses on site at Medupi and the ADF location will remain a very high impact; however the impact could apparently be reduced through mitigation. It is not clear, however, how these residual negative impacts will be remedied.	Letter dated 19 April 2018: Par. 13.4, Par. 13.6 Par. 51 – 59 Par. 68.3	infrastructure associated with stormwater and dirty water management was designed to comply with GN704. The initial floodlines were based on survey data that was available at the time. Eskom commissioned high resolution survey data and when it became available the floodline analysis was updated using this high resolution data. The surface water specialist concluded that the floodlines were much narrower when compared to the initial floodlines generated and the specialist report was updated accordingly. The floodlines showed that only a limited area impacting a PCD would be impacted by the 1:100 year floodline, as is seen in the figure below extracted from the updated surface water report. The potential impact of the 1:100 year floodline on the PCD infrastructure can be mitigated through the design of additional measures to protect the PCD infrastructure. It should further be noted that the floodlines do not affect the actual footprint area of the disposal facility as represented in the updated design undertaken by Jones and Wagener. The footprint of the ADF is already authorised through the Medupi Power Station's existing WML for the ash disposal facility. The impacts associated with the construction of the ADF have therefore already been considered, assessed and mitigated. Impacts highlighted through the updated floodline assessment and wetland assessment are furthermore considered in the engineering design of the waste disposal facility and clearly demonstrated in the redesign of the ADF associated infrastructure to reduce the footprint in the south western corner to avoid the sensitive wetland area and floodlines as far as possible.

			 CER is reminded that the rainfall data represents almost a decade of rainfall data and since the surface water and floodline assessment is based on averaged monthly and yearly data, the dataset is more than adequate to provide an accurate representation of rainfall patterns and storm event peaks. It is also confirmed that when the surface water report was updated the statement that the existing Dirty Water Dam (102 000m^3 capacity) will have insufficient capacity to store new dirty water runoff volumes were erroneously not updated. The detailed design of the WWTP is based on a ZLED philosophy, therefore, dirty water will be returned to the WWTP for re-use or otherwise evaporated through the technology proposed for the WWTP. Eskom has, therefore, confirmed that no additional dirty water storage capacity is required, thus all required water storage facilities have been catered for in this application. The residual negative impacts referred to by CER will be remedied through extensive rehabilitation of downstream wetland areas in order to improve the functionality of these wetlands.

1.1.7	**Inadequacy of DEIR due to missing documents and/or information** CER and its clients maintain that information was previously requested to be included in the assessment but are still not available, and therefore the information available for comment and decision-making is incomplete. It is therefore CER's view that a number of studies be undertaken and made available to the public. Such studies include: 1. Co-commissioning (integrating FGD into the design of the 3 remaining units) study 2. FGD Commissioning Schedule Study; 3. Water Minimisation Study 4. Gypsum Market Investigation and Ash Market Investigation to minimise waste 5. Limestone quality, cost, availability and sourcing study 6. Study on transport impacts from waste or materials required for FGD 7. Detailed engineering study of the design and layout of the inlet gas cooler CER additionally raise the following points: • Pages 36-37 of the DEIR refers to various design reports which were reported to be considered. However, there were not attached to the DEIR. • Appendices D1-12, which refer to various designs and drawing, were not attached to the DEIR, as well as appendix F2. • The figures and drawings mentioned in the report should be provided as separate documents to enable enlargement of the figures and drawings. • With regard to air pollution, whilst the specialist report briefly considers the health impacts, this is	CER, Comments Letter dated 19 April 2018: Par. 11.3, Par. 60 - 62	The DEIR and appendices are still available on the Eskom website and Zitholele website, and at the physical venues. Besides the fact that they are available, if CER had difficulty in accessing these appendices, or additional reports, they should have requested a CD containing all the relevant information as was highlighted in numerous notification letters that was circulated to all I&APs throughout different stages of the public review period. The public review period was extended by an additional two weeks, on CER's request, therefore they had more than adequate time to request any additional information it sought. Furthermore, the EAP/PPP Office received no other queries or request relating to missing appendices or reports. Further to these facts, the DEIR already consisted out of 3 archlevel files representing copious amount of information. Adding a number of additional reports to the DEIR for public consumption and including additional figures and drawings already contained in the reports would be counterintuitive to producing a report, which is already very long and technical, to the general public for consumption. CER requests a number of studies to be undertaken. Responses in line with the proposed studies are provided here: 1. Eskom has considered the co-commissioning of the FGD with the commissioning of the remaining 3 generation units. Eskom is actively pursuing schedule acceleration to meet committed dates for retrofit of four FGD units with the potential for the remaining two units under review; but is not able to align retrofit of FGD with commercial operation of last generation units in order to co-commission the FGD infrastructure together with the last generation units. 2. Given the current milestone dates, as was presented at the public and key stakeholder meetings undertaken on 12 – 13 March 2018, Eskom will only be able to complete installation of the first FGD based on an accelerated schedule in July 2023, with the last FGD unit expected to be completed in May 2025 on an accelerated schedule. Since the schedule is in continuous flux it is not understood what value add an FGD Commissioning Schedule Study would contribute to the schedule and milestone dates Eskom is

	insufficient for the present purposes. It is recommended that a full health impact study be undertaken, which includes health impacts for operation of the plant without the FGD for 6 years after commissioning each unit.		currently driving. 3. The 2018 TSSR already highlight all the water saving measures considered during the planning and construction of the Medupi Power Station. Water minimisation has been considered at the onset of the planning phases with Medupi planned and designed as a dry-cooled power station. Other water-saving options such as the retrofitting of the gas cooler, were also considered through the 2018 TSSR, however, given careful consideration of the technical maintenance issues associated with operation of a gas cooler water rendered its use unfeasible at this stage. 4. Eskom developed an updated Gypsum Commercialisation Strategy in 2017 in order to guide the commercial strategy it should pursue for its gypsum production. One of the key challenges the commercialisation of gypsum faces is that commercialisation of gypsum is the product of many moving parts and can only take place when these parts align. Due to this, there will be a degree of uncertainty in commercialising gypsum. Eskom's strategy concluded that building and commencement of a declassification strategy for gypsum must be undertaken, as well as preparing and releasing a Request for Information (RFI) for possible off-takers. The strategy further acknowledges that due to the timing of the commissioning of Kusile and Medupi's units and the time and capital required to build the required infrastructure, there are limited actions that can be taken at present. Lastly, as mentioned in this CRR, Eskom cannot drive commercialisation (i.e. beneficiation of waste) alone and require commercial stakeholders to come onboard, but is available to support such initiatives, as appropriate. Eskom has, furthermore, scheduled a workshop with key industry stakeholders in the first half of 2018 to discuss beneficiation of its waste. 5. Eskom has investigated limestone sources during the development of the Medupi FGD project and have identified sources, i.e. Lime Acres in the Northern Cape, or Pienaarsrivier or Marble Hall in Limpopo, as highlighted in section 6.4.2 of the DEIR. The exact specification of the limestone required for the Wet Flue Gas Desulphurisation (WFGD) is not known and once the FGD technology has been confirmed/approved will sourcing of the

			limestone commence. It has also been confirmed that the potential sources identified would be able to deliver the quality of limestone required for the Medupi FGD specifications, however, no formal commercial arrangements have been made to formalise agreements with service providers. 6. Standards regulating road transport of material, including the transport of hazardous material, exist to which the service providers transporting hazardous waste conform. Through these standards and regulations hazardous material is isolated to prevent any contamination of the environment during transport. Therefore the impact of the hazardous material on the receiving environments is deemed low through implementation and adherence to the relevant standards and regulations. Impacts associated with the increased number of trucks on main and access roads were considered qualitatively by the transport specialist. 7. Following detailed investigations by Eskom, the gas cooler has been ruled out as a feasible option in its current form and structure, therefore detailed investigations will not be done. CER requests that a full health impact study be undertaken. It is however noted that the Medupi Power Station currently operates within the emissions standards currently applicable. The impacts of air pollution on human health is considered and managed by the DEA on a national scale. DEA does this by considering future economic and industrial development in a specific region, thereby setting ambient air quality standards to manage emissions into the atmosphere, and in this case also declaring a specific area an air quality priority area, i.e. the Waterberg-Bonjanala Priority Area. The impacts of SO_2 are well-known through research done by organisations such as the World Health Organisation and Environmental Protection Agency (USA).
1.1.8	**Comments relating to the WML Variation Application** The motivation provided in the Variation Application is that, on 23 August 2013, DEA promulgated the National Norms and Standards for the Assessment of Waste for Landfill Disposal and National Norms and Standards for Disposal of Waste to Landfill, by which the applicant	CER, Comments Letter dated 19 April 2018: Par. 69 - 73	In order to assess the potential impacts of gypsum generated through operation of the FGD infrastructure in South Africa, the constituents of the gypsum must be considered. Direct parallels with gypsum produced from an FGD plant elsewhere in the world alone is not generally possible. Therefore, in order to understand the pollution potential of FGD produced gypsum under South African conditions, the only option was to undertake a "conservative theoretical waste assessment" based on literature and existing information

	determined "through conservative theoretical waste assessment" that gypsum and ash would be classified as Type 3 waste. This was despite the fact that FGD waste has not yet been generated by Medupi. CER and its clients concluded the following with regard to the WML Variation application: • Eskom attempts to defer and delay the consideration of the waste impacts in relation to the FGD - which should be considered in the initial EIA - to another platform, in order to "fast track" the EIA. • Eskom, to date, appears to have dragged its feet and have not considered the minimisation of waste as a serious option, since marketability and uptake studies for gypsum and ash have not been completed for over 4 years since the initial DSR. High quality lime also has not yet been secured. Furthermore, their Gypsum Market Study of 2009 was not included in the DEIR. • As mentioned previously, in order to significantly minimise its impacts, the last 3 units of Medupi - which are no longer required - should be abandoned. • Three units already built should have FGD fitted as soon as possible, before 6 years of operation. However, our clients vehemently object to this "fast tracking process", which undermines the EIA process by approaching the EIA in a piecemeal fashion. Such processes are contrary to legislation. • Furthermore, the WML Variation Application is deficient in that it appears that the applicant unilaterally determined the classification of certain waste times through a conservative theoretical waste assessment. The accuracy of this (scientific and legal) should be investigated. • Furthermore, and more importantly, all efforts should be directed to minimise the waste instead of		regarding limestone sources, etc. The DEIR has recommended that FGD gypsum should be reclassified once produced at the Medupi FGD. Since the commencement of the FGD system in Kusile power station, the gypsum produced was classified as Type 3 waste, and this classification is compared to what the Medupi FGD may produce. The original RoD for the Medupi Power Station (12/12/20/695) issued on 21 September 2006 stated that "Eskom shall install, commission and operate any required SO_2 abatement measures that may be necessary to ensure compliance with any applicable emissions or ambient air quality standards published in terms of the National Environmental Management: Air Quality Act, 2004 (Act No. 39 of 2004)." At the time no emissions or ambient air quality standards were promulgated (the National Ambient Air Quality Standards (NAAQS) were only promulgated in December 2009). As no promulgated air quality standards existed to guide the selection of SO_2 abatement technology, Eskom opted for the worst-case scenario and designed the Medupi Power Station to be Wet Flue Gas Desulphurisation (WFGD) ready. WFGD was the most efficient abatement technology with the highest SO_2 removal efficiency at the time. Eskom, however, could not stall development and construction of the Medupi Power Station at the time as it needed to be constructed as soon as possible to meet the demand for electricity at the time. The applicant can only operate within the confines of the legislation and within the vehicles that are provided to obtain authorisation, i.e. in this case an existing WML is in force for the Medupi ADF, where all impacts prior to the authorisation of the licence was assessed by an independent EAP and considered by the competent authority. Given the fact that the station's ADF has an existing WML exist, another application for a new WML for the same facility may be contradictory to such existing WML, hence the allowance in the waste act to undertake a variation application to the existing WML. The WML Variation Application only deals with potential additional impacts associated with the disposal of ash and gypsum together on the already approved footprint for ash, in terms of the existing WML, the reduction of the footprint of the ADF to avoid sensitive wetland areas to the southwest of the ADF, and to assess potential impacts of the increase in height of the disposal

	expanding the capacity for the current waste disposal sites.		facility from 60m to 72m if ash and gypsum are disposed together on the same authorised ADF footprint. Eskom has developed an Updated Gypsum Commercialisation Strategy (2017) that has investigated the production of gypsum by Eskom, gypsum supply and demand, ways to commercialise gypsum, market considerations for Eskom, and legislative considerations associated with the declassification of gypsum as a waste. The construction of the remaining 3 generation units at the Medupi Power Station cannot simply be "abandoned" as construction and completion of the Medupi Power Station is driven by IRP requirements, which is a national planning process. Electricity generated at the Medupi Power Station is, amongst others, aimed at supporting growth in the economy, especially in the Limpopo region, resulting in higher electricity demands. Co-commissioning of the FGD infrastructure to the remaining generation units is not possible as the commissioning of the FGD infrastructure cannot meet the construction schedules for the remaining units. The construction of the Medupi FGD plant from start to completion of the first unit, for example, is likely to be 42 months, as benchmarked against international construction norms and experience. The classification of FGD produced gypsum through a conservative theoretical waste assessment was undertaken **as no FGD produced gypsum existed in South Africa** in order to get a representative understanding of FGD gypsum in the South African context. The waste classification was furthermore undertaken by reputable and qualified waste specialists with several years of experience in waste classification. Therefore, unless CER can point out specific areas of the waste classification that is disputed with full motivation to support this dispute, there is no reason to question the study and conclusions it comes to. Additionally, since the commencement of the Kusile FGD plant operations, gypsum has been produced and classified as Type 3 waste. Measurable minimisation of FGD gypsum, and boiler produced ash, is only

			possible through commercial offtake of gypsum and ash prior to disposal. Eskom has made provision for small scale offtake of gypsum from the gypsum dewatering plant, but in the absence of a market demand, Eskom has no choice but to dispose gypsum and ash to an appropriately lined waste disposal facility, at the current demand scenarios.
1.1.9	**Conclusion** CER and its clients concluded, firstly, that there is no doubt that FGD Retrofit Project is mandatory for the operation of Medupi Power Station, so that it will comply with the 2020 MES for SO_2, and so that it does not impact on human health and wellbeing. This should be done with the minimisation of the need for water in mind, with the least impact on surrounding ground and surface water, and should minimise waste as much as possible. Secondly, for the reasons set out in their comments letter, CER and its clients maintain that the DEIR does not contain all material information required in terms of NEMA and the EIA Regulations, and that the EIA has inappropriately deferred a number of considerations as outside the scope of the EIA, when they clearly need to be considered in the EIA. Lastly, CER and their clients furthermore strongly object to the WML Variation Application being separated from the EIA process, as it is an integral part. These fundamental deficiencies should be addressed, prior to the FEIR being made available for comment.	CER, Comments Letter dated 19 April 2018: Par. 74 - 75	Eskom has considered all requirements to reduce waste production, provisions for small scale uptake of gypsum before disposal, disposal of waste to landfill, and minimisation of water demand; however the solutions to deal with these aspects should be feasible for construction and sustainable operations. Eskom has demonstrated, through the development of the Medupi FGD project and engineering designs, that it has taken cognisance of the water stressed environments in with the Medupi Power Station finds itself, as well as the challenges in finding a suitable site for the development of a waste facility that can receive the waste streams generated by the Medupi Power Station. Nonetheless, despite the challenges in understanding FGD technology and designing for the retrofit of the SO_2 abatement technology, Eskom has committed to fast-track the installation of FGD technology in a responsible manner to reduce SO_2 emissions as required by its Atmospheric Emission Licence (AEL). The applicant and EAP reject the claim that the DEIR does not contain all the relevant information to support informed and responsible decision-making by the competent authority. Documents CER claim was not available have been available in the identified public venues, Zitholele Consulting's website and Eskom's website since the start of the public review period, which was extended by 2 weeks to allow additional review time for an already lengthy DEIR document. Other documents cited were available for review and comments by all I&APs during the Scoping Phase and is still available on Zitholele Consulting's and Eskom's websites. Authorisation and licence applications can only by undertaken in terms of the licencing and permitting provisions through the relevant legislation prescribes. To this end, undertaking a variation application to an existing WML is the

			correct process to deal with proposed changes to the existing WML. Lastly, aspects associated with the construction and operation of the Medupi FGD infrastructure, rail yard, gypsum and limestone handling facilities, water management systems, WWTP and associated infrastructure were considered in an integrated fashion through running the application processes in parallel, although due to legislation these applications are packaged separately.
1.1.10	We refer to our telephone conversation yesterday, in respect of the submission of the following Environmental Impact Assessment (EIA) for comment under the 2010 EIA Regulations: 1.Medupi FGD DEIR circulated for comment on 19 February 2018 and due for comment on 5 April 2018; and 2.Medupi WML circulated for comment on 5 March and due for comment by 9 April 2018. The purpose of this communication is to record our request for a short extension of time to comment on these documents by 19 April 2018. We and our client, Earthlife Africa, have registered as interested and affected parties (I&APs), and wish to exercise our right to comment on and raise issues relevant to the applications, as we have done throughout the process. As you know, the Medupi DEIR and the WML are voluminous and technical; for instance, the DEIR is comprised of over 200 pages, with 23 appendices, most of which in themselves are lengthy technical reports. As non-profit organisations, we have limited access to resources and technical expertise, and we and our client require adequate time to peruse and consider the voluminous DEIR, WML, and the respective appended technical reports to provide proper comments. This has been made more difficult by the public holidays.	[redacted] Email received 05 April 2018, 9:32am	Yes, the extension has been granted until 19 April 2018. We look forward to receive your comments on the reports. ***Mathys Vosloo, EAP***

	Although you initially agreed to an extension of the time for comment until 16 April, you indicated subsequently that you had to consult with Eskom in this regard. As the independent EAP, you are in a position to decide whether or not to grant an extension. Regulation 56(1) of the EIA Regulations, 2010, states that comments are to be submitted within the timeframe set or within "any extension of timeframe agreed to by the applicant or the EAP". Relevant authorities, however, are given 40 days to comment on the draft environmental impact assessment report, and 60 days for a waste management activities, which excludes public holidays. We make this request also with respect to the requirements for procedurally fair and rational administrative action in terms of Promotion on Administrative Justice Act, 2000, and in terms of the National Environmental Management Act, 1998, as well as the EIA Regulation, which promote fair administrative decision making and public participation which provides a reasonable and adequate opportunity for comment in the environmental impact assessment processes. In light of the above, we propose that an extension until 19 April 2018 to submit the comments is not unreasonable and await your decision as an EAP in this regard. You mentioned previously that Eskom has indicated that they will grant the extension but that a written request should be submitted. We have submitted a written request and presume that extension has been granted until the 19 April?		

1.2	**Comments raised during the Key Stakeholder Workshop**		
1.2.1	Issue raised with regards to the pollution control for the gypsum, salt and sludge. What is the plan for after the 5 years of trucking the waste to the disposal site has ended.	[redacted] Key Stakeholder Workshop 14 March 2018	Gypsum is generated and taken to the disposal facility via the conveyor or. The normal pollution control procedure will be followed for the handling and management of the wastes. Disposal will also conform to the waste control procedure of the existing waste facility at the Medupi Power Station. The temporary storage of the salts and sludge will take place for a period of 5 years. During this time constructed of a new waste disposal facility should be commissioned. Sludge and salt will be transported together to the waste disposal facility. Control measures such as washing the wheels of the trucks will be implemented at the storage facility to avoid pollution, while the service provider's control measures will be implemented once the waste is loaded onto truck and transported to the appropriate waste disposal facility. **Mathys Vosloo, EAP** Eskom is investigating the development of a regional waste facility together with local roleplayers. Eskom has scheduled a workshop with roleplayers to discuss the potential for the development of such a regional waste disposal facility. Space constraints seem to affect the proposed disposal facility and space options for access for future recovery of the sludge are being investigate which includes the constructing a regional landfill facility locally for disposal and recycling. Benefits from such a facility include environmental and socio-economic opportunities such as recycling opportunities. **Eskom, the Applicant**
1.2.2	What will the timeframe for construction of the FGD be?		Construction timelines are benchmarked against international time frames on similar projects. Eskom has internally relooked how they can accelerate the construction program even by employing more people on the construction teams. The planning guys are looking at how to change the sequence of construction to and optimize the construction schedule to fast track and optimize the process. It will take approximately 52-months for construction of each unit, while if we put in multiple teams Eskom should be able to complete

			a unit in 36 months instead of 52 months. **Eskom, the Applicant** So, we are looking at a construction period from about 2019 to 2025 for construction of the FGD units. **Mathys Vosloo, EAP** The appeal process can also have a huge knock-on effect on timelines if the authorisation is appealed. Emile also explained the water system around the catchment areas from a SA perspective and how it links into the project through the MCWAP Phase 2A project, and how this link with the project is important for compliance reasons. **Eskom, the Applicant**

1.2.3	Eskom has not started with the FGD installment? How long will the authorization take?	[redacted] Key Stakeholder Workshop 14 March 2018	No, the commissioning of the FGD units has not commenced yet. In order to start the authorization process currently underway must be completed only then can the construction begin. This process is on a critical pathway and Eskom is already behind on its schedule for implementation. **Mathys Vosloo, EAP** In order to start the Department of Environmental Affairs need to give permission for construction to start. We are currently in that process of providing the documentation to the authorities to make a decision for the FGD project to commence. Only once the authorization has been granted can Eskom commence with construction. **Eskom, the Applicant** The decision-making process will take to about August 2018 to make a decision. Once a decision is made an appeal period must run its course, with construction likely to start a month or two after the appeal period has expired. **Mathys Vosloo, EAP**
1.2.4	Do you already know where the infrastructure will be placed?		Yes, Eskom knows exactly where they want to place the infrastructure. **Mathys Vosloo, EAP**
1.2.5	What is the difference between the existing water in the catchment and MCWAP Phase 2 water?		Phase 1 of MCWAP is now complete and unblocks bottlenecks for the supply of water to users. The water from MCWAP Phase 2 is not as pristine as the water in the Mokolo catchment, as it comes from Johannesburg to supply poor quality water for industrial uses. This will free up more water for agricultural use and human consumption. **Eskom, the Applicant**
1.2.6	How many storage areas will there be for the gypsum and limestone? Will it be stored separately?		There is only 1 limestone storage area within the railway yard. For Gypsum there is a temporary storage area near the gypsum dewatering plant. If the gypsum is suitable for offtake, gypsum will be stored at 1 storage area within the railway yard. They gypsum and limestone will be stored together, but if gypsum is disposed it will be disposed together with ash on the Ash Disposal

			Facility. **Mathys Vosloo, EAP**
1.2.7	The FGD reduces only SO_2?		Yes, the FGD infrastructure will only reduce the SO2 emissions. **Mathys Vosloo, EAP** Other already installed infrastructure, such as fabric filter press, reduce the concentrations of the other gasses and particulates. **Eskom, the Applicant**
1.2.8	What is the difference between the different technologies?		Mathys Vosloo: The FDG with the gas cooler requires more space and far more expensive as opposed to the wet FDG system which can be modified to be fitted into to the existing infrastructure. **Mathys Vosloo, EAP** Gas cooler has no long-term technical benefit at this stage to the power station and long-term viability is limited as the wear and tear on the system is a major limiting factor. **Eskom, the Applicant**
1.2.9	What will Eskom do after 20 years if the existing disposal facility is closed?		A separate process will be undertaken to find an additional facility for disposal of ash and gypsum after 20 years. Other options of minimizing disposal of ash and gypsum is also being investigated by Eskom. Disposal of ash in existing mine pits is being investigated for future use, while ash can also be used to form part of other environmental process like treating acid mine drainage. **Eskom, the Applicant**
1.2.10	I just want to advise on communication with communities in this area. The proper delivery of the message is important and proper structures and channels should be used to engage with the community more meaningfully and for the communities to become more involved. Consultations should be structured to maintain integrity	[redacted] Key Stakeholder Workshop 14 March 2018	It is a very important point that you are raising. It is something that we are all struggling with and we are learning from it. **Eskom, the Applicant** It is something that we will focus on more specifically. We did put up posters and send out notifications and smsed. The point is taken, thank you for your comments. **Mathys Vosloo, EAP**

	and reduce the chances of appeals. It is advised that community liaison people should be appointed and the ease of language for better interpretation and communication.		
1.3	**Comments raised by Interested and Affected Parties**		
1.3.1	We don't understand why we have to waste our time to comment on this Environmental impact assessment waste management, because u have never do your presentation in marapong. We can't comment on this fgd.	[redacted] Email received 29 March 2018, 4:44pm	Thank you for your comments as per your email below. We would just like to point out that a public meeting was scheduled at the Ditheku Primary School in Marapong on Monday, 12 March 2018 from 3pm – 5pm. We were at the venue ready to undertake the presentation, but only 1 stakeholder came to the public meeting. The person requested that the meeting be postponed, however due to the fact that the public meeting was widely advertised through sms and email notifications, informing the councillors in Marapong, putting up notices of the meetings at various locations in Marapong, Steenbokpan and Lephalale, the request could not be granted. We therefore confirm that the applicant and EIA team was at the venue to present the project. Your email address is captured on our database as representative of the South African National Civic Organisation, therefore we can only assume that you have received the invitation to the public meetings as well as numerous reminders to about the date, time and venue of the public meetings, but refrained from attending the meeting. The Draft Environmental Impact Report (DEIR) has been available for public review and comment at 4 public venues, including the Marapong Community Library from 19 February to 19 April 2018. ***Mathys Vosloo, EAP***
1.3.2	Kan u asseblief n afrikaanse vertaling vir ons stuur/of alternatiewelik ons op ons plaas besoek. Ons plaas gelee te KUIPERSBULTPAD, VANAF DIE MEDUPI/AFGUNSPAD. VERBY SOUTPANPAD VERBY ESKOM CONSERVATION GRONDE AAN LINKER EN REGTERKANT. LET DAN OP VIR	[redacted] Email received 19 April 2018, 11:09am	Ek het probeer opvolg met U na aalnyding van die epos hieronder. Kon nie deurkom op enige van die telefoon nommers nie. Ek wil net verstaan of U enige kwellinge het oor die projek. Ongelukkig kan ons nie op die stadium U besoek op die plaas nie, maar sal graag enige kwellinge oor die telefoon bespreek indien nodig. U kan vir my gerus enige kwellinge aanstuur per epos, ek sal U weer later probeer bel.

	NAAMBORD AAN REGTERKANT. STARLINGH ,PRETORIUSKLOOF,JOHAN EN LYNETTE BARNARD TEL 0810232392, LANFLYN 0147633387, 0781447747 *English Translation: Please send us an Afrikaans translation / or alternatively visit us on our farm. Our farm is situated atKuipersbult Road, from the Medupi/Afguns Road, past Soutpans Road, past Eskom Conservation Grounds on left and right-hand side. Please note name plate/sign on right-hand side. Starlingh, Pretoriuskloof, Johan and Lynette Barnard. Tel 0810232392, Landline 0147633387, 0781447747*		***Mathys Vosloo, EAP*** *English Translation: I tried to follow up with you with regards to the email below. Could not reach you on any of the phone numbers. I just want to understand if you have any concerns about the project. Unfortunately, we cannot visit you on the farm at this stage, but will be happy to discuss any concerns about the project over the phone if necessary. You can send me any concerns by e-mail, I'll call you again later.*
1.3.3	Would you kindly add my name on your register for I&AP for the above mentioned project. My contact details are in my below signature. Mr. Ezekiel Monyamane Senior Manager, Environment and Sustainability, Risk Management Department T: 011 584 0547, C: 081 048 0856 E:ezekiel.monyamane@transnet.net, www.transnet.net "Environmental Management Makes Business Sense"	[redacted] Email received on 06 April 2018, 3:01pm	Dear Mr. Monyamane You have been registered on the project database and will receive all future communication relating to the Medupi FGD Retrofit Project. Mathys Vosloo, EAP
1.3.4	Good Day, Can you please send the letter referred to in the email below. Email referred to are: **Subject:** 12949-004-Medupi FGD: EMC Notification DEIR & WML Variation Dear Medupi EMC Stakeholder **ENVIRONMENTAL IMPACT ASSESSMENT, WASTE MANAGEMENT LICENCE VARIATION AND WATER USE LICENSE APPLICATION FOR THE PROPOSED RETROFITTING OF A FLUE GAS DESULPHURISATION (FGD) SYSTEM AT MEDUPI POWER STATION, LEPHALALE, LIMPOPO PROVINCE**	[redacted] Email received 12 March 2018, 7:32am	Hi Deidre, Please find attached the letter as requested. ***Mathys Vosloo, EAP***

	• **NOTIFICATION OF AVAILABILITY OF DEIR, WML VARIATION APPLICATION AND PUBLIC MEETINGS**		
1.3.5	Transnet pipeline servitudes are not affected by the proposed work/installations.	[redacted] (Transnet), Email received 19 April 2018, 10:16am	Thank you for your response. We acknowledge your indication that Transnet pipeline servitudes are not affected by the proposed work/installations. ***Mathys Vosloo, EAP***
1.3.6	After the evaluation of the DEIR and the specialist reports submitted for the proposed development, it was noted that the site falls within the Limpopo Water Management Area (WMA) 1 and it is situated in the Mokoko River Catchment. The proposed area also falls within the Limpop Sweet Bushveld vegetation type, classified as Least Threatened. With important plant and bird species identified within the vegetation type. The Directorate: Biodiversity Conservation recommends that the following be included in the Environmental Authorisation as specific conditions (EA): • All wetlands areas must be avoided by the development activities, including a suitable buffer zone to avoid impacts on these water courses; • Harvest of hill wash material must be prohibited within 100m of the delineated edge of all identified depressions and semi-arid ephemeral wash wetlands and within 500m radial buffer of the identified bullfrog breeding site; • A pre- and post-construction alien and invasive control, monitoring and eradication programme must be implemented along with an on-going programme to ensure persistence of indigenous species; • Rehabilitation work must be done during low rainfall seasons and soil compaction should be prevented as far as possible; • Alien invasive plant species in and around the road reserve must be removed in terms of Conservation of Agricultural Resources Act (CARA), and follow-up actions for at least 5 years need to take place; and	[redacted] (DEA: Director: Biodiversity Conservation, and [redacted] Stanley (DEA: Control Biodiversity Officer Grade B), Letter received on 12 March 2018.	Thank you for providing comments on behalf of the DEA Directorate: Biodiversity Conservation. The comments have been included as recommendations in the FEIR, and has also been included in the EMPr in the section dealing with the management of impacts on biodiversity and wetlands (section 5.2.4). ***Mathys Vosloo, EAP***

	• All re-vegetation must be done with local indigenous plant species as specified by the Provincial Co-ordinator and/or Wetland Ecologist. The overall biodiversity objective is to minimise loss of biodiversity as far as possible. Therefore, in order to achieve this objective, the above-mentioned recommendations must be adhered to.		
1.3.7	This Department has the following comment on the abovementioned application: i. Please note that the reference for the abovementioned project has changed from 14/12/16/3/3/3/110 to 14/12/16/3/3/2/1060 since the application is no longer an Integrated application. You are therefore required to use the new allocated reference number for the abovementioned project.	[redacted] (DEA Chief Director: Integrated Environmental Authorisations), and [redacted] (DEA DD: Co-ordination, Strategic Planning and Support), Letter received on 3 May 2018.	Zitholele Consulting has taken note of the change in reference number and has amended the EIA documentation to reflect the new reference number: 14/12/16/3/3/2/1060. ***Mathys Vosloo, EAP***
1.3.8	ii. The site layout map presented on appendix D1 the DEIAR is invisible, therefore a topographic site layout map that will demonstrate all the proposed activity must be incorporated into the FEIAR.		The missing site layout map is likely the result of a printing issue during compilation of the DEIR for the department. The site layout, including a number of other development footprint and sensitivity maps has been included in the FEIR for consideration by the DEA. Zitholele has further checked final printed copies of the FEIR to ensure no pages or maps are missing prior to final submission of the FEIR to the DEA. ***Mathys Vosloo, EAP***
1.3.9	iii. You are required to submit proof of the authorised waste disposal facility that is going to be used to dispose the hazardous waste.		Eskom has obtained a letter from EnviroServ Waste Management (Pty) Ltd confirming that Eskom will be able to dispose of the waste at Holfontein Waste Disposal Site. This letter is included in **Appendix I-1**. ***Mathys Vosloo, EAP***
1.3.10	iv. Description of activity 18 of GN R 544 on Appendix A of the DEIAR states that "It is likely that infilling or excavation of more than 10m3 within a watercourse may occur during construction of the rail yard and associated infrastructure". You are therefore advised to refrain from using the word "may" and use "will" instead.		Zitholele consulting has amended the wording relating to the listed activities in the EIA Application form and FEIR to avoid words such as "may" in favour of confirmatory words such as "will". ***Mathys Vosloo, EAP***
1.3.11	The Department of Public Works, Roads and Infrastructure has no objections whatsoever regarding the project.	[redacted] (Limpopo Dept. of Public	The Limpopo Dept. of Public Works, Roads and Infrastructure's support for the project is noted. We extend our gratitude for participating in the public participation process for this Medupi FGD Retrofit Project EIA.

		Works, Roads and Infrastructure, Fax received with DEIR Comment Sheet comments.	***Mathys Vosloo, EAP***
1.3.12	RE: COMMENTS IN RESPECT OF CONSULTATION FOR THE APPROVAL OF THE ENVIRONMENTAL IMPACT ASSESSMENT REPORT FOR THE PROPOSED RETROFITTING OF A FLUE GAS DESULPHURISATION SYSTEM AT MEDUPI POWER STATION WITHIN LEPHALALE LOCAL MUNICIPALITY OF WATERBERG DISTRICT 1. The above matter refers. 2. The Department acknowledges receipt of the request for comments on the Environmental Impact Assessment Report (EIAR) for the above mentioned proposed development dated 19 February 2018 and received by the Department on 22 February 2018, 3, The Department has reviewed the contents of EIAR and has no comments in that regard. 4. Please note that in terms of section 24F(1) of the NEMA and notwithstanding the provisions of any other Act; "no person may commence an activity listed in terms of section 24(2) (a) or (b) unless the competent authority has granted an EA for the activity, and no person may continue an existing activity listed in terms of section 24(2) (d) if an application for an EA is refused".	[redacted] (Limpopo Department of Economic Development, Environment and Tourism, Letter received on 12 March 2018	Zitholele Consulting thanks the Limpopo Department of Economic Development, Environment and Tourism, for their review of the DEIR, and acknowledge that the department has raised no comments with regards to the development. ***Mathys Vosloo, EAP***
1.3.13	Why is the power station only taking measures now to protect the community from health impacts of the gas emissions?	[redacted] (Resident in Steenbokpan Community), Comments raised at Public Meeting held in Steenbokpan on 12 March 2018.	**Responses provided at the Public Meeting:** Eskom must remain compliant to legislative requirements of the authorizations and licenses issued to the power station. The Medupi Power Station is therefore implementing requirements relating to the FGD system in relation to changes in the National Ambient Air Quality (NAAQ) Minimum Emission Standards (MES). ***Eskom, the proponent***
1.3.14	How long will construction process take and when will it start?		**Responses provided at the Public Meeting:** Construction will commence in approximately 2020 and will take 3 years to

			complete. ***Eskom, the proponent***
1.3.15	Protection of the water resources, particularly the underground systems, must be ensured		**Responses provided at the Public Meeting:** Dirty water dams would be lined as required by legislation, while a water use license application must also be obtained to prevent or minimize pollution into the ground water. External Environmental Control Officers are furthermore contracted to undertake continuous assessment of the construction activities. ***Eskom, the proponent***
1.3.16	What were the learning outcomes from the other power stations, particularly Matimba so that similar mistakes aren't repeated?		**Responses provided at the Public Meeting:** All legislative process was followed and adhered to for compliance purposes. However, the question will be deferred to Matimba Power Station Environmental Manager. ***Eskom, the proponent***
1.3.17	Heritage issues still remains a problem, especially with surveying of land and keeping the respect of ancestral graves, local tradition and implications thereof.		**Responses provided at the Public Meeting:** Eskom undertook an extensive process to investigate, and rectify where needed, any impacts on graves during the construction of the Medupi Power Station. Heritage specialists were also appointed to specifically investigate issues around graves and relocation where it was needed. Eskom understands that it is an ongoing issue, and this issue will be addressed through the Medupi Power Station EMC. ***Eskom, the proponent***
1.3.18	The ward councillor said that Eskom was going to talk about jobs at this meeting.		**Responses provided at the Public Meeting:** Eskom has not made such promises to the ward councillor and the matter will be raised with the councillor. It was specifically said that this meeting was to present the outcomes of the Environmental Impact Assessment to the community and engage in discussion relating to the project with the community. ***Eskom, the proponent***
1.3.19	I think the distance between the power station and the community will not affect the community. Tests are also being conducted to ascertain the truth if those that claim grave sites that those graves belong to them.	[redacted] (Ex Matimba employee), Comments raised at Public Meeting held in Steenbokpan on 12	**Responses provided at the Public Meeting:** Processes have been undertaken to compensate for the loss of graves for those that have a right. ***Eskom, the proponent***

		March 2018.	
1.3.20	What happens to the dirt water that is used from the WFGD system?	[redacted] (Resident in Lephalale), Comments raised at PM in Lephalale on 13 March 2018	**Responses provided at the Public Meeting:** The system uses water for two reasons, namely for evaporative cooling and process induced water for the reaction, accordingly the evaporative water evaporates to the sky it can be seen as a plume from the chimneys, and the process water is cycled back in to the Zero Liquid Discharge (ZLD) system. ***Leon van Wyk, Eskom***
1.3.21	What happens to the effluent discharge from the WFGD system?		**Responses provided at the Public Meeting:** The effluent will be treated from a waste treatment plant within the Power Station. ***Leon van Wyk, Eskom***
1.3.22	Is the Eskom going to use clean water or grey water from the system?	[redacted] (Env Manager at NCC), Comment raised at PM in Lephalale on 13 March 2018	**Responses provided at the Public Meeting:** There no specifics on the water requirement on the system, even processed water can be used. Currently there is a plan to get the processed water from Pretoria via the MCWAP Phase 2A scheme. ***Leon van Wyk, Eskom***
1.3.23	Was the cumulative assessment on air quality done?		**Responses provided at the Public Meeting:** Yes, cumulative impacts were assessed by the air quality specialist through the scenarios that was modelled and also since it's an air quality priority area. ***Mathys Vosloo, EAP***
1.3.24	What are the characteristics of the ash composition?	[redacted] (Landowner), Comment raised at PM in Lephalale on 13 March 2018	**Responses provided at the Public Meeting:** The composition will remain the same accept that there will be an addition of calcium sulphide and or calcium sulphate in the mixture. ***Leon van Wyk, Eskom*** Mr Emile Marrel (Environmental Manager at Eskom Medupi Power Station) offered to extend meeting invitations to Mrs Pretorius on their Environmental Management Committee (EMC).
1.3.25	Will there no temporary waste disposal sites in Lephalale?	[redacted] (Councillor Lephalale Municipality), Comment raised at KSW in Lephalale on 13 March 2018	**Responses provided at the Public Meeting:** The EIA deals only with the existing disposal facility. Gypsum will be disposed with ash on the existing facility, while salts and sludge will be temporarily stored on site within the Medupi Power Station footprint, before being trucked to an existing disposal facility. ***Mathys Vosloo, EAP*** Eskom is running a project to investigate future disposal facilities for Medupi,

			which include finding an extension to the existing ash disposal and a new hazardous disposal facility. The intent is to establish a regional hazardous disposal facility or for Eskom to at least be the front runner in providing this solution. This is currently in a pre-feasibility stage and will move towards a feasibility stage by the end of 2018. ***Theuns Blom, Eskom*** There is already a shortage of space on existing facilities in Lephalale. Eskom is looking at piloting the regional disposal site to cater for regional waste instead of trucking it all the way to Johannesburg. This initiative will be looking at creating employment opportunities for the broader community. ***Emile Marrel, Medupi Power Station (Eskom)*** The original planning included a proposed space for the remaining 30 years of disposal, but upon investigation this site was not suitable. Therefore, in order to support the implementation of the FGD, investigation of a new site was proposed as a separate process to streamline the FGD authorization process. ***Tobile Bokwe, Eskom***
1.3.26	Are there any plans for using the gypsum in downstream beneficiation to help locals to make use of this opportunity?	[redacted] (Councillor Lephalale Municipality), Comment raised at KSW in Lephalale on 13 March 2018	**Responses provided at the Public Meeting:** Considering the quality of coal that the power station is burning and the quality of limestone the FGD process is designed for, Eskom is anticipating that it will end up with a gypsum of a quality usable for agriculture. That said, once we have a stable production of gypsum, it will be re-classified as a resource and only at that point can we understand what the gypsum will be most suitable for. ***Theuns Blom, Eskom*** You need to wait for all the units to be running in order to get a representative sample of the gypsum to be re-classified. ***Sifiso Mazibuko, Medupi Power Station (Eskom)*** The power station has been designed to allow for future offtake of gypsum. If Eskom comes to a decision to use gypsum then the plant will be ready to implement this future offtake. ***Leon van Wyk, Eskom***
1.3.27	How labour intensive is it to construct the FGD units and	[redacted]	**Responses provided at the Public Meeting:**

	will locals have employment opportunities based on skills levels required?	(Councillor Lephalale Municipality), Comment raised at KSW in Lephalale on 13 March 2018	Eskom is in the process of establishing an execution entity, which will have a set number of Eskom employees and unskilled, semi-skilled and skilled laborers. Eskom is working with the Medupi sustainability department to see how it will manage labour requirements. Eskom is planning to mobilise more than one team during construction of the units which will mean that there will be a shorter construction time but with more labour at peak time, i.e. a group of about 4000 people, which will include un-skilled, semi-skilled and skilled labour. ***Theuns Blom, Eskom***
1.3.28	What is plan B if MCWAP Phase 2A does not deliver water in time?	[redacted] (Councillor Lephalale Municipality), Comment raised at KSW in Lephalale on 13 March 2018	**Responses provided at the Public Meeting:** Currently the station already has guaranteed water allocation for the entire Medupi Power Station and 3 of the FGD units. If you look at timelines it is more than adequate in advance to supply water until MCWAP Phase 2 is operational. Eskom is also having regular engagement with DWS and TCTA regarding the MCWAP delivery, which shows a general support from the government to move the MCWAP project forward. ***Theuns Blom, Eskom***
1.3.29	Why is Eskom not driving the water use license application concurrently with the EIA process?	[redacted] (DWS), Comment raised at KSW in Lephalale on 13 March 2018	**Responses provided at the Public Meeting:** The process has been run concurrently, but due to detailed information requirements the WULA has run behind. Late in 2017 a meeting with DWS regarding the sensitive wetland area indicated that a wetland offset would be required. This has filtered into the staggered submission of the WULA. ***Mathys Vosloo, EAP*** The DWS is now running an online submission system, but a number of activities required by the system is already been undertaken. We will be uploading the existing data in order to move through the different phases of the online submission. One the main application has been completed it will be uploaded into the system in order to meet decision making timeframes. Therefore, Eskom is not looking at the full 300 days from submission of the application as it has uploaded the previous documents as per the requirements of the online submission system. ***Felicia Sono, Eskom*** From a PPP perspective, once the WULA documentation is completed it will be made available to the public for review. The public meetings include

			aspects of the WULA well so therefore once the WULA is available another public meeting will not be undertaken as the public is made aware of the WULA at this stage to allow discussion on any aspects. ***Tobile Bokwe, Eskom***
1.3.30	Has a source of the limestone been determined yet, and if so where will it be sourced from?	[redacted] (Concerned Citizens of Lephalale), Comment raised at KSW in Lephalale on 13 March 2018.	**Responses provided at the Public Meeting:** The source of Limestone is going to be from the Northern Cape from where it will be transported via rail to the Vaal Triangle. From the Vaal Triangle it will be trucked to Medupi. Eskom is investigating how best to transport the limestone via rail to the station. Eskom is however, considering using limestone from closer sources in Limpopo, but until such time the business case has been presented and accepted by the Eskom board the primary division cannot approve new suppliers for the limestone. ***Theuns Blom, Eskom*** Limestone and lime are very different materials. Lime is a product of limestone once it has been manipulated through calcination. Limestone is available in the area and as a company we go to the worst case in terms of our planning, that is sourcing out of the Northern Cape. Eskom is perusing the option to source the limestone from local sources. It was also quite an effort to redesign the FGD to take lower quality limestone. ***Leon van Wyk, Eskom***
1.3.31	Is it a complicated process to separate the gypsum from the water, sludge and salts, heavy metals, etc? Is there a plant that does that?	[redacted] (Concerned Citizens of Lephalale), Comment raised at KSW in Lephalale on 13 March 2018.	**Responses provided at the Public Meeting:** It is actually very simple to separate the waste. Liquids are separated from the limestone slurry. The fluids go to the hydrocyclones plant which again separate liquids from the solids. The liquids are treated and re-used in the system, while the solids are sent to the disposal facility. ***Leon van Wyk, Eskom***
1.3.32	Can we have a monthly record of emissions from the Medupi Power Station? Peak exceedances were presented, so how peak is the peaks and how does that effect the communities?	[redacted] (Concerned Citizens of Lephalale), Comment raised at KSW in Lephalale on 13 March 2018.	**Responses provided at the Public Meeting:** There are two sets of emission standards that are set for emissions. Currently it is the 2015 emission standards. With the spikes a problem that the power station face is varying qualities of coal. The coal in this area has a higher Sulphur content that in the highveld. A specification for the coal is set for the Medupi Power Station and if we can keep within this spec which levels out at about 1.8% Sulphur content, then the station can confidently remain within the 2015 standards. With the life of mine plan what we find is that the Sulphur

			content of the coal steadily increases, therefore when coal is used that has a Sulphur content higher than 1.8% it generally causes these spikes in the Sulphur emissions. At this stage, due the power station being under construction we cant consistently blend the coal to achieve an average Sulphur content below 1.8% to remain within the applicable limits. That is where we have these spikes. It is usually only on hourly periods. The average power station emission is well below 3500mg/Nm3. You are more than welcome to join the EMC where details of the emission profile can be discussed on a quarterly basis. With the commissioning of the FGD the new emission standards will be consistently complied with. Therefore, at this point in time there is very little influence from SO2 emission on the Lephalale area and surrounding area. ***Emile Marrel, Medupi Power Station (Eskom)***
1.3.33	If FGD is only using 2% of what the Limpopo River dumps in the sea, why is this area called a water scarce area?	[redacted] (Concerned Citizens of Lephalale), Comment raised at KSW in Lephalale on 13 March 2018.	**Responses provided at the Public Meeting:** As the MCWAP Phase 2 comes online, more water will become available in the area. Eskom also broadly rely on the planning and implementation of programs by the DWS. The MCWAP Phase 2 conceptually shows how water from a high rainfall area is transferred to an area of low rainfall for equitable use of water by all parties. ***Emile Marrel, Medupi Power Station (Eskom)*** The MCWAP Phase 2 also caters for water to the region not only for Eskom. ***Mathys Vosloo, EAP*** MCWAP will also provide water for other industries, mines, municipalities and communities. Eskom is therefore one of the users, it is the largest users but certainly not the only user. ***Emile Marrel, Medupi Power Station (Eskom)*** A benefit of the MCWAP Phase2 program is that it will free up better quality water for human consumption due to users such as Eskom rather making use of lower quality water through MCWAP Phase2 as opposed to its current use of good quality water through the MCWAP Phase1. ***Leon van Wyk, Eskom***

2	**COMMENTS RAISED DURING IMPACT PHASE (PRIOR TO THE RELEASE OF THE DEIR)**		
2.1	**SITE ALTERNATIVES SELECTION RELATED COMMENTS (The site selection process no longer forms part of the scope of work, none of the alternative sites we considered to be feasible)**		
2.1.1	An open hunting license has been awarded to the game hunting company.	[redacted] Landowner: Farm Fancy 518 One-on-One Meeting: 02 September 2015	Information noted and will be relayed to the environmental specialists to avoid this proposed site alternative as it is perceived as a safety risk. ***Nicolene Venter, Snr PPP***
1.2.3.2	Paying hunters move between the various farms at unannounced times and there is no communication between the hunting group and the base station, making walking on the farm a safety risk.		
1.2.3.3	To ensure the environmental specialists' safety, the three specialists that attended the discussion with Mr Lamprecht took the decision not to undertake their field assessment and they were: a. Mr Ian Jones, Soil Specialist, Earth Science solutions (Pty) Ltd; b. Mr Morris Sutton, Heritage Specialist, NGT Projects & Heritage Consultant; Ms Zetu Damane, Social Specialist, NGT Projects & Heritage Consultant.	[redacted] Soil Specialist; [redacted] Heritage Specialist; [redacted] Social Specialist One-on-One Meeting: 02 September 2015	No response required.
1.2.3.4	Property information was requested from Exxaro so that those site alternatives that are not feasible can be eliminated the early stage of identification and assessment.	[redacted] EAP: Zitholele Consulting Telephone Conference: 24 June 2015	No response required.
1.2.3.4(a)	The feasibility of Site Alternatives 6 and 10 (Hieromtrent 460; Vaalpensloop 313; Grootegluk 459; Leeuwdrift 312, Mc Cabesvley 311; Daarby 458 & Goedehoop 457) were queried.		It was confirmed that site alternatives 6 and 10 are on properties owned by Exxaro. Site alternative 6 is partially Grootegeluk and Vaalpensloop and these properties form part of the pit for which a MA has been issued. The pit will eventually extend to the farms Leeuendrift and Hieromtrent. The farm Vaalpensloop will accommodate the underground phase of Exxaro's

			Thabametsi Mine. Exxaro will first commence with the pit and then go underground. The MR for Exxaro's Thabamentsi Mine is in process. ***Filomaine Swanepoel, Environmental Manager, Exxaro***
1.2.3.4(b)	The feasibility of Site Alternatives 7 and 8 (Turfvlakte 468 & Enkelbult 462) was queried.		This proposed site alternative is situated on Exxaro's existing explosive magazine and the Farm Turfvlakte is also being considered for the pit. ***Filomaine Swanepoel, Environmental Manager, Exxaro***
1.2.3.4(c)	It was enquired whether there is a possibility to move the explosives magazine situated on site alternatives 7 and 8.		It would be technically possible but might not be feasible for Exxaro. ***Filomaine Swanepoel, Environmental Manager, Exxaro***
1.2.3.4(e)	The feasibility of Site Alternative 9 (Nelsonskop 464, Appelvlakte 448 & Vooruit 449) was queried.		Portions of these farms are not earmarked for mining as they might need to use it in their off-set plan and is not included in their MR area. It was also mentioned that Nelsonskop is an archaeological site, there are no roads and Exxaro wants to keep this area as pristine as possible. ***Filomaine Swanepoel, Environmental Manager, Exxaro***
1.2.3.4(f)	It was enquired whether Exxaro can share any information regarding the farms Zongezien and Ganzepan.		Exxaro's sewage plant is situated on the farm Zongezien and that they are in the process of negotiating a servitude over the farm Ganzepan. ***Filomaine Swanepoel, Environmental Manager, Exxaro***
1.2.3.4(g)	A portion of site alternative 7 is situated on Exxaro's Manketti biosphere reserve and that Manketti biosphere reserve forms part of Exxaro's environmental trade-off procedure. Manketti is currently being managed as a conservation area. ZC was also informed that the Lodge is situated close to site alternative 8 and is a commercial commodity of Exxaro.	[redacted] Environmental Manager, Exxaro Telephone Conference: 24 June 2015	Information acknowledged. ***Tania Oosthuizen, EAP***
1.2.8.1	The project team was informed that no geotechnical assessment (drilling of test holes) may be undertaken on his property without compensation.	[redacted] Landowner: Farm Fancy 518 One-on-One Meeting: 02 September 2015	The information received was forwarded to Eskom for decision-making. ***Nicolene Venter, Snr PPP***
2.2	**CONSULTATION AND COMMUNICATION RELATED COMMENTS**		
1.2.9.1	We are still waiting for our PPP at Marapong and Steenbokpan. Humbly request – got a local radio station called Lephalale FM and community at large to be	[redacted] E-mail: 19 July	Please receive herewith acknowledgement of your comment submitted in the e-mail below. A formal response will be forwarded in due course.

	informed of the project as some cannot read and some are disabled.	2015	***Nicolene Venter, Snr PPP*** The details of the proposed public meetings was broadcast on Lephalale FM, however the public meeting could not continue due to protest action. ***Mathys Vosloo, EAP***
1.2.9.2	It was enquired whether any arrangements about pending public participation processes that must be implemented at Marapong and Steenbokpan.	E-mail: 24 July 2015	Please note that the public participation process is an ongoing process. It is believed that you are referring to a public meeting to be held regarding the proposed Medupi Flue Gas Desulphurisation project. We will keep you informed regarding this matter. ***Nicolene Venter, Snr PPP***
	Thanked the team for their response and are happy with the updates.	E-mail: 25 July 2015	
1.2.9.3	Your previous public participation excluded Marapong and Lesedi which are the most affected communities. The reasons for cancellation of the meeting were never communicated to the community. The meeting was cancelled in a short notice and the mode of cancellation. Community of Lesedi was never invited and there was no arrangement at all for them. In this regard I would like to draw your attention to the wind direction in Lephalale and taking into account the location of Medupi versus Lesedi (Steenbokpan). In this regard I would like to request to justify why Lesedi is on part of affected and interested community. I guess you are not undermining us because of skin pigmentation. We demand our public participation meeting so that we can address our viewpoint and also to ensure that our views are taken into account when determination is made about our welfare. Failure to engage will lead us taking this matter to relevant authorities so that we can be taken serious.	[redacted] E-mail: 15 July 2015	Please receive herewith acknowledgement of SANCO's comments submitted in the e-mail below. A formal response will be forwarded to SANCO in due course. ***Nicolene Venter, Snr PPP*** The team met Mr Maake at Eskom's EMC public meeting on Tuesday 01 September 2015 and was informed that a public meeting for the proposed Medupi FGD will be held before the end of 2015. The date, time and venue will be communicated to all registered on the project database and any other means to ensure that the community of Marapong is informed timeously. ***Nicolene Venter, Snr PPP***
1.2.9.4	The following documents were requested from Exxaro: • Boundary of Manketti Game Reserve • Layout of their planned Thabamentsi Mine • Mining Plan	[redacted] EAP: Zitholele Consulting Telephone	The requested information was received via e-mail on 01/07/215.
1.2.9.5	The contact details of Exxaro's Manketti Reserve		The contact details were provided during the telephone conference and

	Manager were requested to include him on the project database.	Conference: 24 June 2015	captured on the project database. ***Nicolene Venter, Snr PPP***
1.2.9.6	The stakeholder was informed that there will be a long delay before the DEIR will be available for public review due to the site selection process currently underway.		Information noted. ***Filomaine Swanepoel, Environmental Manager, Exxaro***
1.2.9.7	Requested a copy of the 10km site selection radius map showing the property ownership.	[redacted] Lessee: Farm Kromdraai One-on-One Meeting: 01 September 2015	The map was forwarded via Dropbox on 18 September 2015. ***Nicolene Venter, Snr PPP***
1.2.9.8	Other specialists that may require access to the Farm Fancy will not access the site until confirmation has been provided that no hunting will occur for the duration of their investigations on site.	[redacted] Snr PPP: Medupi FGD Project One-on-One Meeting: 02 September 2015	No response required.
1.2.9.9	At the meeting held, it was agreed that Mr Lamprecht will provide ZC with three (3) dates per week for the following three (3) months when hunting will not be taking place. These dates will be communicated to the specialists and Zitholele Consulting will confirm their field assessments with Mr Lamprecht's attorney, Mr Ettiene Rossouw, as representative of Mr Lamprecht.		Request was confirmed per letter dated 16 September 2015 that was e-mail to Mr Rossouw. ***Nicolene Venter, Snr PPP***
1.2.9.10	A Google Earth map indicating the geotechnical testing holes that are planned to be undertaken on the Farm Fancy will be forward when required. This map, together with an outline of the activity.		Once the dates for the geotechnical survey have been confirmed with Mr Rossouw, the map and information, as requested, will be forwarded. ***Nicolene Venter, Snr PPP***
3	**COMMENTS RAISED DURING THE FINAL SCOPING REPORT (FSR)**		
3.1	**COMMENTS RAISED BY AUTHORITIES**		
3.1.1	**South African National Biodiversity Institute**		
1	SANBI is a public entity mandated to act in an advisory or	[redacted]	Note is taken that SANBI will not participate as an I&AP for this proposed

	consultative capacity on matters relating to biodiversity to the Department of Environmental Affairs (i.e. the "competent authority"). The Department and its provincial counterparts are welcome to engage SANBI for advice and/or comment on specific matters related to biodiversity information relevant to this application, if such input is required. Such advice or comment is not equivalent, however, to the comment required as per the NEMA regulations from commenting authorities. SANBI restricts its comment to the accuracy and relevance of the biodiversity information that should inform the Environmental Assessment.	Deputy Director: Biodiversity Planning and Policy Advice [redacted] Letter: 05 November 2014	project. However, SANBI will remain on the project database to ensure that they receive project related information as and when available. ***Nicolene Venter, Public Participation Practitioner*** The biodiversity specialist will reference the information obtained from SANBI's website in the Biodiversity Report appended to the DEIR. ***Sharon Meyer-Douglas, EAP***
2	SANBI thus also declines to participate as a commenting authority in this application. For comment on the biodiversity impacts of the development, please consult the relevant provincial conservation agency.		We can confirm that the provincial conservation agency, DETEA, who is also a commenting authority for this proposed project, are part of the consultation process. ***Nicolene Venter, Public Participation Practitioner***
3	I also encourage you to visit our web portal http://biodiversityadvisor.sanbi.org for free access to special biodiversity information relevant for the land use planning and decision making processes.		The biodiversity specialist will reference the information obtained from SANBI's website in the Biodiversity Report appended to the DEIR. ***Sharon Meyer-Douglas, EAP***
4	Referencing the special biodiversity resources found on the Biodiversity Advisor in the early stages of project development can support informed planning and decision making while helping to timeously "iron out" obstacles that might otherwise result in delays and additional costs to the project proponent. Such a proactive approach can:		
4.1	▪ Show the decision-making authority that potential conflict between biodiversity priorities and other land uses has been identified and resolved by well-informed project planning;		
4.2	• Allow the proponent to take an informed decision about the biodiversity (and administrative and, by implication, financial) risks of proceeding with a particular project; and		

4.3	• Identify the scope, type and intensity of environmental assessment that is likely to be required if an application were to proceed.		
5	This approach also supports best practice in environmental assessment and planning by:		
5.1	• Ensuring that a project is consistent with the "Duty of Care" principle (I.e. that the project proponent has taken reasonable measures to prevent significant degradation of the environment);		
5.2	• Emphasizing the fundamental role of alternatives in selecting the best practicable environmental option;		
5.3	• Giving effect to the mitigation hierarchy, i.e. the sequential avoidance, minimizing, mitigating and remedying of impacts that may result in loss of biodiversity or disturbance to ecosystems; and		
5.4	• Supporting the principle that environmental management must pay specific attention to planning procedures pertaining to sensitive, vulnerable, highly dynamic or stressed ecosystems.		
3.1.2	**LIMPOPO DEPARTMENT OF ECONOMIC DEVELOPMENT, ENVIRONMENT & TOURISM**		
3.	The Department has reviewed the final SR & PoS for the above-mentioned development end the comments are as follows:	[redacted] Department of Economic Development, Environment and Tourism Letter dated: 30 June 2016	
	3.1 An Atmospheric Impact Assessment Study relating to NOx dispersion must be conducted and submitted to the National Department of Environmental Affairs for review		An Air Quality Impact Assessment was conducted and forms part of the EIA report (Refer to **Appendix G-**6)
	3.2 The Area within the proximity of the stacks must be bunded to prevent corrosion owing to the low PH water droplets from the slacks		Comment noted. The areas around the stakes have been declared as dirty water areas, therefore any run-off from this area will report to the Pollution Control Dams. The Maintenance and Operations Manual for these areas will form part of the Final Engineering Designs for the plant.
	3.3 The air pollution control device (abatement equipment) maintenance programme must be developed and Implemented to ensure that the air pollution control device does not result in substantial emission increase		It should be noted that the objective of the FGD is to reduce the level of air pollution generated by the station. The station will continue to utilise the existing maintenance plan to reduce the possible increase in air pollution.

	3.4 The knowledge of the prevailing wind should be taken into account when positioning the limestone stockpiles and gypsum disposal sites		Comment noted. The information on the prevailing wind in the area where taken into consideration prior to the selections of the limestone stockpiles and gypsum disposal sites.
	3.5 The limestone handling activities should be contained within a confined space and measures should be undertaken to minimise generation of fugitive dust		Comment noted. Please note that the dust suppression measures proposed in the DEMPr (**Appendix H**) will be implemented to minimise the generation of fugitive dust.
	3.6 Appropriate methods to control fugitive dust from the gypsum disposal site must be applied at all times		
	3.7 The transportation equipment must be covered in such a way that fugitive dust emissions are minimized.		The Transportation of Hazardous Substances standards will be implemented in order to minimise fugitive dust emission during.
3.1.3 INTERESTED AND AFFECTED PARTIES			
2.2.1	The FSR fails to meet the prescribed requirements for a scoping report.	[redacted] Attorney: CER Letter: 13 July 2015	It was requested that the CER indicate what elements preclude the FSR from the required format, as Zitholele has worked according to the National Environmental Management Act (Act 107 of 1998 as amended) as well as to the National Environmental Management: Waste Act (Act 59 of 2008 as amended). The FSR has been accepted by the competent authority. ***Sharon Meyer-Douglas, EAP***
2.2.2	A Project Schedule Study should be included as a specialist study to investigate opportunities to expedite the FGD project schedule and the potential to co-commission the last few units with FGD.		The timeframes for the implementation of the FGD process have been discussed within the report as well as within the responses in the Comments and Response Report (versions 1 and 2). Any information regarding the Medupi Power Station should be requested from the EMC of the power station. ***Sharon Meyer-Douglas, EAP***
2.2.3	The FGD schedule, together with the risk register (which apparently outlines the various risks and mitigation measures associated with the FGD project) should also be made available to all stakeholders.		The Environment Impact Assessment sole purpose is to identify and mitigate any risks that are highlighted during this exercise. There is no requirement for a Scoping Report or any other EIA document to provide a project schedule or risk register to the stakeholders. The purpose of the EIA process is to identify environmental impacts and practicable mitigation. ***Sharon Meyer-Douglas, EAP***
2.2.4	An independent water minimisation study, to investigate interventions to reduce and reuse water, should be included as a specialist study in the impact assessment phase. Further, the impact of the project's water use on other water users within the catchment, especially non-		DWS is the custodian of water within the country and therefore it is accepted that DWS has undertaken all appropriate water investigations prior to allocation of water to any water user. The client will be applying for water allocation from MCWAP Phase 2A and DWS will be the responsible party in making a decision for allocation. The DWS has made provision for the water

	strategic users, should be evaluated and address in the Impact Phase. The study should ensure the alternative water sources are investigated as a contingency.		requirements for all relevant water users when allocating water to Eskom from the Mokolo River (Mokolo Dam) as well as future water supplies from the Crocodile River (West). Detailed water demand forecasts of all known users and water resource studies have been done by DWS. In terms of Water Minimisation, Eskom implements the Zero Liquid Effluent Discharge(ZLED) philosophy to ensure water minimisation is implemented at Medupi Power Station, which includes reduce and re-use options. ***Sharon Meyer-Douglas, EAP***
2.2.5	Eskom should conduct an additional study if there are plans to extend the ash disposal facility.		Eskom has to ensure ashing facilities for the life of plant, which will require that the current ashing facilities are extended in the future. Eskom will comply to all legislative requirements in this regard. ***Sharon Meyer-Douglas, EAP***
2.2.6	Specialist studies on transport impacts shold be included in the Plan of Study for the EIA to the extent that the previous study conducted does not address the concerns set out in these submissions.		The detailed traffic impact study, as with all specialist studies, will be carried out during the EIA Phase. The traffic impacts assessed will be related to the transportation of waste for off-site disposal. ***Sharon Meyer-Douglas, EAP***
2.2.7	Surface and ground water specialists should be appointed since these are identifies as important in the terms of reference (ToR) for specialist studies and water is a core concern in the area.		Surface and ground water specialists are part of the specialists' team as presented in the FSR. As with all specialist studies, a groundwater and a surface water study will be conducted within the EIA Phase. These studies will be related predominantly to the disposal facilities, as these are identified as having a potential risk to groundwater and surface water. ***Sharon Meyer-Douglas, EAP***
2.2.8	If Eskom will be installing wet FGD for Medupi, it would be unacceptable to proceed without including the flue gas cooler in the design.		The statement is noted. The flue gas cooler was discussed within the FSR and will be further assessed within the EIA phase. ***Sharon Meyer-Douglas, EAP*** The feasibility of the flue gas cooler was assessed in late 2017 and early 2018 by Eskom through an updated technology selection report dated 16 February 2018. This report concluded that the gas cooler technology was not feasible for the conditions at the Medupi Power Station. The report is included in the DEIR as Appendix C-1. ***Mathys Vosloo (EAP)***
2.2.9	Gypsum disposal should be considered a last resort and market opportunities for the sale of the large quantities of gypsum to be produced should be sought;		Eskom has undertaken market research to identify users of industrial gypsum. The research has highlighted that the operations at the Kusile Power Station (installed with FGD) would fulfil and exceed the identified market need even prior to the commissioning of the Medupi FGD system. Therefore, the

			authorisation process must look at the worst case scenario for the disposal volumes of gypsum. Should there be an increase appetite in the commercialisation of industrial gypsum in the future. Medupi Power Station can be modified to cater for transport of gypsum to the appropriate market. However, at this stage, sale of gypsum is not a viable option. ***Sharon Meyer-Douglas, EAP***
2.2.10	The new gypsum disposal facility proposed as a feasible disposal alternative in the DSR should be included for evaluation in the impact assessment phase and the disposal of the gypsum in its own compartment in the future as ash disposal facility (ADF) should also be evaluated.		These options will be assessed and discussed within the EIA Phase. The conceptual designs of the preferred disposal facilities for FGD waste will be made available within the EIR. However, it must be noted that the EIA is proceeding with the understanding that gypsum will be disposed of with ash at the disposal facility. ***Sharon Meyer-Douglas, EAP***
2.2.11	For the waste comparative study, the FSR should provide a clear outline of the intended methodology for the study.		What waste comparative study is being referred to here, please may further clarification be provided to aid the response to the point. Zitholele has undertaken a Waste Classification Study and the report was made available as Appendix H (Waste Classification Report) to the FSR. There are no future waste related studies pending for this process. Zitholele has undertaken site selection for waste disposal and a screening report has been made available to inform the stakeholders of the methodology and outcome of the site selection screening of the initial 12 locations identified, to focus on the three site alternatives. Site selection will form part of the EIA Phase. ***Sharon Meyer-Douglas, EAP***
2.2.12	Eskom should provide explicit ToR for all specialist studies relevant to the project, including those that only need updated; and		Zitholele can now provide feedback that the FSR was accepted by the competent authority, the Department of Environmental Affairs (DEA). Stakeholder was provided with the segment extracted from the FSR, page 74. ***Abstract as referenced above was included in the response letter which is included in Appendix F.*** ***Sharon Meyer-Douglas, EAP***
2.2.13	For the impact assessment methodology, the FSR should include a Plan of Study for EIA which must consider the extent to which an impact could lead to irreplaceable loss.		This was provided within the FSR. The FSR was accepted by the competent authority, the DEA. Stakeholder was provided with the segment extracted from the FSR, page 74. ***Abstract as referenced above was included in the response letter which is included in Appendix F.*** ***Sharon Meyer-Douglas, EAP***
2.2.14	Failure to comply with the prescribed requirements of a scoping report:		The FSR was accepted by the competent authority, the DEA. Stakeholder was provided with the segment extracted from the FSR, page 74.

2.2.14(a)	The FSR fails to meet the requirements of a scoping report in that it does not clearly communicate the scope and type of specialist studies, or the impacting activities that must be investigated. Regulation 28 (1)(n)(i) of the 2010 EIA Regulations1 provides that: "*A scoping report must contain all the information that is necessary for a proper understanding of the nature of issues identified during scoping, and must include-* *a plan of study for environmental impact assessment which sets out the proposed approach to the environmental impact assessment of the application, which must include-* *a description of the tasks that will be undertaken as part of the environmental impact assessment process, including any specialist reports or specialised processes, and the manner in which such tasks will be undertaken"*		All of the impacting activities were included within Section 2 of the FSR, page 4. Section 9.2, page 68, of the report provides the terms of reference of the specialist studies anticipated for the EIA Phase. ***Sharon Meyer-Douglas, EAP***
2.2.14(b)	The purpose of a scoping report is to identify key issues and concerns, alternatives that must be assessed, and to provide explicit ToR for specialist studies to evaluate potential impacts and their significance.		Agreed. The FSR, as per responses above, has been accepted by the DEA as addressing these key objectives. ***Sharon Meyer-Douglas, EAP***
2.2.14(c)	The FSR notes that: "*For instances whether the quantities and economics do not justify use of rail, trucking will be used as an alternative to transport. Trucking will also be used as a contingency for the conveyors, or where there may be unforeseeable problems with rail transport. The trucking on site will be minimal. However, depending on the disposal option taken forward, wastes may need to be trucked to the appropriate disposal facility/ies off-site. In addition, the lime and soda ash (for water treatment) will be delivered to the power station via truck. Applicable dust suppression mechanisms will be employed as required*."		Zitholele Consulting confirms that the abstract provided are as per the FSR. ***Sharon Meyer-Douglas, EAP***
2.2.14(d)	The extent to which trucking could be used, and/ or the		Comment noted. At the stage of the FSR, the conceptual designs of the

	traffic implications of that option, particularly given the poor state of roads in the area, are not clear. Should there be negative impacts on roads as a consequence, there would be implications in terms of the need to remedy such harm, in line with the 'polluter pays' principle.		disposal facilities and the preferred sites for the disposal facilities were not finalised. As soon as these have been finalised, the Traffic Impact Assessment of potential impacts on local roads can commence to address all traffic implications and recommend appropriate mitigation measures, where required. The traffic impact study will be focused on the transport of waste to off-site disposal facilities. Other traffic impacts related to the Power Station have been assessed within the original EIA. ***Sharon Meyer-Douglas, EAP***
2.2.14(e)	The FSR states that transport alternatives will be discussed and potential methods will be rationalised during the Impact Assessment Phase. The Plan of Study for the EIA refers to "traffic impact studies", stating that the original study for the Medupi Power Station will be utilised. The FSR also states that many of the original studies need updating for the FGD project, but fails to indicate which studies will be updated or how. If the Medupi traffic impact study to which the FSR refers does not adequately address the concerns our clients raise in paragraph 6 above, these should be addressed through specialist studies.		Comment noted The original EIA Traffic Impact Assessment will be utilised for the FGD related traffic impacts. However, a new TIA has been commissioned specifically for the transport of waste off-site. In particular, the Traffic Impact Assessment will be much affected by where the waste will need to be transported to for disposal. The specialist studies that will be updated from the original EIA are the air quality assessment, the ecological assessment and the socio-economic assessment. The remaining studies will be utilised from the original EIA, and cover the footprint of the power station. Additional studies have been commissioned for the off-site disposal facilities. These include: • Traffic impact assessment; • Ecological assessment; • Groundwater study; • Surface water study; • Socio-economic study; • Heritage impact assessment; • Air quality and noise study; • Visual impact assessment; • Geotechnical assessment; and • Soil and land capability studies. ***Sharon Meyer-Douglas, EAP***
2.2.14(f)	According to the FSR, materials such as limestone are to be brought in by means of rail–to-rail siding, and if saleable quantities of gypsum are produced, they would be transported by rail too. It is not clear whether this railway line is an existing one, or a new one. The FSR addresses only the rail siding. This should be clarified.		The transport of limestone and gypsum to and from the power station, respectively, is still to be confirmed, but will be by truck and/or by railway. A rail siding is included within the current EIA for authorisation. This siding will provide the Power Station with access to the existing railway line to the south west of the power station footprint. ***Sharon Meyer-Douglas, EAP***
2.2.14(g)	Our clients noted that comments made in the 12		This is not the focus of the EIA study. During design, the schedule for fitment

	December 2014 comments on the DSR were not taken into account. Our clients had stated that a specialist study should be included in the EIA process to investigate the feasibility of co-commissioning as many units as possible with FGD. It appears that Eskom dismissed the specialist study request, stating that they had already undertaken such an investigation. They went on to state that "*it was found not to be feasible to commission any of the units with FGD.*" No evidence was provided in support of this statement, which our clients find unacceptable.		of the FGD was established. ***Sharon Meyer-Douglas, EAP***
2.2.14(h)	The FSR notes that many specialist studies will need to be updated with specific reference to the FGD retrofit, and in particular with regard to the disposal of the additional waste generated by the FGD process. Neither section 5.3 - specialist studies, nor section 9.2 -- ToR for specialist studies, makes mention of either surface water or groundwater specialists being required. This is an important oversight as impacts on water resources are a core concern. It must be addressed.		For all activities within the Medupi footprint the original specialist studies will be utilised as were include in the power station EIA and informed authorisation. The following specialist studies will be updated for FGD activities within the power station footprint: • Ecology assessment of the rail siding and limestone and gypsum handling area; • Air quality; • Socio-economic. The specialist studies to be carried out off-site at the alternative disposal facility sites will include: 1. surface water; 2. groundwater; 3. soil and land capability; 4. visual impact assessment; 5. ecological assessment; 6. air quality impact assessment; 7. geotechnical investigations; 8. traffic impact assessment; 9. heritage impact assessment; 10. social impact assessment; and 11. conceptual design of the disposal facilities. The terms of reference for the specialists for this scope of work will be provided within the EIA Report. ***Sharon Meyer-Douglas, EAP***
2.2.14(i)	However, section 5.3 also states that, if alternative waste disposal sites are required outside of the existing Medupi		The terms of reference for the specialist studies will be provided within the EIA Report.

	Power Station footprint, specialist studies will need to be carried out, at the minimum, for groundwater, geotechnology, ecological assessment and surface water. Clarity is needed, and the explicit scale and scope of specialist studies in both site selection and comparative assessment must be accurately conveyed. ToR for such studies must be included in the Plan of Study for EIA.		***Sharon Meyer-Douglas, EAP***
2.2.14(j)	In considering the option of using the ADF to accommodate both type 3 wastes as well as of type 1 wastes, it is clear that this facility's footprint would need to be increased. Additional studies would be required if expansion is needed.		Subsequent to discussions held with the competent authorities, the project will proceed on the assumption that the Type 3 wastes will be disposed of at the current Medupi Ash Disposal Facility, with a licensed Class C barrier system. Type 1 wastes will be disposed of at a new site. ***Sharon Meyer-Douglas, EAP***
2.2.15	Eskom intends to retrofit the FGD plant during the first mini general overhaul (MGO) of the respective generating units, which will happen six years after the commercial operation (CO) of each respective unit. Our clients disagree with this retrofit schedule and argue that as many units as possible should be commissioned with FGD from the start, as this would considerably reduce the SO2 emissions of the plant over its lifetime - which is of critical importance to the regional air quality.		Eskom employs Project Management principles in terms of how it deploys Projects. The process of installing FGD to the power station has a lead time. This includes, amongst others, the EIAs, Water Use License and Waste Management License, and the design process. Once these are concluded a commercial process must be undertaken before installation and construction can commence. ***Sharon Meyer-Douglas, EAP***
2.2.16	Medupi Power Station is located in the Waterberg Bojanala Priority Area (WBPA), which was declared in accordance with s18 of the National Environmental Management: Air Quality Act (AQA). It is located roughly 7km from the existing Matimba Power Station, which emits approximately 302,000 tons of SO^2 per year. The daily SO^2 concentrations measured at Marapong and at Grootstryd exceed the World Health Organisation SO^2 guideline value of 20 µg/m 3. Therefore air quality in the vicinity of Medupi is already compromised and will be exacerbated as and when each Medupi power generation unit comes online. Under the scenario where both power stations are operating at maximum emission levels and Medupi is operating without FGD, ambient air quality concentrations are predicted to exceed the hourly and 24-		The timeframes as indicated above are correct. ***Sharon Meyer-Douglas, EAP***

	hourly average National AAQS for SO^2 by up to 60%. Although Medupi is intended to operate with FGD in the long term, under the proposed retrofit schedule each unit is planned to operate for six years with unabated SO^2 emissions, increasing the probability of AAQS exceedances during this time.		
2.2.17	Eskom intends to retrofit each FGD unit during its respective MGO. Co-commissioning the remaining units with FGD would considerably reduce both peak SO_2 emissions and total SO_2 emissions of the plant over its lifetime, thereby decreasing the probability and extent of AAQS exceedances. It would also bring forward the date of compliance with respect to the Minimum Emission Standards (MES) in terms of AQA. Although Medupi's Provisional Atmospheric Emission Licence (AEL) makes provision for five year postponement of compliance with the 2020 standards to 2025, the current retrofit schedule indicates that the FGD system will not be fully installed by this date.		The statement is correct – retro fitment will not be completed by 2025. Postponements are only allowed for a period of 5yrs so it was not possible to apply for a postponement beyond 2020. ***Theuns Blom, Eskom***
2.2.18	As set out above, Eskom appears not to have given proper consideration to our clients' request for a co-commissioning study. It dismissed the specialist study request, stating that they had already undertaken such an investigation. Without providing any evidence of this, it went on to state that "*it was found not to be feasible to commission any of the units with FGD.*"		The process of installing FGD to the power station has a lead time. This includes, amongst others, the EIAs, Water Use License and Waste Management License, and the design process. Once these are concluded a commercial process must be undertaken before installation and construction can commence. ***Sharon Meyer-Douglas, EAP***
2.2.19	Changes made to the EIA schedule suggest there is a risk that Eskom might not be ready to retrofit the first unit (Unit 6) at the time of its MGO. In response to previous stakeholder requests for the FGD project to be implemented earlier, Eskom has stated that 'according to the current project schedule, the first unit at Medupi can only be retrofitted from the start of 2021'. The project schedule presented in the most recent progress report to the World Bank indicates that the FGD retrofit of Unit 6 will be completed by December 2021, which aligns with		Comment noted. The project risk has been identified by the project team and work is being done on the development of a treatment plans to address the risk. ***Sharon Meyer-Douglas, EAP***

	the unit's six-year MGP that year. However this schedule does not take into account the changes made to the EIA timeframes in the FSR. Environmental authorisation is now expected in January 2018, two years later than was previously indicated in the DSR. Therefore the two-year extension to the EIA process presents the risk that Eskom might not be ready to retrofit the first unit (Unit 6) at the time of its MGO. Depending on its commissioning date, this risk may also apply to Unit 5.		
2.2.20	It is imperative that this risk be mitigated, as regional air quality and human health will be further compromised if Unit 6 operates with unabated emissions for more than six years.		Comment noted. The intent of the EIA is to identify and mitigate risk appropriately to the satisfaction of the relevant authority. ***Sharon Meyer-Douglas, EAP***
2.2.21	The World Bank loan agreement dated 16 April 2010 requires that Medupi install FGD and provides that: "2. The Borrower shall: *not later than June 30, 2013, develop, adopt and thereafter implement a program, satisfactory to the Bank, to install FGD equipment in each of the six power generation units of the Medupi Power Plant, taking into account technical, environmental and financial criteria in accordance with terms of reference to be discussed with the Bank, such program to be designed such that the installation of the FGD equipment for the first power generation unit shall commence on the later of (i) the sixth anniversary of the Commissioning Date or (ii) March 31, 2018 or such later date as the Bank may establish following consultations with the Borrower), and, thereafter, continue the installation of the FGD equipment sequentially, in each case thereafter at the time each of the remaining five power generation units is taken out of service for the first major planned outage, it being understood and agreed that all the FGD equipment for the six power generation units shall be installed and fully operational not later than December 31, 2021, or such*		No response required here.

	later date as the Bank may establish following the said consultations with the Borrower; and (b) afford the Bank a reasonable opportunity to exchange views with the Borrower on such FGD installation program at each of its preparation and implementation phases."		
2.2.22	It is also a condition in the Provisional AEL which provides that:		No response required.
	7.1.4. The License Holder shall, continuously operate, and maintain a flue gas desulphurization (FGD) plant for control of SO2 on all six units. The Flue Gas Desulphurisation plant shall be retrofitted in each unit within Six (06) years after the first commissioning of each unit and during the General Overhaul outages.		
2.2.23	Therefore the following should be included in the EIA process: <u>FGD Project Schedule Specialist Study</u>: There are a number of potential opportunities to expedite the FGD project schedule, including running the Public Finance Management Act (PFMA) approval process and the tender bidding and evaluation periods in parallel to the EIA process. These opportunities must be investigated in order to minimise the risk of delays to the retrofit of Unit 6, and to increase the feasibility of the last few units being co-commissioning with FGD. As this investigation is of direct relevance to air quality and human health within the WBPA, it should be included as a specialist study within this EIA process. In addition to identifying opportunities to expedite the schedule, the study should also investigate the potential to co-commission the last few units with FGD.		This proposed study is not a requirement for the EIA. Eskom will be working in accordance to an internally agreed schedule within the prescribes and guidelines of the internal procedures and processes applicable to deliver the project. This will be done with the full cognisance of the predetermined dates as communicated as it is in the best interests of all stakeholders, including Eskom to meet the timeframes. ***Sharon Meyer-Douglas, EAP***

2.2.24	Project schedule: The current Medupi FGD project schedule should be made available to stakeholders throughout the EIA process. Despite being of material importance to the EIA, it was omitted from both the DSR and the FSR.		The inclusion of a project schedule is not a prerequisite for the Scoping Report or for an Environmental Impact Assessment Report, as per the National Environmental Management Act (Act no 107 of 1998) as amended. ***Sharon Meyer-Douglas, EAP***
2.2.25	Risk register: The risk register, which apparently outlines the various risks and mitigation measures associated with the FGD project, should be made available to stakeholders.		The inclusion of a risk register is not a prerequisite for the Scoping Report or for an Environmental Impact Assessment Report, as per the National Environmental Management Act (Act no 107 of 1998) as amended. ***Sharon Meyer-Douglas, EAP***
2.2.26	With regards to the EIA process, our clients submit that the process can be managed more efficiently to avoid unnecessary delays. The process has already been extended by two years since the DSR, largely due to delays to date, and to the extension of the specialist study period. The process, which is still in the scoping phase, is already eight months behind schedule. Unnecessary delays have been noted, such as the extension to the DSR comment period by five weeks due to the omission of a key appendix from the DSR. The FSR inaccurately stated that this extension was included due to the fact that very few comments were obtained from the public and from key stakeholders, such as the local and district municipalities, during the original commenting period.		There were two extensions to the DSR public comment period: • one was for the provision of sufficient time for the stakeholders to review and comment on the Technology Selection Report that was made available after the DSR review period commenced; and • the other was to provide additional time to the commenting authorities, as no comments had been received from the municipalities after the first extension. The consultant and the client are undertaking to manage all delays to the process. It is in Eskom's best interest to submit the applications for authorisation and licensing as soon as possible. However, Zitholele do not want to rush the process and not provide the public with opportunity to engage on the project. ***Sharon Meyer-Douglas, EAP***
2.2.27	As delays to the FGD project have direct consequences for human health within the WBPA, our clients request that Zitholele Consulting and Eskom make every effort to reduce further unnecessary delays to the EIA process.		Comment noted. It is in the best interests of all stakeholders and Eskom to submit the environmental applications as soon as possible. ***Sharon Meyer-Douglas, EAP***
2.2.28	The proposed project, which is located in the water-scarce Lephalale Municipal area, requires more water than is currently available in the catchment. The Mokolo		The Client in conjunction with the relevant water authority plans such projects. As the custodian of all water resources within the Republic of South Africa, the Department of Water and Sanitation is engaged fully. Eskom will be applying for allocation of water from MCWAP Phase 2 for the purposes of the

	and Crocodile Water Augmentation Project (MCWAP) is being developed to supply additional water to the region. Although Phase 1 is almost complete, Phase 2, which involves importing water from the Crocodile River catchment, is six years behind schedule and the EIA process has not yet commenced. Although the MCWAP scheme has taken into account the existing and projected water needs of the region, periods of water shortages are anticipated, with scenarios suggesting shortages of up to 16 million m per year spanning a period of up to 19 years. These water shortages are likely to disproportionally affect the communities and other non-strategic water users within the catchment. Therefore, water-use is one of the most significant environmental and social impacts of the proposed FGD retrofit. Although the FSR does acknowledge this, the Plan of Study and specialist studies fail to adequately address water-related impacts.		FGD. It is implicit that DWS has undertaken the required studies and will be sufficiently informed to make a decision on all water use licenses submitted for allocation of water from the MCWAP scheme. DWS is mandated to take cognisance of all communities and other water users in the catchment when assessing such water use license applications. The Socio-economic assessment for the FGD project will assess the FGD water use on local water users. ***Sharon Meyer-Douglas, EAP***
2.2.29	In the DSR comments, our clients asserted that a water minimisation study should be included as a specialist study in the Integrated Environmental Authorisation process. This request was dismissed by Eskom in the FSR, stating, as part of the basic design process Eskom considered all of the water minimisation options as part of the life cycle assessment. However, no evidence in support of this statement was provided. Moreover, our clients question Eskom's commitment to water minimisation when the flue gas cooler (a design feature that reduces the FGD water consumption by 30% - without increasing costs or posing technical challenges) has not been incorporated into the basic design. An		The installation of the gas cooler will require significant additional infrastructure and poses challenges in terms of maintenance and integration. DWS is the custodian of water within the country and therefore it is accepted that DWS has undertaken all appropriate water investigations prior to allocation of water to any water user. The client will be applying for water allocation from MCWAP Phase 2A and DWS will be the responsible party in making a decision for allocation. DWS has made provision for the water requirements for all relevant water users when allocating water to Eskom from the Mokolo River (Mokolo Dam) as well as future water supplies from the Crocodile River (West). Detailed water demand forecasts of all known users and water resource studies have been done by DWS. ***Sharon Meyer-Douglas, EAP***

	independent water minimisation study, to investigate interventions to reduce and reuse water, should therefore be included as a specialist study in the impact assessment phase. The study should also take into account new technologies, such as condensing heat exchangers, membranes and liquid desiccant systems, which are currently being developed to capture and reuse water in the flue gas.		
2.2.30	In addition, the integrated environmental authorisation process approach to water use appears to have changed materially between the DSR and the FSR. Although the DSR did not include provision for a water minimisation specialist study, it did state that: *"The Wet FGD technology water utilisation requires that the Impact Assessment Phase investigate how the FGD retrofit at Medupi Power Station will:* - *Reduce water utilisation as far as practical;* - *Reuse water in a responsible manner; ;* - *Impact on other water users within the catchment;* - *Source water for the project; and* - *Investigate alternative water sources as a contingency.".* However, the FSR now reads (changes underlined): *"<u>Eskom endevours [sic] to continually investigate the following issues with regards to Wet FGD technology water utilisation</u>:*		There are no practical water source alternatives within the area in terms of surface or groundwater. The FGD technology is not being assessed as an alternative within the EIA process, but is rather being submitted for decision making and authorisation as the selected FGD retrofit. The impact of the water use by the FGD on other water users will be investigated within the Socio-economic study. The responsibility for ensuring the wellbeing of all water users in allocation of water remains with the DWS. The responsibility for managing the provision of water to water users is also with the DWS. The applicant is behaving responsibly by adhering to legislated requirements for license application and environmental authorisation processes. ***Sharon Meyer-Douglas, EAP***

	- *Reduce water utilisation as far as practical and financially feasible;* - *Reuse water in a responsible manner;* - *Impact on other water users within the catchment;* - *Source water for the project; and* - *Investigate alternative water sources as a contingency."*		
2.2.31	The FSR is therefore now less committed (than appears from the DSR) to addressing water-related impacts and seems to take the approach that the application for the Water Use Licence (WUL) would address all water supply and allocation issues, as well as water impacts, associated with FGD. This approach is questionable: a. These issues and associated impacts are predominant throughout the FSR; for example – "*It is anticipated that water utilisation by the Medupi FGD technology retrofit will be an issue of contention and needs to be addressed more rigorously within the Impact Assessment Phase*." "*water allocation and usage will be further investigated during the EIA Phase."* "*it is anticipated that the approval of the Wet FGD retrofit to Medupi Power Station will have a significant impact on water utilisation in the area."*		Water supply is based on the Phase 1 and 2 element of the Crocodile West Augmentation Project. The impact of the water use by the FGD on other water users will be investigated within the Socio-economic study. The responsibility for ensuring the wellbeing of all water users in allocation of water remains with the DWS. The responsibility for managing the provision of water to water users is also with the DWS. The applicant is behaving responsibly by adhering to legislated requirements for license application and environmental authorisation processes. ***Sharon Meyer-Douglas, EAP***
2.2.32	There is no indication that these issues and impacts are to be 'further investigated' during the EIA phase, based on the Plan of Study for EIA and the report is weak on a critical success factor for FGD installation and functioning, namely water supply.		
2.2.33	Despite it being evident that water-use is one of the main stakeholder concerns, the above suggests that the Plan		

	of Study and specialist studies fail to adequately address water-related impacts. Our clients submit that this is unacceptable and the following should be incorporated into the Scoping Report:		
2.2.34	An independent water minimisation study, to investigate interventions to reduce and reuse water, should be included as a specialist study in the Impact Assessment Phase.		The FGD operation is managed on a zero liquid discharge philosophy. All water within the process is reused and a waste water treatment plant for this purpose is part of the FGD infrastructure. Additional water is required to replace evaporation and other water losses by the system. ***Sharon Meyer-Douglas, EAP***
2.2.35	The impact of the project's water use on other water users within the catchment, especially non-strategic users, should be evaluated and addressed in the Impact Assessment Phase. Although not explicitly stated in the FSR itself, Appendix F8 states that: "… *[t]he use of water from MCWAP Phase 1 and 2 by the Medupi Power Station for energy production and for the FGD operation will be investigated as a key issue of significance and this will be assessed through the socio-economic assessment that is being commissioned*.		A Socio-economic impact assessment is being carried out and this will investigate the issue of water use within the study area. ***Sharon Meyer-Douglas, EAP***
2.2.36	Our clients agree that this should be investigated in the socio-economic assessment and expect this to be the case.		Statement is concurred with as this is deemed part of the socio-economic assessment. ***Sharon Meyer-Douglas, EAP***
2.2.37	There is a substantial risk that Phase 2 of the MCWAP will be further delayed or put on hold. Even if it is completed on time, water shortages are anticipated for extended periods. Insufficient water poses a serious threat to the FGD system, which relies on water to operate, as well as a threat to other water users in the catchment. It is therefore important that alternative water sources are investigated as a contingency, and this should be included in the specialist study that our clients recommended above.		The availability of water for FGD is an element that will be addressed in the EIA. ***Sharon Meyer-Douglas, EAP***
2.2.38	These studies are required in terms of section 24 of NEMA, which provides, *inter alia*, that procedures for the investigation, assessment and communication of the potential consequences or impacts of activities on the		Comment noted. Please indicate what studies are specifically required I terms of Section 24 of NEMA. ***Sharon Meyer-Douglas, EAP***

	environment must include, with respect to every application for an environmental authorisation, the investigation of mitigation measures to keep adverse consequences or impacts to a minimum.		

2.2.39	**Flue gas cooler**
	
	In the DSR comments, our clients asserted that the flue gas cooler should be included in the FGD basic design instead of being presented as an alternative in the EIA process. It was argued that the cooler will significantly reduce water consumption without increasing costs or posing technical challenges, and should therefore be integrated into the design. The response to this comment was the following:
	"Zitholele Consulting, on behalf of the applicant, would like substantiation and reference provided by CER regarding the comment that: "The cooler, which will reduce the plant's water consumption by around 30%, does not affect the project's costs or pose any technical challenges." This information is required from CER prior to Zitholele Consulting or the applicant responding to this comment."
	
	This response is unacceptable because the DSR, a report written by Zitholele Consulting, clearly states:
	
	"The technology selection report (2014) recommended that the client implement wet FGD technology. The technology with or without cooling were considered equal on an overall technical and economic basis."
			The history on this element is important as it puts the various reports into context:
			
			In 2014 Technology Selection Report
			• Eskom conducted a desktop study on the flue gas cooling technology and included this as part of the 2014 Technology Selection Study Report (TSSR). Please refer to 3.2.2.2, 3.2.3.2 and 3.4 of the TSSR.
			• The intention of the report was to conduct due diligence on the appropriateness of the selection of Wet FGD technology for Medupi. The report was aimed at documenting and explaining the rationale with regards to the selection of Wet FGD for Medupi with the technology information available at the time.
			• As part of normal technology selections studies during feasibility and conceptual engineering, various design alternatives are considered that will be matured during basic and detail engineering phases. Some of the design considerations (as was the case with the cooler), do not go into too much detail at this stage of the design as the intent is to review feasibility and narrow the scope of focus for the subsequent engineering phases. It was on this basis that the cooler was included as a design alternative, however the details surrounding the actual requirements for the fitment of the cooler, fit-for-purpose design and auxiliary requirements for this technology was not considered (which is typical at this design stage).
			• Therefore, the report does not consider:
			  ○ The heat sink that would need to be identified to dissipate the heat recovered from the flue gas and also the costing associated with this infrastructure.
			  ○ Actual maintenance costs - an industry standard allowance for maintenance costs of 1.25% was considered as the actual costs were not known. Differentiation in maintenance costs for the options with and without the cooler.

2.2.40	The above statement by the EAP was not repeated in the FSR. In the Technology Selection Study Report, an appendix to the FSR (but which was not attached to the DSR), Eskom provides detailed financial and technical information in support of our DSR comment. Zitholele's response is therefore unacceptable as it fails to address		

	our DSR comment, despite stating itself in the DSR that the technology were equivalent on an overall technical and economic basis and despite it being in possession of the evidence to support this statement – from a report it relied upon itself. In addition, it appears from the FSR that the cooler has now been withdrawn altogether as an alternative for consideration in the EIA process. The DSR addressed technology alternatives (e.g. wet and semi-dry FGD technologies) separately from design alternatives (i.e. the cooler) and put forward the cooler as a design alternative for evaluation in the impact assessment phase. However, instead of discussing design alternatives separately, the FSR includes the cooler as a technology alternative and, on the basis that the technology selection was undertaken prior to the EIA, concludes that: "*technology alternatives are therefore not addressed in detail, nor assessed in the impact rating for purposes of decision-making for this application*." The FSR also now states that the cooler "may be considered for a future retrofitment [sic] based *on an acceptable cost-benefit analysis.* This implies that the cooler is no longer considered a design alternative to be investigated in the EIA process, nor has it been incorporated into the basic design. Instead, the FSR suggests that it has been left to Eskom's discretion to determine if and when the cooler should be installed. Our clients find this unacceptable for several reasons:		o Different cooler materials and variances in the cost of materials. o Reliability of the coolers and its impact on Unplanned Capability Loss Factor (UCLF). • Information on these items was very limited at this stage, nevertheless it was decided to incorporate provisions for a potential future installation of a flue gas cooler as part of its basic design scope due to the potential water savings that may be realised. • While the desktop lifecycle cost analysis showed that the installation cost of the cooler could be offset with the reduction in operating costs due to the water savings, it is important to note that the above-mentioned items were not considered as part of the cost estimation. In other words, the cost estimate was based on a number of assumptions that needed to be verified in the basic engineering phase for the cooler. <u>2015 Basic engineering and 2016 Benchmarking for the cooler:</u> • During the basic engineering phase, Eskom considered the practicality of the inclusion of the flue gas cooler as well as the material selection and engineering philosophies (such as operating and maintenance). It became apparent that only a limited number of installations exist and the performance data of these were not publicly available. Most OEMs claim information based on performance testing, which is done very early during the life on these assets. It is therefore prudent that longer viewpoint on these elements be taken. • Further to the above, continuous discussions between Eskom and the World Bank due to loan conditions had Eskom look at semi-dry installations again as the technology was being employed on higher capacity units. • Eskom decided to conduct a dual-purpose benchmarking exercise to answer unknowns regarding both semi-dry installations and flue gas cooling. • Eskom therefore travelled to various power stations across Europe, USA and China to better understand the practical implications of this technology and the findings from the exercise form the basis of the update to the document (i.e. the 2018 TSSR). Europe and China were chosen due to their differences in technology applications for flue gas
2.2.41	Water-use is one of the most significant impacts relating to the proposed project, and interventions that minimise water consumption and reliance on the MCWAP scheme		

	(such as the cooler), are therefore of material importance to this integrated environmental authorisation process.		coolers. In Europe, coolers are applied after the particulate abatement technology and in China before the particulate abatement. These brought various design considerations with them which needed to be understood.
2.2.42	Under the 2010 NEMA EIA Regulations, applicants are obliged to identify and investigate reasonable and feasible alternatives to be comparatively assessed in the EIA process. The cooler is both The cooler is both reasonable and feasible, and should therefore be included, at the very minimum, as a design alternative. However, due to its obvious environmental benefits, the cooler should ideally be integrated into the basic design.		• The exercise revealed significant concerns relating to the reliability, maintainability and lifecycle cost of Flue Gas Cooler's (FGC's). These coolers use expensive materials i.e. stainless steel or PFA (polymer material). Medupi processes coal with a high sulphur and high abrasive ash with no neutralisation (and associated low adsorption) effect for the consideration using carbon steels. There is a high risk of erosion and corrosion damage (operating under sulphur dewpoint) to the heat exchanger tubes which results in reduction in heat exchanger efficiency (and therefore also a reduction in the water savings achievable) and significant plant downtime to plug damaged tubes and manually wash clogged tubes. Furthermore, the tube materials need to be replaced every 6-10 years (at a significantly high cost). Europe has opted for more expensive PFA materials with tube surface area that exceeds the heating elements in the boiler in some installations. The issue with these materials is that the tubes are prone to damage due to fly ash contamination and still prone to acid corrosion. The power stations visited with this installation have still required lifecycle material replacements.
2.2.43	It is evident from the comments on the DSR that water is one of the most significant stakeholder concerns. Therefore the decision to withdraw the water-saving cooler as a design alternative (without incorporating it into the basic design) is in direct contradiction to stakeholders' concerns		• The power stations visited in Europe and Asia as part of the benchmarking exercise were selected based on technology installed and accessibility to visit these plants and engage with the plant personnel. All three power plants visited in Europe advised against the installation.
2.2.44	Eskom's water policy states that it "will ensure all its new water containing infrastructure are designed, maintained and operated in a manner that water will be utilized effectively and efficiently and to ensure environmental duty of care." Eskom is also a signatory of the UN CEO Water Mandate, which aims to positively address the global water crisis. Eskom's refusal to incorporate the cooler into the Basic Design (or even propose it as a design alternative) is in direct contradiction to its own policies and commitments		• The technology (flue gas cooling) was originally developed solely for the purposes of achieving the exhaust flue gas temperature legislated to reduce the visible plume from the chimney (in Europe). This requirement has recently been removed from European legislation and power plants with the flue gas cooling technology are starting to decommission the heat exchangers due to the significant operational and maintenance burden.
2.2.45	The cooler is used by Eskom to justify the pre-selection of the water-intensive wet FGD technology over semi-dry FGD technology. It would therefore be unacceptable for Eskom to proceed with wet FGD without including the cooler in the design, or as a design alternative.		• In China, the cooling technology was introduced to improve the operational removal efficiency of the Electrostatic Precipitators with the added benefit of potential WFGD water savings.
2.2.46	The cooler is not expected to add to the project's lifetime costs. . However, even if it were the case that it increased the costs, the cooler plays such a critical role in addressing water-related impacts that it should be incorporated into the Basic Design or, at the very		• The high risk of erosion and corrosion damage and coupled with the characteristics (i.e. high abrasive ash and sulphur) of the Medupi coal

	minimum, be considered as a design alternative for assessment in this environmental authorisation process.		coupled with the experience of the international power plants cannot be ignored by Eskom as part of its decision making. • Water earmarked for Medupi WFGD comes from the return streams from Tshwane. This is a growing resource that is not being utilised, approximately 170 m^3/s is being discharged into the Indian ocean (total Limpopo river discharge). The Medupi WFGD water requirement is approximately 0.28 m^3/s for all six units. The Mokolo Crocodile West Augmentation Phase 2 is required to bring this water to the greater Lephalale area to stimulate economic growth. The business case for MCWAP 2 includes the infrastructure CAPEX built into the tariff and is dependent on the portion of off-take. The costs associated with the FGC cannot be offset with water savings due to the MCWAP 2 payment structure. • Water cost savings will therefore not be realised with a FGC installation and Eskom's participation in MCWAP 2 is part of the broader socio-economic strategy for the area. Eskom's Mokolo allocation will also be released for residential use once MCWAP 2 is completed. • Finally, it should be noted that the cost of the inclusion of the cooler was not the sole consideration for not implementing the technology. The technical considerations outweigh the cost implications as the pragmatic considerations of the technology for use in the South African context was deemed not to be viable. <u>2018 Technology Selection Study Report</u> This report was drafted taking into consideration new information which was not known during the 2014 report and therefore replaced the 2014 with an updated version. The report further shows Eskom's continuous commitment to ongoing market research in this space, and to extend this further, not only in the cooling technology but also lower water use technology for FGD (such as semi-dry systems). *Therefore, inclusion of the FGC technology was not considered to be an efficient, sustainable and broadly (i.e. technical, social, cost) responsible solution for Medupi and South Africa at this time. Eskom is committed to water conservation and employed ACC's at Medupi with an energy penalty of approx. 1.75% to reduce water consumption (Wet cooled power plant without*

			WFGD≈ 2 l/kWh vs dry cooled power plant with WFGD ≈ 0.35 l/kWh). Eskom has also maintained the status quo with respect to provisions in design for a potential future installation of a cooler. It is believed that advancements in materials science can improve the reliability and maintainability of the FGC technology to make it more favorable in the future.
2.2.47	**Bypass** The FSR indicates that a bypass will be included in the FGD system installation by retaining the existing ductwork to the stacks. Our clients find this unacceptable, as it will enable the plant to operate with unabated SO2 emissions, thereby further comprising the regional air quality. Instead, the FGD systems should be operated and maintained as an integral and essential part of each power generation unit.		This is an emergency by-pass system and will utilize the existing ductwork. The emergency by-pass system will only be utilized in emergency conditions. It should also be noted that continuous emission monitoring will be applied and that environmental legislation applies to all operating conditions. Usage of the emergency by-pass system will be incorporated into the licencing agreement. ***Sharon Meyer-Douglas, EAP***
2.2.48	**Gypsum Market Assessment**		
2.2.49(a)	Gypsum is one of the by-products of the FGD process and is a commercial ercial product. The sale of gypsum will bring about significant environmental and economic benefits compared to its disposal, including the minimisation of emissions and energy consumption associated with its landfill, the avoidance of impacts associated with the mining of natural gypsum and increased revenue streams against which to offset capital and operating costs of disposal. Therefore disposal should be considered a last resort and every effort should be taken by Eskom to identify potential markets.		In terms of the waste management hierarchy, the first priority of waste management is avoidance, followed by reduction in the quantities of waste, re-use and recycling, treatment of waste and lastly disposal of waste to landfill. For the Medupi Power Station neither ash or gypsum production can be avoided. If the station is to meet its power supply contribution to the grid, limited actions can be taken to reduce the production of ash and gypsum, while in the absence of a significant market demand for ash and gypsum, at the current planning period, the only remaining option is to dispose of ash and gypsum on an appropriately designed and licenced facility.
2.2.49(b)	The FSR indicates that Medupi is expected to produce around 1.7 million tons of gypsum each year. Eskom anticipates that it will be unable to sell most of this material because Kusile's gypsum will flood the market. However, the Gypsum Market Research Study, appended to the FSR, estimates that by 2038 the total national demand for this resource will be approximately 2.1 million tons per year, which is around 1 million tons per year more than Kusile is expected to produce. Hence there is		Ash and gypsum are produced separately, however, it is proposed to dispose of ash and gypsum mixed together on the existing Ash Disposal Facility (ADF), until a market develops for either of these wastes. CER holds that the reason ash and gypsum should not be mixed together is to allow recovery of gypsum at a later stage after disposal. It is however understood that once gypsum has been exposed to external elements, especially water, its chemical structure is altered thereby rendering it not readily usable for its intended purposes. It is for this reason that the proposed temporary gypsum storage area at the rail yard will be a covered structure. Therefore, long term storage of gypsum on its own is likely to render the gypsum unrecoverable for

	a potential for Medupi to sell, rather than discard, a significant portion of its gypsum. In addition, the quantities of gypsum produced can be reduced if high quality limestone (i.e. limestone that contains more than 94% reactive CaCO) is used in the FGD process. This will also serve to ensure that the gypsum is of a sufficient quality for the plasterboard market. As the limestone supplier for Medupi has not yet been determined, Eskom should ensure that high quality limestone is sourced wherever possible.		reuse. The gypsum transportation infrastructure caters for under-the-conveyor collection of gypsum by trucks, in the current infrastructure. Therefore, in the absence of a significant market demand it remains pointless to dispose of ash and gypsum, which is both classified as type 3 wastes, separately. It should also be understood that there is a need for capacity to dispose of gypsum, when lower quality (unusable) gypsum is produced from the operational challenges at the station.
2.2.49(c)	Aside from the environmental benefits, FGD gypsum can probably sell for between R50 - R120 per ton (depending on quality and excluding delivery), which represents a sizeable source of income for the utility. Market opportunities should therefore be aggressively pursued.		Currently the demand for gypsum is not large enough to result in a significant offtake of gypsum from the FGD process. Although Eskom can facilitate the opportunities for the provision of gypsum on a commercial scale, in line with its mandate, it might not be appropriate to drive the expansion of the market to meet the offtake targets for FGD gypsum, although it would support such initiatives. Eskom is currently in the process of lodging applications with the DEA and DWS to unlock economic opportunities associated with the use of ash, which is, otherwise, hindered by the classification of ash as a waste, for example.
2.2.49(d)	The Gypsum Market Research Study, which focused on existing markets, also acknowledged that the mining market has the largest potential for growth over the next 30 years and needed to be researched further. There are several possible applications for gypsum in the mining industry, including the prevention of acid mine drainage (AMD), which has the potential to be generated in the Waterberg Coalfield. One possible application is the thermochemical conversion of FGD gypsum and pyrite (an AMD-producing mineral) from coal mining wastes into marketable products, such a lime, sulphur and direct reduced iron. While the mining market for gypsum is still being developed, Eskom should take into consideration the future opportunities in this sector, if more traditional markets prove unsuccessful. However, our clients only support such a market if clear environmental benefits can be demonstrated.		CER references a Gypsum Market Research Study, which is most likely outdated in terms of the figures it states. It is furthermore argued that expecting Eskom to undertake an updated market research study which will result in significant further delays in implementation of the FGD infrastructure is unreasonable at this stage, especially considering the fact that Eskom has included design of all infrastructure required to support commercial offtake of gypsum. In other words, Eskom is in a position to respond to whatever market demand develops, whenever it develops in future. CER's statement in paragraph 44 is therefore also refuted as Chapter 6 of the DEIR explicitly describes the infrastructure associated with gypsum management, handling and conveyance to the rail yard for commercial offtake. Eskom therefore confirms that infrastructure for the offtake of gypsum is included in the scope of this EIA.
2.2.50	*Gypsum* In the comments on the DSR, our clients asserted that (when disposal is necessary) the gypsum should be disposed of separately from the other wastes, thereby		The quality (with respect to purity) of limestone that will be used may be dictated by the market demand, existing volumes of high quality gypsum

	minimising contamination. This allows for its future recovery, which would reduce the environmental impacts associated with its disposal, as well as the impacts related to the mining of virgin gypsum. The Department of Mineral Resources describes the co-disposal of gypsum as "a wasteful practice as the gypsum may be a usable resource; if not now, then in the future."		already in the market and capital considerations considering the only source of high purity limestone is located in the Northern Cape, but Eskom would have to undertake a full developmental process for any expenses deemed additional to its cause. The transport of limestone will be undertaken via rail, through an existing railway line, from which a rail siding will be established. The impact of the transport of the wastes via trucking was considered by specialists in a qualitative manner. It must also be considered that the service provider appointed to collect and dispose of salts and sludge will be an established service provider, and it will follow its own health, safety and environmental requirements, not to mention compliance with regulations for the transport of hazardous substances by road. CER claims that there is no provision in the design and construction for separating the gypsum from the ash so that it can be reclaimed and sold as a by-product. Sections 6.4 and 6.9, and relevant drawings and reports in **Appendix C** of the DEIR clearly demonstrate that offtake infrastructure for the commercial and small-scale offtake of gypsum has been designed for, considered and assessed in the DEIR. It should also be noted that gypsum and ash is produced independently and is only mixed together for disposal during the final step of disposal. Further, if gypsum is disposed separately it will not be considered a by-product, but a waste. It was also mentioned previously that exposure of gypsum to the elements may render it unusable for the intended purposes, therefore offtake of gypsum can only be sustainable if taken directly from the waste stream as it exists the gypsum dewatering building or conveyed to an enclosed storage building prior to rail transport. The sampling process for determining the quality of gypsum is a manual process. An operator takes a sample off one of the conveyors and it is then analysed in an onsite laboratory. For the wallboard industry high purity levels are required (95% $CaSO_4$) and moisture contents below 10%. The impact of traffic on air quality was considered and qualitatively assessed
2.2.51	As most of the waste disposal alternatives presented in the DSR involve the co-disposal of gypsum, it was proposed in the DSR comments that the list of alternatives be revised, taking into account the importance of separate gypsum disposal. Eskom's response to the revised list of disposal alternatives is as follows: *"As part of the basic design process Eskom considered all of the water minimisation options as part of the life cycle assessment. This assessment is inherent in the design process."*		
	The response is not relevant to the comment and therefore fails to address our clients' concerns. It is submitted that this and a number of other instances where inadequate or inappropriate responses have been given, serve to undermine the public participation process, indicating that the prescribed process in the EIA Regulations was not followed and amounting to a contravention of the Promotion of Administrative Justice Act.		
	Furthermore, the option to dispose of the gypsum in its own new waste facility has been withdrawn altogether from the FSR. The DSR included this option (Option 5.2), but the FSR has removed it, stating "the gypsum will be disposed of with the ash at the future ADF [ash disposal		

	facility] "Therefore no gypsum disposal alternatives have been put forward, not even the option of disposing the gypsum in a separate compartment within the ADF. Our clients find this unacceptable as it undermines the purpose of the EIA process, where all reasonable and feasible alternatives should be assessed. The following gypsum disposal options should therefore be included as feasible alternatives for evaluation in the impact assessment phase: - *A new gypsum disposal facility:* This option was proposed as a feasible disposal alternative in the DSR, but was not included in the FSR. *Disposal of the gypsum in its own "compartment" in the future ADF*: The FSR confirms this is feasible as it proposes the same disposal method for the salts and sludge in disposal option 2.		by the air quality specialist and was found to be negligible as has been concluded in the Air Quality Impact Assessment included as an Appendix to the DEIR. CER furthermore does not elaborate on the exact aspects of the impact that was not adequately addressed. The existing ADF is licenced through an existing WML. This means that the impacts associated with sterilisation of the ADF footprint and potential pollution associated with the disposal of ash at the facility were considered and assessed already within the initial application for a WML for the ADF. A variation application is specifically catered for in terms of the National Environmental Management: Waste Act (No 59 of 2008), as amended. The WML Variation application therefore considered additional impacts that may result from disposal of ash and gypsum, which are both classified as Type 3 wastes, prior to approval of the variation application that will result in amendments to the conditions of the existing WML, as well as the changes in ADF configurations with respect to a reduced footprint and a raised height.
2.2.52	*Salts and Sludge* With respect to the salts and sludge, our clients request confirmation as to why there is no longer considered to be sufficient space within the Medupi Power Station footprint to accommodate a new salts and sludge disposal facility. The DSR proposed this as an option (Option 5.1), stating that "about 140ha will be required for the disposal of salts and sludge within lagoons to a depth of 5m." However, despite there being no changes to the volumes of waste generated, the FSR now indicates that there is insufficient space on site for such a facility. Clarity on this matter is required, and if there is sufficient space, an on-site salts and sludge disposal facility should be included as an		

	alternative in the EIA process.		
2.2.53	Waste Disposal Comparison		
2.2.53(a)	According to regulation 28 (1)(n)(i) of the 2010 NEMA EIA Regulations, the Plan of Study must include: "*a description of the tasks that will be undertaken as part of the environmental impact assessment process, including any specialist reports or specialised processes, and the manner in which such tasks will be undertaken*."		
	The FSR fails to meet this requirement with respect to the waste disposal options. Instead of putting forward disposal alternatives for investigation in the impact assessment phase, the FSR presents disposal options and indicates that a comparative analysis will be carried out to eliminate those alternatives which may be impractical or fatally flawed. "*Following this analysis, the remaining alternatives will be carried through to the Impact Rating to identify the preferred alternative and to provide a rating table indicating potential impacts associated with each alternative*."		
	This elimination of unreasonable and unfeasible alternatives should have been undertaken during the scoping phase so that the ToR for specialist studies could be outlined explicitly in the scoping report. However, the elimination process has been deferred to the EIA phase and the FSR indicates that the specialist studies will only be confirmed when waste disposal alternatives are confirmed		
2.2.53(b)	Moreover, no information was provided on the methodology of the comparative assessment. The lack of		This will be made available within the EIA Phase. There is also a Site Selection Report which will be circulated to the interested and affected

	transparency is not only in violation of the NEMA EIA Regulations, but also raises concerns that feasible, environmentally preferable disposal options may be improperly rejected based on capital cost estimates.		parties, pending confirmation on the process forward. ***Sharon Meyer-Douglas, EAP***
2.2.39(c)	Our clients therefore submit that the FSR should provide a clear outline of the intended methodology for the comparative study, as well as explicit ToR for all specialist studies relevant to the Project. The FSR should also clearly indicate which original specialist studies will be updated (as per Section 5.3 of the FSR) and provide ToR for these updates.		All information will be provided to the stakeholders either in additional submissions or within the EIA Report. ***Sharon Meyer-Douglas, EAP***
2.2.40(a)	According to the proposed impact assessment methodology, any impact to human health (regardless of scale or severity) is considered 'high' in terms of 'potential intensity', as is 'loss of species'. However, neither 'loss of livelihood', nor the inability to meet national conservation targets for ecosystems, appear to be considered 'high' with respect to 'potential intensity'. It is crucial that ratings relate to limits of acceptable change or thresholds, standards (including legal and health) or targets, rather than to arbitrary or vague indicators.		The descriptors for the IA methodology are examples and are not exhaustive. The ratings will be considered on a case by case basis. ***Sharon Meyer-Douglas, EAP***
2.2.40(b)	The FSR asserts that "cumulative impacts are reflected in the in the [sic] potential intensity of the rating system." Cumulative impacts are not the same as 'intensity' of impact and therefore need to be addressed separately, as required in terms of the NEMA EIA Regulations. In this case, cumulative impacts on water resources - both in terms of availability and quality - are critical and of particular concern to the FGD project. It is inadequate and incorrect to state that existing studies will still be valid		The Scoping Report and methodology for Impact Assessment have been accepted by the competent authority (see Appendix A).. Irreplaceable loss is included within the assessment of potential intensity of the impact as per section 9.3.4 of the Scoping Report. ***Sharon Meyer-Douglas, EAP***

	in terms of the cumulative impacts of the power station. The approach set out for assessing impacts in the FSR does not make explicit and focused provision for considering the extent to which an impact could lead to irreplaceable loss. The NEMA EIA regulations require that the Scoping Report include a Plan of Study for EIA and, as part of that, must specify the proposed assessment approach which should consider this factor. The EIA phase and all specialist inputs must address these specific points as part of the required scope of their work.		
4	**COMMENTS RAISED DURING THE DRAFT SCOPING REPORT (DSR)**		
4.1	**COMMENTS RAISED BY AUTHORITIES**		
4.1.1	**SOUTH AFRICAN NATIONAL BIODIVERSITY INSTITUTE**		
1	SANBI is a public entity mandated to act in an advisory or consultative capacity on matters relating to biodiversity to the Department of Environmental Affairs (i.e. the "competent authority"). The Department and its provincial counterparts are welcome to engage SANBI for advice and/or comment on specific matters related to biodiversity information relevant to this application, if such input is required. Such advice or comment is not equivalent, however, to the comment required as per the NEMA regulations from commenting authorities. SANBI restricts its comment to the accuracy and relevance of the biodiversity information that should inform the Environmental Assessment.	[redacted] Deputy Director: Biodiversity Planning and Policy Advice [redacted] Letter: 05 November 2014	Note is taken that SANBI will not participate as an I&AP for this proposed project. However, SANBI will remain on the project database to ensure that they receive project related information as and when available. ***Nicolene Venter, Public Participation Practitioner*** The biodiversity specialist will reference the information obtained from SANBI's website in the Biodiversity Report appended to the DEIR. ***Sharon Meyer-Douglas, EAP***

2	SANBI thus also declines to participate as a commenting authority in this application. For comment on the biodiversity impacts of the development, please consult the relevant provincial conservation agency.		We can confirm that the provincial conservation agency, DETEA, who is also a commenting authority for this proposed project, are part of the consultation process. ***Nicolene Venter, Public Participation Practitioner***
3	I also encourage you to visit our web portal http://biodiversityadvisor.sanbi.org for free access to special biodiversity information relevant for the land use planning and decision making processes.		The biodiversity specialist will reference the information obtained from SANBI's website in the Biodiversity Report appended to the DEIR. ***Sharon Meyer-Douglas, EAP***
4	Referencing the special biodiversity resources found on the Biodiversity Advisor in the early stages of project development can support informed planning and decision making while helping to timeously "iron out" obstacles that might otherwise result in delays and additional costs to the project proponent. Such a proactive approach can:		
4.1	Show the decision-making authority that potential conflict between biodiversity priorities and other land uses has been identified and resolved by well-informed project planning;		
4.2	Allow the proponent to take an informed decision about the biodiversity (and administrative and, by implication, financial) risks of proceeding with a particular project; and		
4.3	Identify the scope, type and intensity of environmental assessment that is likely to be required if an application were to proceed.		
5	This approach also supports best practice in environmental assessment and planning by:		
5.1	Ensuring that a project is consistent with the "Duty of Care" principle (I.e. that the project proponent has taken reasonable measures to prevent significant degradation of the environment);		
5.2	Emphasizing the fundamental role of alternatives in selecting the best practicable environmental option;		
5.3	Giving effect to the mitigation hierarchy, i.e. the		

	sequential avoidance, minimizing, mitigating and remedying of impacts that may result in loss of biodiversity or disturbance to ecosystems; and		
5.4	Supporting the principle that environmental management must pay specific attention to planning procedures pertaining to sensitive, vulnerable, highly dynamic or stressed ecosystems.		
4.2	**COMMENTS RAISED BY INTERESTED AND AFFECTED PARTIES**		
4.2.1	**COMMENTS RELATED TO SPECIALIST STUDIES**		
1	A FGD Commissioning Schedule Study, to investigate the feasibility and potential benefits of co-commissioning the last few units with FGD, be included as a specialist study.	[redacted] CER NPC Letter: 12 December 2014 (Copy of Letter attached to Appendix D6)	Eskom investigated the feasibility of co-commissioning the remaining units at Medupi Power Station with FGD and it was found not to be feasible to commission any of the remaining units with FGD. ***Theuns Blom, Eskom***
2	FGD Construction and Commissioning Schedule Study to investigate the feasibility and potential benefits of co-commissioning the last few units with FGD;		
2.1	Water minimisation study to identify and assess all possible water minimisation design improvements;		As part of basic design process Eskom considered all of the water minimisation options as part of the life cycle assessment. This assessment is inherent in the design process. ***Carel van Heerden, Eskom***
2.2	Gypsum market investigation to identify markets for 100% of the gypsum produced, taking into account its wide range of uses; and		A market research for the use of gypsum produced by Eskom's power stations has been done and a copy of the Report on the findings is available on Eskom's website ***Kubentheran Nair, Eskom*** The Report is also included in the FSR under Appendix J. ***Sharon Meyer-Douglas, EAP***
2.3	Ash market investigation to identify markets for the ash		Ash is not a waste product from the FGD operation and therefore this study

	produced (including fly and bottom ash), taking into account their wide range of uses.		would not have any bearing on the current environmental assessment process. ***Sharon Meyer-Douglas, EAP***
3	Will ash be produced and will it be re-used?	[redacted] Local Municipality KSW: 05 November 2014	Ash is not a by-product of the FGD technology, only the gypsum, salts and sludge. ***Carel van Heerden, Eskom***
4.2.2 WATER RELATED COMMENTS			
1	MCWAP Phase 2 will possibly only be starting up in 2020 or later, is it therefore correct that before MCWAP 2 there can be no retrofitting of the FGDs because there is not sufficient water for it? It was commented that a lot of mines in the area are waiting for MCWAP 2 and once it is available there will be a rush to the area which in turn will trigger a lot of pollution activities. SO_2 levels for instance are going to increase. The Municipality is aware that Medupi Power Station is a Key Point Infrastructure, but everything is going to happen at the same time and that is a concern. The brunt of the pollution is going to be for the community and the community is not being made aware of the impacts (dangers) of retrofitting of the FGD. Is there a possibility of fitting three of the six units at the start-up of the Power Station and the rest when MCWAP 2 is on line?	[redacted] Lephalale Local Municipality PM: 05 November 2014	The DWS is currently developing MCWAP 2, and the project consists of a number of phases. DWS is currently busy with Phase 1 which entails an increase in the capacity from the Mokolo Dam to Lephalale. Eskom has already secured 10.9 cubic litres of water from Phase 1 of the Project through a pipeline infrastructure, which will provide water for the full Energy Production at Medupi Power Station as well as for three of the FGD units. Phase 2 will bring water from the Crocodile River and return flows from the waste water treatment plants from Johannesburg and Tshwane for the purpose of supplying the Power Station with additional water to cater to all six (6) FGD units. The current water use license for the 10.9 cubic litres is sufficient until 2020/23, before Phase 2 is needed. Another 15.4 cubic litres will be needed for the Energy Production and FGD facilities combined, which will become available from Phase 2 of the MCWAP Project. Eskom is currently in discussions with DWS and TCTA, and water users have submitted their requirements. The matter is currently in the hands of National Treasury to provide the guarantees for the pipeline which will hopefully be finalised by the end of November 2014. Contracts have been negotiated and it is therefore not a question of whether the pipeline is going to be built, but merely the size of the pipeline. ***Ian Midgley, Eskom***
2	A water minimisation study, to identify and assess all possible water minimisation design improvements, be included as a specialist study.	[redacted] CER NPC Letter: 12	As part of basic design process Eskom considered all of the water minimisation options as part of the life cycle assessment. This assessment is inherent in the design process.

		December 2014 (Copy of Letter attached to Appendix D6)	***Carel van Heerden, Eskom***
3	The large water requirements of wet FGD are a major concern as the project is located in a highly water-stressed area that relies on the import of water from outside sources. This water consumption not only threatens the availability of water for other regional end-users, but also increases the risk that the FGD will be bypassed during periods of water shortages. Our clients therefore strongly support the inclusion of design considerations that reduce the water consumption of the FGD project, such as the flue gas cooler. The cooler, which will reduce the plant's water consumption by around 30%, does not affect the project's costs or pose any technical challenges. However, it has not been incorporated into the base case FGD design and has instead been proposed as a design alternative to be investigated during this Integrated Environmental Authorisation process. Our clients find this unacceptable, and assert that it should be incorporated into the base case FGD plant design.		Zitholele Consulting, on behalf of the applicant, would like substantiation and reference provided by CER regarding the comment that: "The cooler, which will reduce the plant's water consumption by around 30%, does not affect the project's costs or pose any technical challenges." This information is required from the CER prior to Zitholele Consulting or the applicant responding to this comment. ***Sharon Meyer-Douglas, EAP***
4	In addition to the flue gas cooler, there may be further opportunities for improvements to reduce water consumption. Technologies, such as condensing heat exchangers, membranes and liquid desiccant systems are under development to capture and reuse water in the flue gas. Even if these technologies are not yet suitable for implementation, modifications that facilitate their future installation can be built into the FGD design.		As part of basic design process Eskom considered all of the water minimisation options as a component of the life cycle assessment. This assessment is inherent in the design process. ***Carel van Heerden, Eskom***
5	Although water usage has been identified as a potential		Eskom operates under a Zero Effluent Discharge Philosophy on all of its

<table>
<tr><td></td><td>significant impact of the project, a water minimisation study has not been included in the list of specialist studies that will inform the authorisation process. Owing to the importance of reducing the plant's water consumption, our clients assert that a water minimisation study should be included to ensure all possible design improvements (including those mentioned above) are explored.</td><td></td><td>operational power stations, and this will apply to Medupi Power Station as well. A proper definition of this can be obtained from the DWS, more water reports can be accessed from Appendix I in the FSR.
Kubentheran Nair and Felicia Sono, Eskom

As part of basic design process Eskom considered all of the water minimisation options as a component of the life cycle assessment. This assessment is inherent in the design process.</td></tr>
<tr><td>6</td><td>According to the DSR:

"The MCWAP scheme has been initiated in order to provide adequate water to supply the current and planned water users with allocations of water from the Mokolo Dam. Medupi Power Station already has an allocation for water from the MCWAP phase 1 scheme. There is currently a Water Use License (sic) Application in process for additional water allocation to Medupi from the MCWAP phase 2 scheme in order to supply for the planned FGD technology operation. This Water Use License (sic) is been (sic) applied for at a strategic level by Eskom.</td><td></td><td>At the time that the first CRR version was submitted for public comment, the plan was that Eskom would handle the WULA for water allocation from MCWAP Phase 2 at a strategic level. Subsequently, it has been decided that the application for water allocation from MCWAP Phase 2 for the Medupi Power Station would be included in the WULA that will be carried out in conjunction with the EIA and Waste Management License Application for the proposed Medupi Power Station FGD retrofit project.
Sharon Meyer-Douglas, EAP</td></tr>
<tr><td>7</td><td>The DSR should make clear how much water is required for the operation of Medupi with FGD; how much water is currently available and from where; and when, where and how the additional water requirements will be met.</td><td></td><td>The Wet FGD technology requires a significant amount of water for operation. The input volume the table below, shows a summary of the water balance done at 90% load factor, a full indication of the overall FGD water mass balance can be obtained from. Appendix I 1 in the FSR

<table>
<tr><th>Water Usage</th><th>90% load Estimation (m^3/hr)</th><th>Mm^3/a</th></tr>
<tr><td>Process Water</td><td>1005.1</td><td>8.80</td></tr>
<tr><td>Sealing Water</td><td>14.4</td><td>0.13</td></tr>
<tr><td>Closed cycle cooling make-up water</td><td>26.2</td><td>0.23</td></tr>
<tr><td>Backwash for pre-filters</td><td>15.9</td><td>0.14</td></tr>
</table>
</td></tr>
</table>

			Total | **1061.6** | **9.3** ***Carel van Heerden and Abigail Melanie, Eskom*** The DWS is currently developing MCWAP 2, and the project consists of a number of phases. DWS is currently busy with Phase 1 which entails an increase in the capacity from the Mokolo Dam to Lephalale. Eskom has already secured 10.9 cubic litres of water from Phase 1 of the Project through a pipeline infrastructure, which will provide water for the full Energy Production at Medupi Power Station as well as for three of the FGD units. Phase 2 will bring water from the Crocodile River and return flows from the waste water treatment plants from Johannesburg and Tshwane for the purpose of supplying the Power Station with additional water to cater to all six (6) FGD units. The current water use license for the 10.9 cubic litres is sufficient until 2020/23, before Phase 2 is needed. Another 15.4 cubic litres will be needed for the Energy Production and FGD facilities combined, which will become available from Phase 2 of the MCWAP Project. Eskom is currently in discussions with DWS and TCTA, and water users have submitted their requirements. The matter is currently in the hands of National Treasury to provide the guarantees for the pipeline which will hopefully be finalised by the end of November 2014. Contracts have been negotiated and it is therefore not a question of whether the pipeline is going to be built, but merely the size of the pipeline. ***Ian Midgley, Eskom***
8	The DSR refers to a comparative analysis that will "compare alternatives against environmental, engineering and financial considerations in order to eliminate fatally flawed alternatives". It appears that this will be undertaken prior to the Impact Assessment comparison outlined in Section 9.3. Our clients question the validity of this process and are concerned that environmentally preferable disposal options may be rejected based on capital cost estimates. We accept that there may be good reason to eliminate options, but any decision to do so must be completely transparent and subject to public		Agreed. The alternatives for waste disposal will be assessed within the EIA Phase of this process. ***Sharon Meyer-Douglas, EAP***

	participation. A failure to do so will be contrary not only to the National Environmental Management Act, 1998 (NEMA) EIA Regulations, 2010, but to the Promotion of Administrative Justice Act, 2000 (PAJA).		
9	In the circumstances, our clients submit that the DSR should be expanded to include the areas of concern mentioned below. In summary, our clients submit that a water minimisation study, to identify and assess all possible water minimisation design improvements, be included as a specialist study;	[redacted] Greenpeace Environmental Organization NPC Letter: Undated (Attached to e-mail dated 09 January 2015)	Eskom operates under its Water Management Policy on all of its operational power stations, and this will apply to Medupi Power Station as well. A proper definition of this can be obtained from the DWS. Eskom is continuously involved in water minimisation programmes through the implementation of the Zero Effluent Discharge Philosophy. The use of dry-cooled power station is part of this programme. The water management policy document can be obtained from Appendix 1 in the FSR. ***Kubentheran Nair, Eskom*** During the basic design process Eskom considered all of the water minimisation options as part of the life cycle assessment. This assessment is inherent in the design process. ***Carel van Heerden, Eskom***
10	The proposed specialist studies for the EIA focus on pollution impacts on water resources of the proposed FGD but no specialist studies focusing on water availability and impacts on water supply and water utilisation in the area have been listed. This is a major shortcoming in the proposed EIA and a broader study of the impacts on water availability and supply must be included.		It needs to be noted that the catchment availability is determined by the DWS and allocations are based on the availability of water. ***Sharon Meyer-Douglas, EAP*** DWS has conducted feasibility studies looking at water availability of the Waterberg area. The requirement of Eskom has been included in the study and it is Eskom's understanding that the DWS studies will form part of the WULA supporting documents. The DWS Reports are attached as Appendix I in the FSR. ***Felicia Sono, Eskom*** The DWS has established the Crocodile Strategy Steering Committee for the Crocodile West Water Supply System in July 2010 to implement and update the Reconciliation Strategy for the catchment. This is an on-going planning process that will ensure there is sufficient water available in future to meet the water demands of the Crocodile West Catchment and the Lephalale area (via Phase 2 of the Mokolo and Crocodile Water Augmentation Project). The DWS has appointed specialist consultants to carry out the necessary studies and to report back to this steering committee. To say that no specialist studies

			focussing on water availability and water demands is incorrect, especially in the Waterberg, Crocodile and Vaal catchments. Below is the latest report on the DWS web although further work has been done on this in the interim. https://www.dwa.gov.za/Projects/crocodilemaintenance The EIA for MCWAP Phase 2 is expected to be reinstated in the near future. For more details the following officials at the DWS can be contacted: • Planning: Mr Tendani Ndtiwani nditwaniT@dwa.gov.za • Options Analysis: Mr Ockie van den Berg VanDenBergO@dwa.gov.za ***Ian Midgley, Eskom***
11	The fact that the WULA process is separate from the EIA process is highly problematic.		The two processes are not considered in isolation. The WULA will run in tandem with the EIA Phase. The WULA and EIA will be reviewed by the same commenting authorities, stakeholders and interested and affected parties. However, the WULA requires a separate set of documentation to the EIA, and will therefore be submitted as a separate document. ***Sharon Meyer-Douglas, EAP*** While the EIA leads the process, neither are considered in isolation. The competent authorities in this case use the outcomes of the EIA to inform the IWUL process. ***Kubentheran Nair, Eskom, Medupi Power Station***
12	It is hugely problematic that these two processes are considered in isolation. The water use is a fundamental part of the approval process for use of this technology, and it is critical that the water use issue is discussed and assessed in more detail during the EIA.		Due to the fact that the WULA is submitted to a different competent authority (DWS) while the EIA and WMLA are submitted to the DEA, there are different requirements for the processes. While the documents will be submitted independently, the processes will largely be carried out simultaneously and will not be in isolation. ***Sharon Meyer-Douglas, EAP***
13	SANCO's key concern is whether either of the FGD alternatives, wet and or dry FGD will reduce the water for other water users, or have a level of impact on the water usage. Lephalale Local Municipality's water source is very scarce, and if wet FGD will be used it will impact on the water usage in the area and will have a cost impact	[redacted] KSW: 05 November 2014	Alternatives are part of the EIA process, and all environmental impacts of the alternatives, like the cooler, have to be assessed and presented to the Competent Authority, the Department of Environmental Affairs (DEA), and the Department of Water and Sanitation (DWS) as a commenting authority/ies. The DWS must make a decision on the water use license for Eskom's water allocation from MCWAP Phase 2. DWS may revert by saying that they will

	for Eskom.		only grant a license with conditions stipulating, for example, that a gas cooler has to be retrofitted to reduce water consumption. Zitholele Consulting cannot make the decisions, but is mandated to provide detailed information to the DWS who will make the decision, and could perhaps make the license conditional on certain terms like retrofitting a cooler, which will reduce water consumption. ***Sharon Douglas-Meyer, EAP*** It needs to be kept in mind that the process is in the Scoping Phase during which the environmental team needs to look at alternatives. No detailed information has been obtained yet, and the question raised relates to the next phase which is the EIA and the results will be included in the DEIR will be available. All present were urged to read the Draft Scoping Report (DSR) and submit written comments on the DSR to Zitholele Consulting by Friday 5th December 2014 to ensure timeously submission to the DEA. According to the Regulations, the DEA is tasked to approach the Commenting Authorities for comments, but are now asking the Environmental Assessment Practitioners (EAPs) to source the comments from these Authorities to fast-track their decision making process. ***Nicolene Venter, Public Participation Practitioner*** **Post-meeting note:** The DSR review period has been extended to Friday 09 January 2015.
14	Is Eskom going to operate according to their existing water allocation or are they proposing to get additional water allocation for the Retrofitting? Does Eskom intend to re-use the waste water?	[redacted] DWS KSW: 05 November 2014	DWS is developing the Mokolo-Crocodile Water Augmentation Project Phase 2. Eskom has an allocation of 10.9 Ml from Phase 1 of MCWAP, and this is sufficient for the operation of the Power Station as well as the operation of 3 FGD units. However, due to the fact that Medupi Power Station will need additional water for the remaining 3 FGD units, as well as for the operation of FGD associated infrastructure, a further 15.4 Ml will be supplied from MCWAP Phase 2. ***Ian Midgeley, Eskom*** A zero liquid discharge treatment plant will be utilised, therefore there will be no liquids i.e. waste water discharged. The treated water will be re-used within the power station. ***Carel van Heerden, Eskom***

4.2.3 COMMENTS RELATED TO LIMESTONE SOURCING AND MARKET ANALYSIS FOR GYPSUM BY-PRODUCT			
1	Gypsum disposal should be viewed as a last resort and waste disposal alternatives involving the co-disposal of gypsum, salts, sludge and ash should not be considered, nor should disposal alternatives that involve trucking the FGD by-products off-site.	[redacted] CER NPC Letter: 12 December 2014 (Copy of Letter attached to Appendix D6)	Disposal alternatives will be presented to, and discussed rigorously with, the competent authorities in order to identify the most feasible option. ***Sharon Meyer-Douglas, Zitholele Consulting, EAP.*** The Environmental Impact study will inform the process and the necessary requirements for waste disposal. ***Kubentheran Nair, Eskom*** The investigation of the disposal alternatives will happen in the EIA phase thus the lack of documentation at present. ***Denise Govender, Eskom*** The quality of the limestone to be used in the Medupi FGD process is unknown, and therefore the gypsum quality has not yet been determined. Limestone sourcing as well as the gypsum market offtake is being investigated by Eskom in parallel and the outcome of this investigation will determine the opportunity for the sale of gypsum. Please review Appendix J in the FSR for the PED market study report. ***Carel van Heerden, Eskom***
2	As discussed previously, the gypsum should be sold to an appropriate market. Disposal should be viewed as a last resort as it is the least desirable alternative. When disposal is necessary, the gypsum should be deposited in its own facility to minimise contamination and to allow for its recovery at a later date. The Department of Mineral Resources considers the co-disposal of gypsum to be a "wasteful practice" and that it should be kept separate in order to retain its value as a resource.		The quality of the limestone to be used in the Medupi FGD process is unknown, and therefore the gypsum quality has not yet been determined. Limestone sourcing as well as the gypsum market offtake is being investigated by Eskom in parallel and the outcome of this investigation will determine the opportunity for the sale of gypsum. ***Carel van Heerden, Eskom***
3	Similarly, co-disposal of the salts and sludge with the ash should be avoided, as it will remove the possibility for future ash recovery. The various ash types (e.g. bottoms and fly) can be used in many applications, including concrete production and road building. A market investigation should therefore be undertaken as part of		The issue of co-disposal is being addressed with the DEA. Due to the fact that the salts and sludge are a Type 1 waste and the gypsum is a Type 3 waste, co-disposal of these wastes is not permitted in terms of the DEA Norms and Standards for disposal of waste to land. ***Sharon Meyer-Douglas, EAP***

	this EIA process to identify potential markets for the ash.		The disposal of ash has been addressed in the EIA process undertaken for the Medupi Power Station. ***Kubentheran Nair, Eskom***
4	Some FGD sludges can also be utilised, e.g. as an additive in the power plant's combustion process to improve the ash melting behaviour, or as setting retarder by the cement industry. Further investigation should therefore be undertaken during this authorisation process to determine if the Medupi FGD sludge is useable.		The quality of the limestone to be used in the Medupi FGD process is unknown, and therefore the gypsum quality has not yet been determined. Limestone sourcing as well as the gypsum market offtake is being investigated by Eskom in parallel and the outcome of this investigation will determine the opportunity for the sale of gypsum. ***Carel van Heerden, Eskom***
5	Although the DSR provides a number of disposal alternatives, it clearly indicates that the preference is for Option 2.1: co-disposal of the gypsum, salts and sludges in the ash disposal facility (ADF). Our clients do not agree that this is the best approach for the reasons given above. Option 5.2 (separate disposal facilities for each waste) should be the preferred option. Although this may appear to be a more costly option in the short-term than that of co-disposal in the ADF, there are potential economic benefits to keeping the various by-products separate and viable for recovery. Both the cost and the space required by a new gypsum disposal facility will be significantly reduced if the bulk of the gypsum is sold.		Co-disposal is being discussed with the DEA Waste Directorate to establish whether all or some of the wastes could be disposed of together, according to the waste types. The outcome of this discussion will inform the feasibility of the alternatives as provided within the DSR. ***Sharon Meyer-Douglas, EAP*** The current recommendation based on the theoretical waste classification is: a) Co-disposal of ash and gypsum at the ash dump – both type 3 b) Co-disposal of salts and sludge – both type 1. In order to design and plan for worst case scenario, the EIA, WML and WULA processes must include the contingency for disposal of 100% of the gypsum. There is a separate storage facility for gypsum after the gypsum dewatering building and adjacent to the rail siding where load out for saleability occurs and where gypsum that is rejected is conveyed from via the overland ash conveyor to the ash dump for disposal. Further, as mentioned the ash dump was sized considering co-disposal of ash and gypsum. If a new facility is considered it would most likely be outside of the Medupi Power Station due to lack of space. Purchasing of land is not a preferred option as this can be lengthy process.

			The quality of the limestone to be used in the Medupi FGD process is unknown, and therefore the gypsum quality has not yet been determined. Limestone sourcing as well as the gypsum market offtake is being investigated by Eskom in parallel and the outcome of this investigation will determine the opportunity for the sale of gypsum. ***Carel van Heerden, Eskom*** If the option for sale of gypsum becomes feasible, this will definitely be investigated further. ***Denise Govender, Eskom***
6	The disposal alternatives that include trucking the FGD by-products off-site to Holfontein Landfill Facility are considered to be unrealistic due to the distances, costs, environmental impacts and safety issues involved. Therefore Options 1 and 4 should not be considered in this Integrated Environmental Authorisation Process.		The alternatives for waste disposal will be assessed within the EIA Phase of this process. ***Sharon Meyer-Douglas, EAP*** The site alternative investigation that will be conducted during the impact assessment phase will determine the feasibility of all identified alternatives, against socio-economic, environmental, technical and financial impacts. It may be more cost effective for Eskom to truck waste to an existing facility, than to manage their own facility. But this must be assessed against the potential socio-economic and environmental impacts of this options, as well as the technical constraints. ***Denise Govender, Eskom***
7	Instead only the following disposal options should be considered:		As part of basic design process Eskom considered all of the water minimisation options as part of the life cycle assessment. This assessment is inherent in the design process. ***Carel van Heerden, Eskom***
8	Option A: Separate on-site facilities for each waste (preferred option).		
9	Option B: Disposal of ash, gypsum, salts and sludge in the ADF, each in its own compartment, subject to waste classification and a layout that will enable the future recovery of each waste stream.		
10	Option C: Disposal of ash, gypsum, salts and sludge in the ADF, ash and gypsum each in their own compartment; salts and sludge combined into the third compartment, subject to waste classification and a layout that will enable the future recovery of each waste stream.		
11	Option D: Separate on-site facilities for salts and sludge;		

	disposal of the ash and gypsum in the ADF, in separate compartments, subject to waste classification and a layout that will enable the future recovery of each waste stream.		
12	In the circumstances, our clients submit that the DSR should be expanded to include the areas of concern mentioned below. In summary, our clients submits that gypsum disposal should be viewed as a last resort and waste disposal alternatives involving the co-disposal of gypsum, salts, sludge and ash should not be considered, nor should disposal alternatives that involve trucking the FGD by-products ff-site.		The PED market study report (included as Appendix J in the FSR) indicates that the gypsum market will be flooded by Kusile Power Station's FGD by-product. Therefore no market for the gypsum produced by the Medupi FGD is expected. In order to plan and design for the worst case scenario, the environmental processes must account for disposal of 100% of the Medupi gypsum. Further, the ADF at Medupi Power Station was sized for co-disposal based on initial estimates of gypsum production from the FGD process. ***Denise Govender, Eskom*** The quality of the limestone to be used in the Medupi FGD process is unknown, and therefore the gypsum quality has not yet been determined. Limestone sourcing as well as the gypsum market offtake is being investigated by Eskom in parallel and the outcome of this investigation will determine the opportunity for the sale of gypsum. ***Carel van Heerden, Eskom***
4.2.4 COMMENTS RELATED TO BY-PRODUCTS			
1	A gypsum market investigation, to identify markets for 100% of the gypsum produced, taking into account its wide range of uses, be included as a specialist study;	[redacted] CER NPC Letter: 12 December 2014 (Copy of Letter attached to Appendix D6)	The quality of the limestone to be used in the Medupi FGD process is unknown, and therefore the gypsum quality has not yet been determined. Limestone sourcing as well as the gypsum market offtake is being investigated by Eskom in parallel and the outcome of this investigation will determine the opportunity for the sale of gypsum. ***Carel van Heerden, Eskom*** A market research for the use of gypsum produced by Eskom's power stations has been done and a copy of the Report on the findings is available on Eskom's website (refer to Appendix J in the FSR). ***Kubentheran Nair, Eskom***
2	Additional features (as described in paragraph 22) should be incorporated into the base case design to maximise the amount of gypsum sold;		
3	Gypsum is one of the by-products of the FGD process		In agreement.

	and is a commercial product, used predominantly in the construction industry. The Medupi FGD design incorporates processes to enable the sale of gypsum, which will bring about significant environmental and economic benefits compared to its disposal. These include the minimisation of emissions and energy consumption associated with its landfill, the avoidance of the impacts associated with the mining of natural gypsum, increased revenue streams and reduced capital and operating costs of disposal.		***Sharon Meyer-Douglas, EAP*** The quality of the limestone to be used in the Medupi FGD process is unknown, and therefore the gypsum quality has not yet been determined. Limestone sourcing as well as the gypsum market offtake is being investigated by Eskom in parallel and the outcome of this investigation will determine the opportunity for the sale of gypsum. ***Carel van Heerden, Eskom***
4	However, the DSR indicates that around 80% of the gypsum is either unlikely to find a market or will not be of commercial-grade and will therefore be disposed of. Our clients question whether adequate research has been undertaken to identify potential markets to avoid the disposal of this gypsum. In the EU-15 countries, only around 10% of FGD gypsum is disposed of. In South Africa, the major markets for gypsum are plasterboards and cement manufacture, followed by the agricultural sector where it is used for soil treatment, but there are other uses for gypsum, including filling material in the paper industry. Each market has its own commercial grade, with wallboard gypsum demanding the highest quality and agricultural the lowest. To minimise the amount of gypsum that does not meet the buyer's specifications - and hence avoid the need for disposal or for finding an alternative buyer - the following features should be incorporated into the design:		The European Union has been operating FGDs since 1980 and has an established market. Kusile Power Station will be the first FGD to be installed in the Eskom fleet of Power Stations, therefore Power Station Gypsum market has yet to be developed. ***Carel van Heerden, Eskom*** The quality of the limestone to be used in the Medupi FGD process is unknown, and therefore the gypsum quality has not yet been determined. Limestone sourcing as well as the gypsum market offtake is being investigated by Eskom in parallel and the outcome of this investigation will determine the opportunity for the sale of gypsum. ***Carel van Heerden, Eskom*** A market research for the use of gypsum produced by Eskom's power stations has been done and a copy of the Report on the findings is available on Eskom's website (refer to Appendix J of the FSR). ***Kubentheran Nair, Eskom***
5	As off-site transportation disruptions are likely to occur (e.g. for weather or labour-related reasons), the design should incorporate a contingency plan for temporary gypsum stockpiling during such events (which may plausibly last 30 days). The plan should include the		There is a gypsum storage building which is part of this EIA Application. The plot plan drawing (Appendix G2) shows the removal of gypsum from the gypsum dewatering building and storage in the gypsum storage building, where saleable gypsum is conveyed to a rail off-loading point and rejected gypsum conveyed to the overland ash conveyor for disposal at the ash dump.

	designation and permitting of an on-site stockpile, as well as procedures for preventing its contamination.		***Denise Govender, Eskom*** A Gypsum storage building exists (See Appendix E2.3 in the FSR). Operating Philosophies will be developed as part of the Execution phase. ***Carel van Heerden, Eskom***
6	As contracts with the gypsum buyers are unlikely to last the duration of the plant's lifetime, the design of the gypsum handling and storage systems should take into account possible changes in shipment mode or frequency.		A rail gypsum off-loading point has been allowed for, as well as the trucking of gypsum off-site (See Appendix E2.1 and Appendix E2.2 in the FSR). ***Denise Govender, Eskom*** Comment noted and this point is addressed in the Basic Design (See Appendix C in the FSR). ***Carel van Heerden, Eskom***
7	FGD plant operating problems may impact on the quality of the gypsum product. Therefore any such problems should be detected and addressed promptly. An on-site analytical program that includes daily sampling should be in place. The DSR refers to a gypsum online monitoring system, which may address this issue.		Eskom take note of the comment. ***Kubentheran Nair, Eskom*** The statement made by the CER is correct. Operating Philosophies will be developed as part of the execution phase. Sampling is a normal operating procedure and is conducted on a regular basis (Forms part of the normal operation). ***Carel van Heerden, Eskom***
8	The quality of the limestone reagent used in the FGD process has a significant impact on the quality of the gypsum product. In general, limestone that contains less than 94% reactive CaCO is unlikely to produce a gypsum product of wallboard commercial grade. Therefore quality control is an important factor when sourcing the limestone.		Eskom take note of the comment. ***Kubentheran Nair, Eskom*** Limestone does affect the quality of the Gypsum that can be produced. High quality Limestone is however only available in certain areas and therefore transport plays a vital role in Limestone sourcing as well as the development of "Junior miners". ***Carel van Heerden, Eskom***
9	Due to the gypsum washing and dewatering systems, a high quality product will likely be possible at Medupi (provided suitable quality limestone is utilised). But even with the above measures in place, some degree of off-specification gypsum will be unavoidable. However, instead of disposing of this off-spec gypsum, there may be alternative markets, such as the cement or fertiliser industries that can tolerate a lower quality product.		 The quality of the limestone to be used in the Medupi FGD process is unknown, and therefore the gypsum quality has not yet been determined. Limestone sourcing as well as the gypsum market offtake is being investigated by Eskom in parallel and the outcome of this investigation will determine the opportunity for the sale of gypsum. ***Carel van Heerden, Eskom***

10	Given the importance of finding suitable markets to avoid the disposal of 80% of the gypsum produced, a market investigation should be included as a specialist study in this Integrated Environmental Authorisation process. It has been found that utilisation rates of FGD gypsum have improved as a result of research initiatives, practical experience and marketing efforts.		The quality of the limestone to be used in the Medupi FGD process is unknown, and therefore the gypsum quality has not yet been determined. Limestone sourcing as well as the gypsum market offtake is being investigated by Eskom in parallel and the outcome of this investigation will determine the opportunity for the sale of gypsum. ***Carel van Heerden, Eskom***
11	Will the gypsum be sold to commercial users?	[redacted] GP Strategies PM: 05 November 2014	Eskom is producing commercially resalable gypsum but the market will be flooded due to the volumes which will be produced at Kusile Power Station. However Eskom has made certain design considerations in order to possibly facilitate the offtake of 20% of the produced Gypsum. The quality of the limestone to be used in the Medupi FGD process is unknown, and therefore the gypsum quality has not yet been determined. Limestone sourcing as well as the gypsum market offtake is being investigated by Eskom in parallel and the outcome of this investigation will determine the opportunity for the sale of gypsum (please find from Appendix J in the FSR the PED marketability study report). ***Carel van Heerden, Eskom***
4.2.5 COMMENTS RELATED TO SOCIAL AND SOCIO-ECONOMIC ASPECTS			
1	An ash market investigation be conducted in order to identify markets for the ash produced (including fly and bottom ash), taking into account their wide range of uses;	[redacted] CER NPC Letter: 12 December 2014 (Copy of Letter attached to Appendix D6)	The disposal and/or sale of ash is not part of the scope of work for the FGD project, due to FGD not producing ash as a waste. ***Sharon Meyer-Douglas, EAP***
2	In the circumstances, our clients submit that the DSR should be expanded to include the areas of concern mentioned below. In summary, our clients submit that a gypsum market investigation, to identify markets for 100% of the gypsum produced, taking into account its wide range of uses, be included as a specialist study;		The quality of the limestone to be used in the Medupi FGD process is unknown, and therefore the gypsum quality has not yet been determined. Limestone sourcing as well as the gypsum market offtake is being investigated by Eskom in parallel and the outcome of this investigation will determine the opportunity for the sale of gypsum. ***Carel van Heerden, Eskom*** A market research for the use of gypsum produced by Eskom's power stations has been done and a copy of the Report on the findings is available. Refer to Appendix J ***Kubentheran Nair, Eskom***

3	In the circumstances, our clients submit that the DSR should be expanded to include the areas of concern mentioned below. In summary, our clients submit that an ash market investigation be conducted in order to identify markets for the ash produced (including fly and bottom ash), taking into account their wide range of uses.		It needs to be noted that this comment is not part of this EIA. ***Kubentheran Nair, Eskom*** Ash is not a waste product from the FGD operation and therefore this study has no bearing on the environmental authorisation process for the FGD retrofit. ***Sharon Meyer-Douglas, EAP***
4	The delay in fitting FGD technology exposes the people living in the area to substantial levels of pollutants for a significant period of time. This exposes flaws in the approval process. If there was not enough water to supply the FGD, or the costs were prohibitive, Medupi should never have been approved. Particularly when there are alternatives that are essentially water-free technologies (such as wind) that are readily available.	[redacted] Greenpeace Environmental Organization NPC Letter: Undated (Attached to e-mail dated 09 January 2015)	At present, Medupi Power Station has been authorised and will come on line within the next few years. The current application deals with the FGD retrofit, which will reduce emission impacts to air quality and therefore reduce health risks to local communities. The focus of this process is to address comment on the FGD retrofit. ***Sharon Meyer-Douglas, EAP*** Eskom investigated the feasibility of co-commissioning the remaining units at Medupi Power Station with FGD and it was found not to be feasible to commission any of the remaining units with FGD. ***Theuns Blom, Eskom***
4.2.6 COMMENTS RELATED TO TECHNICAL ASPECTS			
1	Why was a dry FGD system not considered in such a water-poor area? Why was the decision made to go for a wet system if it is going to require a considerable amount of water, which the area does not have?	[redacted] Local Municipality PM: 05 November 2014	The reason why the wet FGD was selected is because there are only two options which are viable for the removal of emissions to the degree required for Medupi Power Station. Eskom needs to comply with the minimum emission standards as well as the requirements stipulated by the World Bank. The two commercially viable technologies are Wet FGD and semi-dry specifically Circulating Fluidised Bed (CFB). Both technologies were assessed and a techno-economical study was done, (see Appendix D in the FSR). The wet FGD was selected because of its techno-economic viability as well as the fact the semi-dry technologies requires a larger footprint and the retrofit period would be longer which is not desirable for the current Eskom's power supply conditions. With the cooler possibility, the water requirements for wet FGD can be reduced to a level which is comparable to the dry or semi-dry technologies. ***Carel van Heerden, Eskom***

2	The Municipality was told that the FGD units could not be built from the beginning because of a lack of water. Eskom just responded that there is enough water for three FGD units from the MCWAP Phase 1. What is the reason then for it only being installed six years after the Power Station starts operating? Why can the units not be installed right from the beginning if there is water available for it? Is there actually another reason for it not being installed from the beginning?		It comes back to the air quality standards which were set after the release of the emission standards in 2010 and the project being initiated in 2007. In that period the project was in the concept phase. The standards set at that time were very stringent. This is the first part. The second part is that Eskom sourced funding for the Project. One of the potential financiers of the Medupi Power Station development is the World Bank. Their requirements for provision of funding was the inclusion of FGD. Since the Project had progressed significantly during this period. It was decided to retrofit FGD. The opportunity to start the Project with FGD had since passed. ***Kubentheran Nair, Eskom*** Eskom needed to take note of the requirements for having to construct the FGD plant. The first requirement is the new Air Quality Standards and the project's time frames around these requirements. Eskom was already planning, designing and initiating the construction of Medupi Power Station when the new Air Quality Emission Standards were promulgated 2010. Therefore, the FGD was only identified and feasibility studies carried out very late in the Power Station's construction phase. Due to the processes that must be followed, initial inclusion of the FGD was not possible and ad to be retrofitted. Kusile Power Station is being designed with FGD units from the beginning because there was sufficient time to design and commission the FGDs. ***Prince Khumalo & Patrick Seloba, Eskom*** The intention right at the beginning was to build the FGDs as there was always sufficient water. The MCWAP Phase 1 and 2 were planned to be done concurrently but Phase 1 was unfortunately delayed in 2008 and Phase 2 development was stopped. Eskom got what it could from the yield of Mokolo Dam. ***Ian Midgley, Eskom*** The Medupi Power Station is categorised as an existing plant due to the fact that it was in construction phase in 2010 when the minimum emissions standards were promulgated. The minimum emission standards that the existing plant needs to adhere to is 3500mg/Nm^3 at 10% O_2 and 500mg/Nm^3

			at 10% O_2 by 31st March 2025 and 500mg/Nm3 at 10% O2 by 1st April 2025. Eskom is within its goal and is investigating mitigations to adhere to the standards in the interim period in the first six years. Another reason why it is only installed after six years is because it ties in with what is required by the NEM: AQA. Eskom will not be in transgression of the Minimum Emissions Standards during the 6 year period without FGD. ***Carel van Heerden, Eskom***
3	The flue gas cooler should be incorporated into the base case FGD design, instead of being proposed as a design alternative.	[redacted] CER NPC Letter: 12 December 2014 (Copy of Letter attached to Appendix D6)	As part of basic design process Eskom considered all of the water minimisation options as part of the life cycle assessment. This assessment is inherent in the design process. ***Carel van Heerden, Eskom***
4	The FGD systems should be operated and maintained as an essential part of each power generation unit and that a bypass should not be included.		The emergency bypass will operate within the terms stipulated within the licensing agreement. The emergency bypass is a result of the retrofit and will be utilised as an emergency system. ***Carel van Heerden, Eskom***
5	In the circumstances, our clients submit that the DSR should be expanded to include the areas of concern mentioned below. In summary, our clients submit that the FGD systems should be operated and maintained as an essential part of each power generation unit and that a bypass should not be included;		
6	The DSR indicates that a bypass will be included in the FGD system installation by retaining the existing ductwork to the stacks. Our clients find this unacceptable, as it will enable the plant to operate with unabated SO emissions. Instead, the FGD systems should be operated and maintained as an integral and essential part of each power generation unit.		
6.1	In the circumstances, our clients submit that the DSR should be expanded to include the areas of concern mentioned below. In summary, our clients submit that the flue gas cooler should be incorporated into the base case FGD design, instead of being proposed as a design alternative;		As part of basic design process Eskom considered all of the water minimisation options as part of the life cycle assessment. This assessment is inherent in the design process. ***Carel van Heerden, Eskom***
6.2	In the circumstances, our clients submit that the DSR should be expanded to include the areas of concern		The PED study (included as Appendix J in the FSR) indicates that the gypsum market will be flooded by Kusile Power Station's FGD by-product.

	mentioned below. In summary, our clients submit that additional features (as described in paragraph 22) should be incorporated into the base case design to maximise the amount of gypsum sold.		Therefore no market for the gypsum produced by the Medupi FGD is expected. In order to plan and design for the worst case scenario, the environmental processes must account for disposal of 100% of the Medupi gypsum. Further, the Ash Disposal Facility (ADF) at Medupi Power Station was sized for co-disposal based on initial estimates of gypsum production from the FGD process. ***Denise Govender, Eskom*** The quality of the limestone to be used in the Medupi FGD process is unknown, and therefore the gypsum quality has not yet been determined. Limestone sourcing as well as the gypsum market offtake is being investigated by Eskom in parallel and the outcome of this investigation will determine the opportunity for the sale of gypsum. ***Carel van Heerden, Eskom***
7.	Has a decision been made about which of the two types of FGDs will be used?	[redacted] KSW: 05 November 2014	Medupi Power Station was constructed to be FGD ready and based on a techno-economical study, a wet FGD system will be utilized. It utilises limestone as a reagent and gypsum is produced as a bi-product. ***Carel van Heerden***
8	The FGD technology should have been assessed as part of the initial EIA as it is an essential addition to the development in terms of human health impacts. The full impact of the development has not been taken into account in terms of water use requirements and the broader impact of the water needs for this additional technology.	[redacted] Greenpeace Environmental Organization NPC Letter: Undated (Attached to e-mail dated 09 January 2015)	This application focuses on the FGD retrofit and the inclusions or exclusions of the original Medupi Power Station authorisation is not a component of this environmental impact assessment process. However, within the FSR information will be provided to clarify the process carried out and to motivate for the decision for FGD retrofit. ***Sharon Meyer-Douglas, EAP*** As part of basic design process Eskom considered all of the water minimisation options as part of the life cycle assessment. This assessment is inherent in the design process. ***Carel van Heerden, Eskom***
9	What would be the size of the plume?	[redacted] GP Strategies PM: 05 November	The Flue Gas exiting the stack will be saturated with water and will therefore be visible. ***Carel van Heerden, Eskom***

		2014	
4.2.7	**COMMENTS RELATED TO PROJECT TIMEFRAMES**		
1	Our clients disagree with this retrofit schedule and argue that as many units as possible should be commissioned with FGD from the start, particularly if an expedited approach is taken with respect to the supply and construction of the FGD systems, as explained below. This would considerably reduce both peak SO_2 emissions and total SO_2 emissions of the plant over its lifetime - which is of critical importance to the regional air quality.	[redacted] CER NPC Letter: 12 December 2014 (Copy of Letter attached to Appendix D6)	The process of installing FGD to the power station has a lead time. This includes amongst others, the EIAs, Waste and Water Use Licenses and design process. Once these are concluded a commercial process must be undertaken before any installation can be done. Each of these processes typically have legislated or procedural timeframes attached to it, which informs the current schedule ***Kubentheran Nair, Eskom*** FGD cannot be accelerated at Medupi because the technology cannot be bought off the shelf. The concept design has been completed for Medupi's FGD. Preliminary designs are currently underway. Once final approval from Eskom's Board and PFMA approval have been obtained, the call for tenders need to be sent out, tenders need to be evaluated, and the contract awarded. Lead time for supply and construction once the tender has been placed is typically around 3 years. According to the current project schedule, the first unit at Medupi can only be retrofitted from the start of 2021. ***Olga Makhalemele, Eskom*** Eskom investigated the feasibility of co-commissioning the remaining units at Medupi Power Station with FGD and it was found not to be feasible to commission any of the remaining units with FGD. ***Theuns Blom, Eskom***
2	In terms of the Medupi units, the current schedule estimates that one unit will be commissioned per year from 2015 until 2020. Although this is Eskom's "most conservative" estimate, it is unlikely that shorter timeframes can be expected given the project's track record, which is already three to four years behind schedule. It is even plausible that this "most conservative" schedule is not realistic, as at least one source predicts that the second unit will only be commissioned in 2017.		Eskom investigated the feasibility of co-commissioning the remaining units at Medupi Power Station with FGD and it was found not to be feasible to commission any of the remaining units with FGD. ***Theuns Blom, Eskom***

	Therefore, it is feasible that the first FGD systems will be ready for commissioning in time for the commissioning of the last few power generation units.		
3	The benefits of commissioning the last few units with FGD from the start are considerable. As an example, if one assumes the units are commissioned as per Eskom's "most conservative" unit commissioning schedule (i.e. one per year from 2015-2020) and that a lead time for the construction of a FGD units is 2 years, then the last two units can plausibly be commissioned with FGD in 2019 and 2020 respectively. The remaining four units would then be retrofitted in their respective General Overhaul outages. This scenario has the following benefits over the current proposal to retrofit all six units with FGD:		Eskom investigated the feasibility of co-commissioning the remaining units at Medupi Power Station with FGD and it was found not to be feasible to commission any of the remaining units with FGD. ***Theuns Blom, Eskom***
4	Reduced downtime: The General Overhaul outage downtime of these last two units would reduce from 120 days to 56 days as additional downtime would not be required for FGD retrofitting. This would reduce overall costs and increase electricity output.		Eskom investigated the feasibility of co-commissioning the remaining units at Medupi Power Station with FGD and it was found not to be feasible to commission any of the remaining units with FGD. ***Theuns Blom, Eskom***
5	In the circumstances, our clients submit that the DSR should be expanded to include the areas of concern mentioned below. In summary, our clients submit that an FGD Construction and Commissioning Schedule Study, to investigate the feasibility and potential benefits of co-commissioning the last few units with FGD, be included as a specialist study;		
6	FGD should have been included in the initial EIA, and a retrofit exposes people living in the area to substantial levels of pollutants for a significant period of time.	[redacted] Greenpeace Environmental Organization NPC Letter: Undated (Attached to e-mail dated 09 January 2015)	The focus of this project is the FGD retrofit. Actions that should have been excluded or included in the original Medupi Power Station EIA are not within our scope of influence. ***Sharon Meyer-Douglas, EAP***
1	Eskom have argued - in its 28 May 2014 responding	[redacted]	Eskom investigated the feasibility of co-commissioning the remaining units at

	statement to our clients' appeal of the Medupi Atmospheric Emission Licence (AEL) - that there is insufficient time to install FGD integrally with any of the remaining units, stating "lead time for supply and construction once the tender has been placed is typically around 3 years". The use of the word "typically" implies that, at that stage, Eskom had not yet obtained a firm lead time estimate, and that there is at least a possibility of a shortened lead time. International experience indicates that FGD projects may take less than three years to supply and construct, and that a lead time of less than two years may be possible. Therefore, if Eskom ran its tender process and made the necessary preparations for the Public Finance Management Act (PFMA) and board approval in parallel with this Integrated Environmental Authorisation process, the contractors could be appointed in the third quarter of 2016. Following a two-year supply and construction period, the first FGD systems would then be ready to be commissioned from the end of 2018.	[redacted] CER NPC Letter: 12 December 2014 (Copy of Letter attached to Appendix D6)	Medupi Power Station with FGD and it was found not to be feasible to commission any of the remaining units with FGD. ***Theuns Blom, Eskom***
2	The DSR does not make it clear why the FGD technology was not included in the initial design and EIA for Medupi, particularly if it is such an important element to protect human welfare.	[redacted] Greenpeace Environmental Organization NPC Letter: Undated (Attached to e-mail dated 09 January 2015	This information is included within the FSR, Chapter 2.3, page 19, which will be made available for public review. At the time that Eskom had received environmental authorisation for the Medupi Power Station in 2007, the power station design complied with the requirements stipulated by Section 21 of the National Environmental Management: Air Quality Act (Act 39 of 2004). ***Sharon Meyer-Douglas, EAP*** At the time of Medupi's design and approval, there was no requirement to achieve a minimum emission standard of 500 mg/Nm^3, or retrofit FGD. ***Olga Makhalemele, Eskom***
4.2.8 COMMENTS RELATED TO AIR QUALITY			
1	As the FGD units and the pollution filters will only be	[redacted]	The attendees need to recognise where the project is in the Environmental

	installed after the Power Station has been running for six years whilst the surrounding area will be subjected to pollution, what is the anticipated effect on the pollution levels, especially in Marapong which is going to be exposed mostly to the pollution?	[redacted] Local Municipality PM: 05 November 2014	Impact Assessment (EIA) process which is the Scoping Phase. In the next phase which is the EIA Phase the team will be unpacking these elements and assessing the associated impacts. Out of that process, the team would be able to answer the questions raised at the meeting. ***Kubentheran Nair, Eskom*** Within the Record of Decision (ROD) only very low ambient conditions are specified for compliance. After the release of the maximum emission standards in 2010 the decision was made to retrofit Medupi Power Station with a Wet FGD. Until such time as the FGD system is designed and built the Power Station will operate without it whilst still adhering to the Minimum Emission Standard. ***Carel van Heerden, Eskom*** In terms of Eskom's power station's life cycle, there are various processes that needs to take place i.e.: • the first process is the feasibility studies that need to be undertaken and this includes the EIA process; • then the conceptual design phase; • the detailed design phase; and • appointment of contractor. All these steps have different time frames and Eskom needs to wait for a major general overhaul of Medupi Power Station as the relevant units will need to be off line for a period of time to facilitate the retrofit. Timeframes are linked to Eskom's power stations' life cycles. ***Kubentheran Nair, Eskom***
2	Implications of non-compliance with ambient air quality standards in the Waterberg Bojanala Priority Area:	[redacted]	
2.1	The Medupi Power Station (Medupi) is located in the Waterberg Bojanala Priority Area (WBPA), which was declared in accordance with s18 of AQA. AQA makes provision for the declaration of Priority Areas where	CER NPC Letter: 12 December 2014 (Copy of Letter	Zitholele Consulting agrees with the comment made. ***Sharon Meyer-Douglas, EAP***

	ambient air quality standards (AAQS) are being, or may be, exceeded.	attached to Appendix D6)	
2.2	Subsequent to its declaration as a priority area, the DEA has confirmed that permitted levels of PM (particulate matter with an aerodynamic diameter less than 2.5 micron metres), PM (particulate matter with an aerodynamic diameter less than 10 micron metres) and ozone have been exceeded in all monitoring stations. Therefore, there is currently non-compliance with the AAQS. The Medupi Atmospheric Impact Report (AIR), submitted in support of Eskom's application for postponement of the MES, confirms this non-compliance with respect to PM.		Zitholele Consulting agrees with the comment made. ***Sharon Meyer-Douglas, EAP*** The PM (particulate matter) is not relevant to the FGD project. Medupi Power Station will have continuous emission monitors that measure the PM and gaseous emissions and the results are reported to the DEA, as required by the Legislation. The CER and members of the public can request a copy of these reports from the DEA. ***Olga Makhalemele, Eskom***
2.3	In terms of SO_2, Medupi is located roughly 7km from the existing Matimba Power Station, which emits approximately 302,000 tons per annum of SO_2. Although the daily average SO_2 concentrations measured at Marapong and at Grootstryd have not exceeded the South African daily average AAQS for SO_2 they do exceed the World Health Organisation SO_2 guideline value of 20 µg/m3 . Therefore air quality in the vicinity of Medupi is already compromised and will be exacerbated as and when each Medupi power generation unit (hereafter referred as "unit") comes online, particularly with respect to ambient SO_2 (125 µg/m) and secondary PM.		Medupi emissions will be monitored and reported to DEA. This information is available to the public from the DEA. ***Sharon Meyer-Douglas, EAP*** Eskom is currently monitoring using the National Ambient Air Quality Standard which is currently not exceeded. ***Olga Makhalemele, Eskom*** The (Particulate Matter) PM is not relevant to the FGD project. Medupi Power Station will have continuous emission monitors that measure the PM and gaseous emissions and the results are reported to the DEA, as required by the Legislation. The CER and members of the public can request a copy of these reports from the DEA. ***Olga Makhalemele, Eskom***
2.4	Under the scenario where both power stations are operating at maximum emission levels and Medupi is operating without FGD, ambient air quality concentrations are predicted to exceed the hourly and 24-hourly average NAAQS for SO2 by up to 60%. Although Medupi is intended to operate with FGD in the long term, the proposed project involves the retrofit of FGD to each of Medupi's six units during the General Overhaul outages,		Medupi Power Station will have continuous emission monitors that measure the PM and gaseous emissions and the results are reported to the DEA, as required by the Legislation. The CER and members of the public can request a copy of these reports from the DEA. ***Olga Makhalemele, Eskom***

	which take place around six years after the commissioning of each unit. Therefore, each unit would operate for six years with unabated SO_2 emissions. Medupi SO_2 emissions will peak at 414 000 tons per annum in the one three year period when all six units are operational, but before the first retrofitted FGD unit is commissioned. During this peak period, the combined SO_2 emissions from Medupi and Matimba will be more than double their current emissions, increasing the probability of AAQS exceedances during this time.		
2.4.1	A reduction in SO_2 emissions: SO_2 emissions would be reduced by an estimated 30% over the next 12 years (which represents almost a quarter of the plant's lifetime). This is reflected in Annexure **I** hereto, a comparison of SO2 emissions. This will have a significantly positive impact on the air quality in the region.		To clarify, relative SO_2 emissions for the entire Eskom coal-fired fleet will reduce by 30% by 2030. This will occur as Kusile Power Station is commissioned with FGD, as Medupi is retrofitted with FGD, and as some of the older power stations with relatively higher SO_2 emissions are decommissioned. This will be a reduction in total Eskom emissions, but will not have a direct impact on the air quality in the Lephalale region. ***Olga Makhalemele, Eskom***
2.4.2	Earlier compliance with the Minimum Emission Standards (MES): As part of its application to postpone compliance with the MES in terms of the National Environmental Management: Air Quality Act, 2004 (AQA), Eskom seeks a seven year postponement of the new plant SO_2 MES, which come into effect in 2020. The commissioning of the last two units with FGD would reduce the required postponement period by around two years.		Eskom investigated the feasibility of co-commissioning the remaining units at Medupi Power Station with FGD and it was found not to be feasible to commission any of the remaining units with FGD. ***Theuns Blom, Eskom*** Medupi Power Station will have continuous emission monitors that measure the PM, gaseous emissions and the results are reported to the DEA, as required by the Legislation. The CER and members of the public can request a copy of these reports from the DEA. ***Olga Makhalemele, Eskom***
2.4.3	Avoidance of a second postponement of MES compliance: As compliance with MES would be around two years earlier, there would no longer be a need for a second postponement (each postponement is only valid for up to five years).		
2.5	As stated, the above is based on Eskom's "most conservative" unit commissioning schedule. As explained previously, it is plausible that an even more conservative		

	schedule may be realistic. In which case, there is a potential for more than two units to be commissioned with FGD from the start, and hence further reduce Medupi's lifetime SO_2 emissions and downtime requirements.		
2.6	Due to the significant impact the FGD commissioning schedule will have on the plant's SO_2 emissions, and hence regional air quality, our clients assert that a specialist study should be included in this Integrated Environmental Authorisation process, to investigate the feasibility and potential benefits of co-commissioning the last few units with FGD.		
3	What is the percentage that emissions will be reduced by if the FGDs are retrofitted?	[redacted] KSW: 05 November 2014	Ambient emissions will be reduced by 30%. ***Olga Makhalemele, Eskom*** **<u>Post-meeting note</u>:** The ambient emissions of 30% quoted in the response at the KSW represents the relative SO_s emission reduction for the entire Eskom fleet, including the effect of FGD Kusile, FGD Medupi and the decommissioned units between 2015 and 2030. Point source emissions will be reduced by between 90% and 95% if the FGDs are retrofitted. ***Carel van Heerden, Eskom*** The emission levels will be at 3500mg/Nm^3 @ 10% O_2. With the FGD retrofitted it will be able to meet the limit of 500mg/Nm^3 at 10% O_2, which is a decrease of 90%. ***Prince Khumalo, Eskom***
4.2.9 COMMENTS RELATED TO WASTE CLASSIFICATION			
1	What will be used as baseline for the waste classification of the gypsum and other waste products associated with the FGD technology, and is there a similar unit functioning of which one can use the same information?	[redacted] PM: 05 November 2014	A chemical make-up will be used for the waste classification of the three waste streams and once Kusile Power Station is in operation the information will be verified through testing of the wastes produced by the Kusile FGD operation ***Sharon Meyer-Douglas, EAP***

4.2.10 COMMENTS RELATED TO CONSULTATION AND COMMUNICATION			
1	Why am I receiving the documents regarding the EIA for the FGD and the pages of the fax received have not been numbered?	[redacted] Landowner Telephonic Discussion: 29 October 2014	With reference to my e-mail send at 16h45 this afternoon and our telephone discussion of yesterday afternoon and today, please find attached the following documents: • Letter which serves to inform you that the Draft Scoping Report (DSR) is available for public review and comment from Monday, 27 October 2014 to Friday, 05 December 2014. The attached letter also serves to invite you to attend any one of the two Public Meetings that will be held on Wednesday 05 November 2014 and Thursday 06 November 2014 (details of time and venue in the attached letter); • DSR Comment Form; and • Public Meetings Registration Form. Please note that the attached letter, DSR Comment Form and Public Meetings Registration Form were the documents that were faxed to you yesterday (fax number 014 763 2165). The DSR can be downloaded from Zitholele's website (http://www.zitholele.co.za/eia-for-medupi-fgd). You are most welcome to share this notification and invitation with your neighbours, friends, family and/or colleagues, and you are also welcome to forward the names and contact details of any interested and/or affected party that you believe who needs to be informed of the availability of the DSR and/or to be invited to the Public Meetings to us and we will send them the relevant documents. In response to the page numbering, it needs to be noted that different documents were faxed and each document had their own page numbering. Please do not hesitate to contact us should you require any additional information regarding this proposed project. ***Nicolene Venter, Public Participation Practitioner***
2	It was requested as to when does the DSR comment period ending.	E-mail: 07 November 2014	With reference to Zitholele Consulting's e-mail dated 07 November 2014, registered I&APs was informed that the DSR review period will be ending

			soon. The DSR review period was extended to 9th January 2015, due to an additional document being made available for public review. This extension was communicated to all registered I&APs on 21 November 2014 ***Nicolene Venter, Public Participation Practitioner (e-mail dated 10 November 2014***
3.	It was requested that the draft minutes of the public meeting that was held on 05 November 2015 be forwarded. It was further requested that all of Zitholele Consulting's correspondence is also sent to skamanja@cer.org.za and rkruger@cer.org.za	[redacted] CER NPC E-mail: 11 February 2015	Confirmed that both the Key Stakeholder Workshop and Public Meeting minutes, and attachments, are sent to the CER as requested. ***Leoni Lubbe, PP Administrator***
4.	The CER noted that it is Zitholele Consulting's intention to make the FSR available to government already in March 2015. It was enquired whether this is still the case. For CER's planning purposes, it was requested that they be advised when the FSR will be made available for public comment and for how long.	E-mail: 12 February 2015	The envisaged date for submission of the FSR to the DEA is Friday 13 March 2015. The FSR will also be made available to stakeholders such as the CER on the same day. Also, all registered I&APs will be notified when the FSR has been submitted to the DEA and its availability to the public for review and comment for a comment period of 40-days. ***Nicolene Venter, Snr Public Participation Practitioner*** The CER was informed that the submission of the FSR to the DEA has been postponed due to the delay in finalising the FSR and supporting documents. Zitholele Consulting will notify all I&APs of the submission date as soon as it is confirmed. ***Nicolene Venter, Snr Public Participation Practitioner (e-mail 10 March 2015)***
3	Any decision not to consider waste disposal alternatives must be transparent and subject to public participation.	Letter: 12 December 2014 (Copy of Letter attached to Appendix D6)	All alternatives will be assessed within the EIA phase of the project and will provide a clear explanation of what has been identified as a feasible alternative for disposal or alternative waste use. ***Sharon Meyer-Douglas, EAP*** The quality of the limestone to be used in the Medupi FGD process is unknown, and therefore the gypsum quality has not yet been determined. Limestone sourcing as well as the gypsum market offtake is being investigated by Eskom in parallel and the outcome of this investigation will

			determine the opportunity for the sale of gypsum. ***Carel van Heerden, Eskom***
3.1	The public participation process connected to the DSR has been hampered on several occasions by delays in responding to CER correspondence and missing documents. Ultimately, this caused the deadline for the period for comment to be extended by over a month. This public participation process is described below, with specific reference to correspondence to which the CER was a party.		Delays in a EIA and PP process are accommodated for although the EAP and EIA team try to avoid delays as far as possible. Zitholele Consulting acknowledged the omission of the Technical Study Report in their e-mails to the CEIR NPC and advised the Applicant that the Report must be released for comment as the PP process for this project has been transparent and will proceed to be open and transparent. ***Nicolene Venter, Public Participation Practitioner***
3.2	Zitholele Consulting ("Zitholele") is the Environmental Assessment Practitioner (EAP) in the Integrated Environmental Authorisation process for the Medupi FGD. They sent an email to stakeholders on 10 October 2014, which announced a key stakeholder workshop to be held on the Medupi FGD EIA and WML processes on Wednesday, 5 October at 14:00-16:00.		The invitation to the key stakeholder workshop has been e-mailed on Friday, 10 October 2014 and the workshop was held on Wednesday, 05 November 2014. The notification of the DSR and invitation to the two public meetings was e-mailed on Friday, 10 October 2014. The invitations as mentioned above are included in Appendix F5 of the FSR.
3.3	On 13 October, Zitholele sent notification to stakeholders by email that the DSR would be distributed for comment from Monday 27 October until Friday 5 December 2014. The notice included an invitation to public meetings in Lephalale on 5 November 2014, and in Marapong on 6 November 2014. In response to this, on the same day, CER asked Zitholele about the function of the public meetings as opposed to the key stakeholder workshop, and received the response that the meetings were targeted at different groups, with the key stakeholder meeting intended to allow technical discussion of concerns in the EIA and WML processes, and the public meetings intended to address community-level concerns.		It is best practice to conduct focus group meetings / key stakeholder workshop, etc with groups of stakeholders with similar interest i.e. landowners. The same information regarding the proposed project is shared at all the various meetings held, but the participation from the group is similar and focused on their issues and concerns. ***Nicolene Venter, Public Participation Practitioner***
3.4	It came to the attention of CER that the Technology Study Selection Report (TSSR), an important document forming part of the DSR process, was not accessible to stakeholders wishing to comment on the DSR. CER requested this report from Zitholele by email on 30		Zitholele is in agreement with the process as outlined by the CER. ***Nicolene Venter, Public Participation Practitioner***

	October 2014, and repeated the request in a telephone conversation on 31 October 2014, in which Zitholele confirmed that they had sent a request for the TSSR to Eskom. This was confirmed by Zitholele by email to CER on the same day.		
3.5	On 4 November 2014, Zitholele communicated to CER that Eskom wished the CER to use the process described in the Promotion of Access to Information Act, 2000 (PAIA) if it wished to access the TSSR. CER responded on the same day, advising Eskom that they must make the TSSR available in terms of Regulation 54(7) of the 2010 NEMA EIA Regulations which provides that: "… the person conducting the public participation process must ensure that— a) information containing all relevant facts in respect of the application is made available to potential interested and affected parties; and b) participation by potential interested and affected parties is facilitated in such a manner that all potential interested and affected parties are provided with a reasonable opportunity to comment on the application."		Zitholele Consulting confirmed that the summary provided by the CER NPC is correct and the e-mail referred to was addressed to Ms Sylvia Kamanja. Acknowledgement is also given to the Regulations mentioned and Zitholele Consulting adhered to these Regulations. It needs to be noted that only information that is made available to the EAP is subsequently made available to the public. ***Nicolene Venter, Public Participation Practitioner*** After discussion with the client, the Technology Selection Study Report was made available to all stakeholders on Monday 01 December 2014, also available as appendix D in the FSR. ***Sharon Meyer-Douglas, EAP***
3.6	In terms of regulation 28(1), the DSR also "must contain all the information that is necessary for a proper understanding of the nature of issues identified during scoping". In addition, there is a legislated time period connected to PAIA such that the CER would not have received the document ahead of the expiry of the comment period for the DSR.		The CER NPC and registered I&APs have been provided with an extended review period to accommodate the omission of the TSSR. The DSR review period was extended from Friday 05 December 2014 (an original 40-day comment period) to Friday 09 January 2015, an additional 14 days (excluding the no public participation period between 15 December and 02 January). ***Nicolene Venter, Public Participation Practitioner***
3.7	On 6 November 2014, Zitholele sent a notice to stakeholders by email, cancelling the public meeting that was to to be held in Marapong on the same day. The reason given for the cancellation was that there was a "safety risk" to consultants. CER responded by email on the same day, to ask for details of the safety risk, as well as minutes of the meeting that was held in Lephalele on 5 November. To date, these minutes have not been		Zitholele Consulting confirms the information as provided by the CER NPC regarding the cancellation of the 2nd public meeting which was scheduled to take place at Marapong. It is important to note that human safety comes first and the information provided by the Ward Councillor and the assessment by of Eskom (Medupi Power Station) informed the decision to rather cancel the meeting than to proceed with it. The risk that the meeting would lose focus and potentially turn

	received.		violent was an important factor in the cancellation. from the minutes of the Public and Stakeholder Meetings held in November 2014 are with the client for review and comment. As soon as this review has been finalised, the minutes will be made available to all stakeholders, and will be appended to the Final Scoping Report. ***Nicolene Venter, Public Participation Practitioner***
3.8	The DSR makes mention of the Eskom Air Quality Strategy, but this document was not made available to stakeholders. For this reason, the CER requested it from Eskom by email on 7 November 2014, and sent a reminder to Eskom by email on 14 November 2014. On this same day, CER received a response from Eskom in which it was stated that the Eskom Air Quality Strategy could not be made available because it was outdated as there had been changes in legislation and Eskom had made an application for postponement of the applicability of the MES to its plants. Eskom stated that its Air Quality Strategy was being updated.		This report is in draft format. Once the report has been finalised and made available for public consumption in the Draft Environmental Impact Report (DEIR), and it may be available from Eskom. ***Sharon Meyer-Douglas, EAP***
3.9	On 7 November, the CER made a telephone call to Zitholele regarding their request mentioned above, for the TSSR. During this telephone call, Zitholele communicated that the reason that Eskom did not want to provide stakeholders with the TSSR was that it contains confidential information of a commercially sensitive manner. However, a formal decision had not yet been made and would be sent to stakeholders as soon as it had been. Zitholele further advised that the safety risk, that necessitated the cancellation of the public meeting mentioned above, was connected to outstanding issues between the community, local municipality and the councilor in Marapong. Zitholele had apparently been advised by Eskom that these issues might cause community members to make use of the public meeting for discussions not connected to the DSR, and Zitholele felt that the safety of the EAP could not be assured in such circumstances. Further, Zitholele reiterated the		Responses to these matters are responded to in points 6, 9.16.4, 9.16.4 and 9.16.6 above. ***Nicolene Venter, Public Participation Practitioner***

	commitment to provide the CER with the minutes of the public meeting held on 5 November 2014 in Lephalale. The content of this telephone conversation was confirmed by the CER by email to Zitholele on 7 November 2014, and Zitholele confirmed receipt of the email on the same day, once again stating the intention to send the minutes from the public meeting on 5 November 2014 in Lephalale to the CER.		
3.10	The CER sent emails to Zitholele on 12 and 13 November 2014, asking for a formal response to their request for the TSSR, as well as the minutes from the public meeting on 5 November in Lephalale. On 18 November 2014, Zitholele responded to this request. First, Zitholele reiterated that there were pre-existing issues between the community, Eskom and the local councilor, which they had not wished to deal with at the meeting they had cancelled on 6 November 2014, which was meant to centre around the Medupi FGD EIA and its public participation processes. Zitholele explained that they had since undertaken a situation analysis with Eskom, and had decided not to hold a public meeting about this matter in the future. Our clients dispute the outcome of this situation analysis. Public participation through stakeholder engagement is required in terms of chapter 6 of the NEMA EIA Regulations, so Eskom cannot use its discretion to decide whether or not to hold a public meeting. In situations where there is a fear of danger, it is submitted that an independent facilitator should be used to minimise friction between negotiating parties and the resulting security risk.		Responses to these matters are responded to in points 6, 9.16.4, 9.16.4 and 9.16.6 above. Zitholele Consulting would like to reiterate that the decision to cancel the public meeting was a team decision, informed by information from the ward councillor and from Eskom. The fact that the PP team did secure a venue, interpreter, and invited the public to the public meeting in Marapong, shows that the project team was intent on facilitating this meeting. It was a last minute decision to cancel, based on the risk that the meeting would lose focus, thereby not addressing the current project issues. The risk of violence was also taken cognisance of. ***Nicolene Venter, Public Participation Practitioner***
3.11	Then, Zitholele once again stated that they would provide the minutes for the key stakeholder and public meetings which were held on 5 November 2014 in Lephalale. Further, Zitholele stated that a decision regarding the release of the TSSR had been reached, and Zitholele would be making it available to the CER by the end of		Zitholele Consulting confirms the information as provided by the CER NPC regarding the availability of the draft minutes of the meetings held during the DSR review period. The draft minutes are included in Appendix F8 of the FSR. All attendees to the meeting, and stakeholders specifically requesting such, will be sent the

	November 2014. In order to allow stakeholders enough time to consider the document, the DSR comment period would be extended to Friday 9 January 2015.		minutes as soon as the review process is completed. The final minutes, should there be any comments/updates, will be included in the DEIR. ***Nicolene Venter, Public Participation Practitioner***
3.12	The extension of the DSR comment period until 9 January 2015 was communicated to all other stakeholders by email on 21 November 2014.		The official DSR comment period extension was communicated to all registered I&APs on the project database by means of the contact details provided during the consultation period (i.e. e-mail to those with an e-mail address, fax to those without an e-mail address but with a fax number and SMS to all registered I&APs with cell phone number – including the CER NPC). ***Nicolene Venter, Public Participation Practitioner***
3.13	When the CER had not received the TSSR by 1 December 2014, they sent a notice to Zitholele, placing on record that the TSSR had not been released by the deadline and asking to be informed as to when it would be released. The TSSR was then sent to the CER and all other stakeholders on the same day.		Zitholele Consulting confirm the information as provided by the CER NPC regarding the submission of the TSSR. Zitholele Consulting could only make the TSSR available once received from the Applicant. ***Nicolene Venter, Public Participation Practitioner***
3.14	In its comments on the BID, our clients also requested copies of several documents in order to place them in a position to make meaningful submissions and in keeping with their PAJA rights. The majority of the requested information has not been made available. Our clients place on record that this has hampered their ability to provide comment.		In response to the request for information that is not directly related to the current FGD project, the Medupi project team has indicated that the stakeholders should request the information directly from Eskom through the PAIA process. ***Sharon Meyer-Douglas, EAP***
3.15	Our clients would like to place on record that the public participation process with regards to the Medupi DSR has not been managed efficiently or transparently and has impacted on their ability on their "reasonable opportunity to comment", afforded by the EIA Regulations. Our clients have had difficulty in accessing some of the documents that were necessary for them to comment on the DSR, and have not had the opportunity to engage with Eskom as initially promised, as they would have been able to at the public meeting in Marapong that was cancelled on very short notice. Our clients submit that another public meeting should be held in Marapong to ensure that the		The requirements for a public participation process in terms of the NEMA EIA Chapter 6, Regulations 54 – 57 have been met. Zitholele Consulting can confirm that "reasonable opportunity to comment" was provided by the public participation team. Although the EIA Regulations stipulates that I&APs be provided with a minimum of 30 days to comment on Reports, it needs to be noted that the DSR was made available for public review and comment from Monday, 27 October 2014 to Friday, 05 December 2014. This review period was extended, as communicated on 20 November 2014, to Friday 09 January 2015. The BID in which the project was announced, was available for comment from June 2014. Due to the nature of this proposed project, Zitholele Consulting

	public participation process is not compromised. In addition, Eskom must make all relevant documents available to stakeholders as soon as a comment process begins in any part of the Integrated Environmental Authorisation process in future, so as to avoid unnecessary delays.		did not, as per Regulation, stipulate a registration and comment period for the BID. I&APs can comment until the FEIR is submitted, which by then new and or additional information would have been communicated. ***Nicolene Venter, Public Participation Practitioner***
3.16	In the circumstances, our clients submit that the DSR should be expanded to include the areas of concern mentioned below. In summary, our clients submit that all relevant documents must be made available to stakeholders as soon as a comment process begins in any part of the Integrated Environmental Authorisation process in future, so as to avoid unnecessary delays		
3.17	The online link to Appendix E does not contain information pertaining to "Absorber Diagrams" as it should. Please correct this error.		It can be confirmed that the link has been corrected and please also find within Appendix G5 the Medupi FGD -Absorber Diagrams for perusal. ***Nicolene Venter, Public Participation Practitioner***
3.18	The minutes for a public meeting held in Marapong on 6 November 2014 have not yet been distributed. It is important that all stakeholders have access to these to ensure that the record is both accurate and accessible. Please ensure that they are made available as soon as possible.		The draft minutes will be made available to all those who attended the meetings and those who submitted their apologies for their review and inputs. The draft minutes will also be made available in the FSR which will be made available in the same public places as per the DSR. ***Nicolene Venter, Public Participation Practitioner*** Zitholele Consulting informed the key stakeholder workshop and the public meeting attendees and those who submitted apologies that the draft minutes are still being reviewed by Eskom and will be distributed as soon as it is received from Eskom. ***Nicolene Venter, Public Participation Practitioner (e-mail dated 22 January 2015)***
3.19	In the circumstances, our clients submit that the DSR should be expanded to include the areas of concern mentioned below. In summary, our clients submit that any decision not to consider waste disposal alternatives must be transparent and subject to public participation;		All alternatives for disposal are being investigated within the EIA Phase. The saleability of the gypsum has been investigated by Eskom and the market for gypsum will not support the volumes of gypsum produced by Kusile and Medupi Power Stations. In order to design for worst case scenario, a disposal facility must be designed and prepared for the disposal of maximum gypsum volumes. ***Sharon Meyer-Douglas, EAP***

			The quality of the limestone to be used in the Medupi FGD process is unknown, and therefore the gypsum quality has not yet been determined. Limestone sourcing as well as the gypsum market offtake is being investigated by Eskom in parallel and the outcome of this investigation will determine the opportunity for the sale of gypsum. ***Carel van Heerden, Eskom***
3.20	In the circumstances, our clients submit that the DSR should be expanded to include the areas of concern mentioned below. In summary, our clients submit that Eskom may not adopt an attitude to public participation which suggests that it is a discretionary process, rather than one which is legislatively mandated; and		The public participation process is conducted in terms of the NEMA EIA Chapter 6, Regulations 54 – 57. As per these regulations, all relevant documents relating to this proposed project will be made available to all registered I&APs as and when available. ***Nicolene Venter, Public Participation Practitioner***
4	In your email of 18 November 2014, you commit to sending the Technology Selection Report for the Medupi FGD project to the CER by the end of November 2014. We would like to place on record that we have not yet received this report, although your deadline for sending the report to us has passed. Please could you advise as to when we will receive it Further, we have not yet received a response to our email of 24 November below, regarding the necessity of making the Technology Selection Report available to all stakeholders, not just the CER. Please could you confirm that the report will be distributed to all stakeholders?	E-mail 01 December 2014 E-mail: 13 November 2014	The Medupi FGD Technology Selection Study Report (Appendix D in the FSR) was received from the Applicant on the 25th of November 2015 and was distributed to the CER NPC and all registered I&APs on the database on 01 December 2014. The TSSR was also uploaded on Zitholele's website and the registered I&APs were informed accordingly. ***Nicolene Venter, Public Participation Practitioner*** Response to the e-mail dated 24 November 2014 was responded to on the 01st December 2014. The response is included in Appendix F5 of the FSR. ***Nicolene Venter, Public Participation Practitioner***
5	The delay in responding to the request is impacting on our ability to respond to the DSR. Please could you respond on an urgent basis.	E-mail: 12 November 2014	Acknowledged receipt of the CER's e-mails dated 12 and 13 November 2014.
6	Kindly let us know when we can expect a response to our correspondence below.		Zitholele Consulting was informed by Ward 1 (Marapong) Councillor, Mr William Motlokwa, that there are pre-existing issues between the Marapong Community and Eskom (Medupi Power Station) that, to date, have not been resolved. He advised Zitholele Consulting that Eskom needs to be prepared to provide responses and feedback on the current outstanding issues at a meeting schedule at Marapong for the evening of 6th November. Councillor Motlokwa intimated that should Eskom not address these pre-

			existing issues, that the meeting may become violent. The client subsequently informed Zitholele that Eskom will not be able to provide responses at the public meeting. There is, however, an established forum between Eskom, Community Representatives, Local Authorities, etc attending to these issues, which is the correct medium for discussion of these issues. Due to the nature of this public meeting (presentation of EIA & PP process and technical information relating to the proposed Medupi GFD project only) we were cautious not to entertain these external issues. Based on discussions with Mr Motlokwa the project team (Zitholele and Eskom) took the decision not to proceed with this public meeting as a safety precaution to the community members as well as the project team members. Additional to above, Medupi Power Station undertook a situation analysis and, based on the results, also advised the team not to proceed with the second public meeting in Marapong. It was confirmed that as soon as the draft minutes of both the Key Stakeholder Workshop and the Public Meeting is drafted, that the CER will receive a copy. The matter regarding the release of the Technology Selection Study Report has been submitted to Eskom again and we have been informed that the Draft Technology Study Report (474-10174 Medupi FGD Technology Study Report – as reference in the Comments and Responses Report – Appendix D8 of the Draft Scoping Report) will be forwarded to the CER by end November 2014. The CER NPC was informed that the DSR review period will be extended to Friday 09 January 2015 and that the extension will be communicated to all registered I&APs on the project database shortly. Zitholele Consulting expressed their hope that the above-mentioned address their queries. ***Nicolene Venter, Public Participation Practitioner (email dated 18 November 2014)***

7	Requested that further notifications be sent to the other owners who are in Johannesburg. E-mail address provided.	[redacted] CER NPC E-mail: 10 November 2014	Zitholele Consulting acknowledged receipt of this information and confirmed that notification will be send to the e-mail/s provided. Zitholele Consulting requested the names of the other property owners. Information has not yet been received. ***Nicolene Venter, Public Participation Practitioner (e-mail dated 11 November 2014)***
8	I refer our telephonic conversation a few minutes ago, we look forward to your responses to the correspondence below, as well as to why the meeting in Marapong was cancelled. Kindly also provide us with a copy of the minutes of the meeting held on Wednesday 5 November 2014.	E-mail: 07 November 2014	E-mail acknowledged and confirms that a response will be forthcoming shortly. Thanked the CER for contacting Zitholele Consulting and confirm that the team is attending to the minutes. Nicolene Venter, Public Participation Practitioner (e-mail dated 04 November 2014)
9	We are instructed to draw your attention to Regulation 54(7) of the 2010 NEMA EIA Regulations which provides that: (a) "… the person conducting the public participation process must ensure that— information containing all relevant facts in respect of the application is made available to potential interested and affected parties; and (b) participation by potential interested and affected parties is facilitated in such a manner that all potential interested and affected parties are provided with a reasonable opportunity to comment on the application." In terms of regulation 28(1), the DSR "must contain all the information that is necessary for a proper understanding of the nature of issues identified during scoping". The Technology Selection Study Report (conducted by Harris D in 2014) that we have requested, is referred to throughout the Draft Scoping Report (DSR), and is clearly one of the vital documents that was relied upon to decide the suitable FGD technology. Accordingly, it clearly forms part of "information containing all relevant facts in respect of the application" and information that is necessary for a	E-mail: 04 November 2014	Zitholele Consulting, and especially the public participation (PP) team, is conducting the PP process according to the regulations as mentioned by the CER NPC. Upon the PP team's request for the release of the Report in question, we were provided with the response as per our e-mail. Subsequently, the Report was released not only to the CER NPC but also to all registered I&APs on the project database. Those with e-mail addresses received the notification of the available of the Report via e-mail, those without e-mails but with fax facility received the notification via fax and all registered I&APs received a SMS. ***Nicolene Venter, Public Participation Practitioner (e-mail dated 18 November 2014)***

	proper understanding of the nature of the issues identified during scoping." In the circumstances, the Technology Selection Study Report should be made available to all I&APs without the need for a request through the Promotion of Access to Information Act (PAIA) process. It should, in fact, have been made available when the DSR was made available. We also point out that the comment and responses report (CRR) clearly states that the Study Report would be attached as an appendix to the scoping report – see pages 5, 6 and 11 of the CRR. Therefore, please note that a failure to provide this Study Report to I&APs is contrary to NEMA's EIA Regulations, and any decision taken without providing this vital information for comment by I&APs may be subject to review in terms of the Promotion of Access to Justice Act We also point out that, even if there were a basis to require that the document be requested in terms of PAIA (which is denied), the legislated time period for answering such PAIA request would render such request superfluous for purposes of commenting on the DSR. In the circumstances, we are again instructed to request that a copy of the Technology Selection Study Report be made available to I&APs on an urgent basis.		
10	We would like to submit comments on the DSR for the proposed retrofitting for FGD at Medupi Power Station. So as to ensure that our comments are well-informed, we would like to see the Technology Selection Study Report which is referred to in the DSR's CRR Appendix. However, we have been unable to locate this report amongst the documents that you sent out, or on your website. Please could you send us a copy of the report?	E-mail: 30 October 2014	E-mail acknowledged and CER informed that their request has been forwarded to Eskom and Zitholele Consulting will revert back as soon as possible. Nicolene Venter, Public Participation Practitioner (31 October 2014) Eskom, the Applicant for this proposed project, informed us that any request for information such as the Technology Selection Study Report (as Appendix D in the FSR) must please go through the PAIA process as the requested Report contains sensitive information which is not appropriate to public

			review. Should the CER want specific information, please inform us and the team will formulate an appropriate response. I hope that you find above-mentioned in order and please do not hesitate to contact us should you need any additional information. Nicolene Venter, Public Participation Practitioner (04 November 2014) The Technology Selection Study Report (as Appendix D in the FSR) has been made available to all registered stakeholders during the public review period of the Draft Scoping Report and will be appended to the Final Scoping Report for public review. ***Sharon Meyer-Douglas, EAP***
11	I refer our telephonic conversation a few minutes ago, we look forward to your responses to the correspondence below, as well as to why the meeting in Marapong was cancelled. Kindly also provide us with a copy of the minutes of the meeting held on Wednesday 5 November 2014.	[redacted] Centre *For* Environmental Rights Email: 04 November 2014	Zitholele Consulting was informed by Ward 1 (Marapong) Councillor, Mr William Motlokwa, that there are pre-existing issues between the Marapong Community and Eskom (Medupi Power Station) that to date have not been resolved. He advised Zitholele Consulting that Eskom needs to be prepared to provide responses and feedback on the current outstanding issues at a meeting scheduled at Marapong for evening of 6th November. The client subsequently informed Zitholele that Eskom will not be able to provide responses at the public meeting. There is however an established forum between Eskom, Community Representatives, Local Authorities, etc attending to these issues. Councillor Motlokwa intimated that should Eskom not address these pre-existing issues, that the meeting may become violent. Due to the nature of this public meeting (presentation of EIA & PP process and technical information relating to the proposed Medupi FGD project only) we were cautious not to entertain these external issues. Based on discussions with Mr Motlokwa the project team (Zitholele and Eskom) took the decision not to proceed with this public meeting as a safety precaution to the community members as well as the project team members. Additional to above, Medupi Power Station undertook a situation analysis and, based on the results, also advised the team not to proceed with the second public meeting in Marapong.
12	Thank you for your response below. However, we are instructed to draw your attention to Regulation 54(7) of the 2010 NEMA EIA Regulations which provides that: "… the person conducting the public participation process must ensure that— a) information containing all relevant facts in respect of the application is made available to potential interested and affected parties; and b) participation by potential interested and affected parties is facilitated in such a manner that all potential interested and affected parties are provided with a reasonable opportunity to comment on the application." In terms of regulation 28(1), the DSR "must contain all the information that is necessary for a proper understanding of the nature of issues identified during scoping". The Technology Selection Study Report (conducted by Harris D in 2014) that we have requested, is referred to		

	throughout the Draft Scoping Report (DSR), and is clearly one of the vital documents that was relied upon to decide the suitable FGD technology. Accordingly, it clearly forms part of "information containing all relevant facts in respect of the application" and information that is necessary for a proper understanding of the nature of the issues identified during scoping." In the circumstances, the Technology Selection Study Report should be made available to all I&APs without the need for a request through the Promotion of Access to Information Act (PAIA) process. It should, in fact, have been made available when the DSR was made available. We also point out that the comment and response report (CRR) clearly states that the Study Report would be attached as an appendix to the scoping report - see pages 5,6 and 11 of the CRR. Therefore, please note that a failure to provide this Study Report to I&APs is contrary to NEMA's EIA Regulations, and any decision taken without providing this vital information for comment by I&APs may be subject to review in terms of the Promotion of Access to Justice Act (PAJA). We also point out that, even if there were a basis to require that the document be requested in terms of PAIA (which is denied), the legislated time period for answering such PAIA request would render such request superfluous for purposes of commenting on the DSR. In the circumstances, we are again instructed to request that a copy of the Technology Selection Study Report be made available to I&APs on an urgent basis. We look forward to your urgent response.		I can confirm that as soon as the draft minutes of both the Key Stakeholder Workshop and the Public Meeting have been appropriately reviewed and finalised, that the CER will receive a copy. Robyn, the matter regarding the release of the Technology Selection Study Report has been submitted to Eskom again and we have been informed that the Draft Technology Study Report (474-10175 Medupi FGD Technology Study Report - as reference in the Comments and Responses Report – Appendix D8 of the Draft Scoping Report) will be forwarded to the CER by end November 2014. Robyn, please be informed that the DSR review period will be extended to Friday 09 January 2015. This extension will be communicated to all registered I&APs on the project database shortly. I hope the above-mentioned address your queries. ***Nicolene Venter, Public Participation Practitioner***
13	Further to the email below regarding the Technology Selection Report for the Medupi FGD project, we would	[redacted] Centre	Eskom, the Applicant for this project, informed us that any request for information such as the Technology Selection Study Report must please go

	like to clarify who will be receiving this report. As you state below in your email of 18 November, the CER will receive it by the end of this month (November). However, it will be important for all stakeholders to read this report so as to be able to engage with the Draft Scoping Report and provide constructive comments. Please could you confirm that the Technology Selection Report will be sent to all stakeholders, not just the CER.	For Environmental Rights Email: 24 November 2014	through the PAIA process as the requested report contains sensitive information which is not appropriate to public review. Should the CER want specific information, please inform us and the team will formulate an appropriate response. I hope that you find the above-mentioned in order and please do not hesitate to contact us should you need any additional information. Please note that the TSSR has been made available to all stakeholders in the following manner: • electronic copy to all registered I&APs on the project database with e-mail addresses; • fax to those registered I&APs without an e-mail address but with a fax number; and • On the Zitholele website The time period for public review of the DSR has been extended to the 9th January 2015, to allow stakeholders the opportunity to review this additional information. The TSSR will also be included in the FSR which will be made available for public comment. ***Nicolene Venter, Public Participation Practitioner***
14	**WE WOULD LIKE TO SUBMIT COMMENTS ON THE DSR FOR THE PROPOSED RETROFITTING FOR THE FGD AT MEDUPI POWER STATION. SO AS TO ENSURE THAT OUR COMMENTS ARE WELL INFORMED, WE WOULD LIKE TO SEE THE TECHNOLOGY SELECTION STUDY REPORT WHICH IS REFERRED TO IN THE DSR'S CRR APPENDIX. HOWEVER, WE HAVE BEEN UNABLE TO LOCATE THIS REPORT AMONGST THE DOCUMENTS THAT YOU SEND OUT, OR ON YOUR WEBSITE. PLEASE COULD YOU SEND US A COPY OF THE REPORT?**		
15	In your email below of 18 November 2014, you commit to sending the Technology Selection Report for the Medupi FGD project to the CER by the end of November 2014. We would like to place on record that we have not yet received this report, although your deadline for sending the report to us has passed. Please could you advise as to when we will receive it. **FURTHER, WE HAVE NOT YET RECEIVED A RESPONSE TO OUR EMAIL OF 24 NOVEMBER BELOW, REGARDING THE NECESSITY OF MAKING THE TECHNOLOGY SELECTION REPORT AVAILABLE TO ALL STAKEHOLDERS, NOT JUST THE CER. PLEASE COULD YOU CONFIRM THAT THE REPORT WILL BE DISTRIBUTED TO ALL STAKEHOLDERS.**		

16	From the questions being posed it is obvious that there were problems with the initial specialist studies or scoping for the plant itself, because the process followed was inadequate and rushed just to have the plant constructed and there are a lot of issues still not being address such as the specialist studies. We are not sure how Zitholele and Eskom are going to deal with this matter, especially when stakeholders start submitting comments on the current DSR. Going through the DSR it is realised that there is a portion missing, i.e. the Technology Selection Report as it was not attached to the DSR as an Annexure, although within the DSR it is referred to several times. This means the process is incomplete and people cannot submit comments based on information not available. It will be appreciated if stakeholders can be informed when it is available for public scrutiny so that some of the questions being asked can be answered. That is an acceptable request, but eskom needs to know that there may be more stakeholders who will be submitting questions.	[redacted] Earthlife Africa – Johannesburg PM: 05 November 2014	Specialist studies have not been undertaken yet. Reference made to the specialist studies is to those studies that were conducted during the original EIA for Medupi Power Station, and which will form part of the baseline assessments for the FGD EIA. The specialist studies done in 2006 for the Medupi Power Station can be made available. The specialist studies for the FGD will be done between now and March 2015. ***Sharon Meyer-Douglas, EAP*** Eskom would have provided a reference number for the report in the DSR. Eskom would look into it and provide the reference number in the draft minutes. ***Rosetta Rammutla, Eskom*** The report referred to is an internal report and not available for public review yet as it contains intellectual properties. Specific questions can be submitted to Eskom and a response will be provided. ***Carel van Heerden, Eskom*** **<u>Post-meeting note</u>:** The Technical Selection Study Report was made available on the 1st of December 2014 to all registered I&APs. When further scoping has been done, Eskom will be in a position to share some of the high level results of the alternatives with the public. ***Prince Khumalo, Eskom*** **<u>Post meeting note</u>:** The Technical Selection Study Report was submitted to all stakeholders on 1st December 2014 and the public review period was extended to 9th January 2015 to allow sufficient time for review and comment.
17	Can the status of the Public Meeting in Marapong tomorrow evening be confirmed?	[redacted] Eskom PM: 05 November 2014	Information received late this afternoon indicates that there is a strong possibility that the meeting at Marapong might not take place due to safety concerns. The team will obtain confirmation regarding this fact, and should the meeting need to be cancelled, notification thereof will be communicated

			accordingly. ***Nicolene Venter, Public Participation Practitioner***
18	As discussed on the 13 October 2014, please receive the list of people who are going to attend Key Stakeholder Workshop. Mayor Moloko Maeko: Lephalale Municipality Mayor, patrick.mojela@lephalale.gov.za, 014 762 1400 Counsellor Alpheus Thualare: (Mining, Industries & Labour),Lephalale Municipality, (Cellphone Number Withheld for purposes of CRR) Joel Moloantoa, Marapong Sanco, (Cellphone Number Withheld for purposes of CRR) Lesiba Monare, Marapong Sanco, (Cellphone Number Withheld for purposes of CRR) Nakedi Maake, Marapong Sanco, (Cellphone Number Withheld for purposes of CRR) Pastor Papo: President Lephalale City Chamber, (Cellphone Number Withheld for purposes of CRR)	[redacted] Representative SANCO Email: 16 October 2014	Thank you very much for a very informative discussion on Tuesday – your call is appreciated. Please receive herewith confirmation that we had registered the stakeholders', as listed below, attendance at the Key Stakeholder Workshop. Also, we captured the stakeholders on the project database (except the Mayor, Mayor Moloko Maeko, who is already on our project database) and they will receive all future public notifications and documents for review relating to the above-mentioned proposed project. For reference purposes, please find attached the Background Information Document. We are looking forward to meet you and the other stakeholders at the Key Stakeholder Workshop. ***Nicolene Venter, Public Participation Practitioner***
19	Speaking for the affected community, SANCO wishes to place on record that they are very disappointed about the manner in which meeting notices were placed, how the public participation process was followed, the fact that it was not broadcasted on the local radio station and no site notices were put up in Marapong. It will be reflected in the attendance at the meetings. SANCO has to account for the proposed project to the Community as their leaders.	KSW: 05 November 2014	The site notices, announcing the project, according to legal requirements were put up at the affected site where the development is taking place i.e. Medupi Power Station. Zitholele Consulting went over and above that by distributing the BID to community members, and Marapong was excluded during this process. As a general guideline, EIA process notices are displayed at various public places within a 10 kilometre radius. Our attention was drawn to the fact that Marapong should be included in the notification process and that has been done. The PM notices were put up at seven places in Marapong alone, which include the: • Marapong Public Library;

			• Clinic; • Marapong Spar; • Mzosti's Car Wash; • Nelsonskop Primary School; • Ditheku Primary School; and • Tielelo Secondary School. In Lephalale the meeting notice was put up at the Public Library, Municipality and Afgri. As per the telephone call with Mr Maake a few weeks ago, the matter has been flagged and Zitholele will ensuring, going forward, that Marapong community is included in this process. ***Nicolene Venter, Public Participation Practitioner***
20	Please could you register Greenpeace as an I&AP (with both myself and Penny-Jane (cc'ed in this email) as contacts) in this matter.	[redacted] Senior Climate & Energy Campaign Manager Greenpeace Africa Email: 17 October 2014	We will add yourself and Ms Penny Jane Cooke onto the database on the aforementioned project as per your request. For your convenience, please find attached the following documents for your perusal and response: • The Project Background Information Document; • A Letter Announcing the Draft Scoping Report and an invitation to the Public Meetings (and the supporting reply sheet); • An invitation to the Key Stakeholder Workshop (and the supporting Registration form). It would be excellent for you to attend the Key Stakeholder Workshop, which is a workshop that provides Stakeholders (on strategic and technical level) an opportunity to hear each other's issues/concerns/comments. Stakeholders have also been invited to the two Public Meetings and are more than welcome to attend these. The minutes of these meetings will be included in the Final Scoping Report as well as captured in the Comments and Responses Report. Both of these documents will be available for review once completed. We thank you for your interest in this project and look forward to meeting with you at the project meeting/s.

			As discussed, please find attached the Background Information Document (BID) regarding the above-mentioned proposed project. I will forward you the Draft Scoping Report Notification and Public Meetings Invitation Letter which you received yesterday by fax in a separate e-mail. Please be informed that the BID can also be downloaded from Zitholele's website (http://www.zitholele.co.za/eia-for-medupifgd). You are most welcome to share this document with your neighbours, friends, family and/or colleagues, and you are also welcome to forward the names and contact details of any interested and/or affected party that you believe who needs to be informed regarding this proposed to us. Please do not hesitate to contact us should you require any additional information regarding this proposed project ***Nicolene Venter, Public Participation Practitioner***
21	Please remove me off your mailing list. Sorry but I never attended any workshop / seminar or meeting that was held. Not sure why you contacted me.	[redacted] Position Pilot Freight Email: 15 October 2014	The requested has been acknowledged and confirmed ***Nicolene Venter, Public Participation Practitioner***
4.2.11 GENERAL COMMENTS			
1	In the circumstances, our clients submit that the DSR should be expanded to include the areas of concern mentioned below. In summary, our clients submit that we look forward to receiving the requested documents, and to hearing from you in relation to the next steps in the Project.	[redacted] CER NPC Letter: 12 December 2014 (Copy of Letter attached to Appendix D6)	Zitholele Consulting thank the CER NPO and confirm that all stakeholders will be kept abreast of developments and status of the proposed project. ***Nicolene Venter, Public Participation Practitioner***
2	The Municipality will also go through the DSR and submit comments on it if there are any.	[redacted]Local Municipality KSW: 05	The Local Municipality's comment has been noted. ***Nicolene Venter, Public Participation Practitioner***

		November 2014	
3	The DAFF representatives will go through the DSR and submit their written comments, if any.	[redacted] KSW: 05 November 2014	The Department's comment has been noted. ***Nicolene Venter, Public Participation Practitioner***
4	The DWS will also go through the DSR and submit comments on it if there are any. Other Authorities like the DEA Provincial should also be invited to these meetings.	[redacted] DWS KSW: 05 November 2014	A large number of stakeholders, approximately 120, mainly Authorities, which included Provincial, and representatives from various NGOs were invited. Invitees are more than welcome to extend the invitation to their colleagues in another Department who they believe need to be present. ***Nicolene Venter, Public Participation Practitioner***
5	**COMMENTS RAISED DURING SCOPING PHASE**		
5.1	**COMMENTS RAISED BY AUTHORITIES**		
5.1.1	**LEPHALALE MUNICIPALITY**		
1	We have received a letter on the proposed EIA for the proposed Medupi Power Station FGD. Please note that in order to comment on the proposed EIA, we will need the specific property description of where the proposed development is to be implemented.	[redacted] Town and Regional Planner Department: Development Planning Division: Spatial Planning and Land Use Management Lephalale Municipality E-mail: 24 July 2014	Property description, including farm names and portion numbers were provided, and the stakeholder was referred to Eskom for any further detailed property information. An e-mail was sent to Ms Oteng Radipabe on 27 July 2014 with the required information and a response was received from her confirming receipt of the required information. ***Sharon Meyer-Douglas, EAP, Zitholele Consulting***
5.1.2	**DEPARTMENT OF ROADS & TRANSPORT**		
1	No objection regarding the proposed project. They are hoping that the project will not interfere with their roads. Where such is necessary, RAL will grant authorisation	[redacted] Department of	Site alternatives have not yet been identified for depositing the by-products (i.e. gypsum, salts and sludge) and it is believed that the by-products will be transported from the stack area to the waste site by conveyor. However,

	with applicable conditions.	Roads & Transport BID Comment Sheet: 09 June 2014	should the by-products be transported by truck or any other means where the surrounding road network will be utilised, Zitholele Consulting will notify the RAL thereof. Eskom will apply to the relevant departments (RAL/SANRAL/Roads & Transport) should there be a potential for impact to roads. ***Sharon Meyer-Douglas, EAP, Zitholele Consulting***
5.2	**COMMENTS RAISED BY INTERESTED AND AFFECTED PARTIES**		
5.2.1	**AIR EMISSION COMPLIANCE / IMPACTS RELATED COMMENTS**		
1	**Integration of FGD into the design, construction and commissioning of units:** Condition 7.1.4 of the Medupi AEL provides as follows: *"The License (sic) Holder shall continuously operate and maintain a flue gas desulphurization (FGD) plant for control of SO_2 on all six units. The Flue Gas Desulphurisation plant shall be retrofitted in each unit within Six (06) years after the first commissioning of each unit and during the General Overhaul outages".*	[redacted] Centre *For* Environmental Rights Letter: 07 July 2014	Agreed ***Sharon Meyer-Douglas, EAP***
2	Our clients do not accept the 6 year delayed FGD retrofit on each unit, and have appealed Medupi's AEL, the outcome of the appeal is awaited.		The six yearly phasing of the Medupi FGD Plant is not a delay but a requirement of the loan agreement with the Word Bank and linked to the statutory major overhaul outage scheduling of each running unit. Construction of the FGD is expected to commence ahead of each major outage with tie in of the FGD plant timed to align with each unit outage. The appeal responding statements referred to were submitted to Limpopo Department of Economic Development; Environment and Tourism (LEDET) in May 2014 and the outcome is awaited. ***Olga Makhalemele, Eskom*** Eskom investigated the feasibility of co-commissioning the remaining units at Medupi Power Station with FGD and it was found not to be feasible to commission any of the remaining units with FGD. ***Theuns Blom, Eskom***
3	In its application to postpone compliance with the MES in		Eskom's MES postponement application for Medupi Power Station is based

	terms of the National Environmental Management: Air Quality Act, 2004 (AQA),[3] Eskom seeks postponement of both the existing (3500 mg/Nm^3) and new plant (500 mg/Nm^3) MES. The former apply from 1 April 2015, and the latter, from 1 April 2020. In its postponement application, Eskom seeks an SO_2 emission standard of 4000 mg/Nm^3 until 1 January 2027 – on which date it will comply with the April 2020 MES[4]. In other words, from 1 April 2020 to 31 December 2027, Eskom seeks to emit 8 times the MES.		on the most conservative commissioning schedule, i.e. one unit per year commissioned from 2015 to 2020, and subsequent FGD retrofits of one unit per year from 2021 to 2026. The most optimistic commissioning schedule would be two units per year from 2015 to 2017, and then FGD retrofits on two units per year from 2021 to 2024. Unabated SO_2 emissions would thus be emitted from all six units for a maximum of one year for the conservative schedule, or up to three years for the optimistic schedule. Moreover, although Eskom applied for an SO_2 emission limit of 4000 mg/Nm^3 in the MES postponement application for Medupi, this is the upper limit of expected emissions. SO_2 emissions from Medupi will vary primarily as a function of the sulphur content of the coal, prior to the installation of FGD. The expected sulphur content of the coal to be supplied to Medupi is 1.3% by weight (on a dry basis). The sulphur content rejection point is 2.2%. This means that the sulphur content of the coal supplied to Medupi is expected to average 1.3%, but may be as high as 2.2%. The SO_2 emission limit needs to be based on the highest possible SO_2 emissions resulting from burning the

[3]GN893 in *GG*37054 of 22 November 2013.
[4] Postponement application p.5, available at: http://www.iliso.com/emes1/Postponement%20Applications_PDFs/Medupi%20PS_Postponement_Application_Final_2014%2002%2021.pdf

			2.2% sulphur coal (since there is no way of reducing the SO_2 emissions prior to the installation of FGD). However, SO_2 emissions from Medupi prior to installation of FGD are expected to average around 2700 mg/Nm^3 (on a dray basis at 10% O_2), which is below the "existing plant" SO_2 limit of 3500 mg/Nm^3. ***Sharon Meyer-Douglas, EAP***
4	Medupi's 6 units will, according to Eskom's postponement application, each be commissioned over a period of 6-12 months. Eskom states that based on December 2013 project schedule, commissioning of the first unit at Medupi will start in 2014 and be completed in early 2015. The first unit would therefore be retrofitted with FGD in 2021 – 6 years after its commissioning. Eskom states that *"the installation of the FGM equipment (i.e. retrofitting the generation units with FGD) will take place during the first Major General Overhaul (MGO) of each unit when they are "switched off" for maintenance. According to*		The six yearly phasing of the Medupi FGD Plant is not a delay but a logistical requirement taking advantage of the statutory major overhaul outage scheduling of each running unit. Construction of the FGD is expected to commence ahead of each major outage with tie in of the FGD plant timed to align with each unit outage. ***Sharon Meyer-Douglas, EAP*** Eskom investigated the feasibility of co-commissioning the remaining units at Medupi Power Station with FGD and it was found not to be feasible to commission any of the remaining units with FGD. ***Theuns Blom, Eskom***

	manufacturer's specifications and prudent power plant operating procedures, the first MGO will be six years after commissioning of each generating unit".		
5	If each unit is commissioned sequentially, the total commissioning period of Medupi could therefore be 3 to 6 years. If each unit takes 6 months to commission, the last FGD would be installed in 2023. Although Eskom claims that it is "committed to this schedule", it qualifies this immediately, indicating: *"however, the actual interval between the generating units' commissioning will depend on construction progress could take place in the range of 6-12 months intervals as a result of any unpredictable delays in the construction and commissioning of the power station. Thereafter taking a 2 month interval into*		The construction process duration is dependent on a lot of factors such as unforeseen and unpredictable industrial actions. This can have an impact on the planned timelines for construction completion. It is a prudent policy to allow for these unforeseen risks in construction planning and assumption in qualifying statements are a normal project management approach. ***Sharon Meyer-Douglas, EAP***

	account, this would see the last FGD installed by end 2026".[5]		
6	The total commissioning period may even be significantly longer if commissioning of any of the individual units is extended or delayed, as is not unusual in the commissioning of large complex plants. Indeed, Eskom may conceivably delay the commissioning of some of the 6 units, based on business/commercial considerations. In this regard, the Medupi plant is already well behind schedule.		The Medupi FGD is a separate project from the Medupi Power Station and has its own milestones and timelines. However it is noted that the Medupi project delay poses a moderate risk to the FGD plant in that its delay can affect the timing of the FGD plant per unit as an outage of each unit is required to complete the FGD plant installation. ***Sharon Meyer-Douglas, EAP***
7	The impact of FGD only being installed 6 years after the commissioning of each unit is that each unit will operate with unabated SO_2 emissions during its commissioning period, plus an additional 6 years, if units are commissioned at 6 monthly intervals, the optimistic		Medupi Power Station will be fitted with the emission's monitoring system to assist in optimisation of the power generation process. The FGD plant can be seen as an enhancement and extension of this emissions monitoring and control system. The FGD plant requires its' own funding and securing of loans for projects of this magnitude is a process that takes time. It is anticipated that by the time the first Medupi unit is ready for a major maintenance outage the

[5] Ibid.

	scenario is that all 6 units would be commissioned over 3 years, and unabated emissions would occur from all 6 units for a further 3 years, until FGD is retrofitted to the first. Unabated emissions will continue from the remaining units until each is retrofitted with FGD. Unabated emissions from at least one unit will occur over a period of 6 to 9 years, depending on the commissioning schedule, with simultaneous unabated emissions from all 6 units over a period of 1 to 3 years during this period.		process would have been finalised and construction of the FGD underway. Construction must be completed by the first major outage and funding must be in place before the first contract is placed. ***Sharon Meyer-Douglas, EAP*** Eskom investigated the feasibility of co-commissioning the remaining units at Medupi Power Station with FGD and it was found not to be feasible to commission any of the remaining units with FGD. ***Theuns Blom, Eskom***
8	Once commissioned, Medupi will emit PM_{10} and No_x additional to emissions already occurring in the area. Compliance with new plant standards does not mean zero emissions of these pollutants. Medupi is essentially adjacent to (less than 10km away from) the Matimba power station. Primary (directly emitted) PM_{10} emissions from Matimba are 4900 tons/year,[6] and are 4330		Medupi Power Station will be complying with the atmospheric emission licence limits for PM_{10} and NO_x from commissioning. SO_2 emissions will be compliant to legislated standards after FGD retrofits have been completed. Eskom cannot influence emissions stemming from other industrial sources. ***Sharon Meyer-Douglas, EAP***

[6] Matimba AIR, Tabe 21, p34 available at: http://www.iliso.com/emes1/Atmospheric%20Impact%20Reports_PDFs/Matimba_AIR_FINAL_2014%2002%2021.pdf

	tons/year from Medupi,[7] representing an 88% increase in emissions. Medupi No_x emissions are 71200 tons/year[8] compared with current Matimba emissions of 67600 tons/year;[9] a 105% increase in these emissions in the area. This excludes the emissions from a number of other industrial and mining activities which are scheduled to commence in the Waterberg Bojanala Priority Area.		
9	Should Eskom's application for postponement be acceded to, Medupi annual average SO_2 emissions may increase from 69000 tons/year[10] with 1 unit online, to a total of 414000 tons/year when all 6 units are online without FGD. That is, under these circumstances, combined Matimba and Medupi emissions would increase		Eskom's application for postponement is a separate process and was submitted to the Department of Environmental Affairs in February 2014 following input from interested and affected parties. It also includes an atmospheric impact report. ***Sharon Meyer-Douglas, EAP*** Medupi Power Station will have continuous emission monitors that measure

[7] Medupi AIR Figure 3, p15.
[8] Medupi AIR Figure 3, p15.
[9] Matimba AIR Table 21, p34.
[10] Medupi AIR Figure 3, p15, available at: http://www.iliso.com/emes1/Atmospheric%20Impact%20Reports_PDFs/Medupi_Final_AIR_2014%2002%2024.pdf. Total uncontrolled SO_2 emissions with all 6 units commissioned 414000 tons/year; 1/6th per unit, 69000 tons/year.

	from 309000 tons/year (Matimba only) to 723000 tons/hear (Matimba plus all 6 units of Medupi online); an increase of 134%. This increase in SO_2 emissions will not only result in a corresponding increase in ambient SO_2 concentrations, but also will result in the increased formation of secondary sulphate particles, a major component of ambient $PM_{2.5}$.		the PM and gaseous emissions and the results are reported to the DEA, as required by the Legislation. The CER and members of the public can request a copy of these reports from the DEA. ***Olga Makhalemele, Eskom***
10	Our clients submit that these impacts illustrate the importance of integrating FGD into units 2-6.[11] The Project must address this, with full and detailed explanations if this is not possible.		Eskom's application for postponement includes an atmospheric impact report related to the application. As indicated above, this is a separate process and the application was submitted to the Department of Environmental Affairs in February 2014 following input from interested and affected parties. ***Sharon Meyer-Douglas, EAP***
11	It is not clear whether or not Medupi's FGD system will be constructed with a by-pass option – which would allow Eskom to continue operation without the FGD system in operation. It must be stated upfront that a by-pass option		Since this is a retrofitted plant, the bypass is incorporated into the design. By and large the power station will be operated with the FGD in service in accordance with the AEL and the provision of a bypass provides the opportunity to run the station in the event of unforeseen FGD plant

[11] See fn 1.

	is not acceptable to our clients: Eskom must be compelled to maintain and operate the FGD system as an integral part of the plant.		unavailability such as severe drought periods, sorbent shortage and unplanned maintenance. ***Sharon Meyer-Douglas, EAP***
12	**Implications of non-compliance with ambient air quality standards in the Waterberg Bojanala Priority Area** Medupi is located in the Waterberg Bojanala Priority Area (WBPA),[12] which was declared in accordance with s.18 of AQA. AQA makes provision for the declaration of Priority Areas where ambient air quality standards (AAQs)[13] are being, or may be, exceeded. The WPA is developing an Air Quality Management Plan (AQMP), as required by S.19 of AQA for every Priority Area.		Eskom is aware if this and the AQMP will combine the outcomes of the baseline characterisation and threat assessment, and address these through timely interventions, with a view to preserve the areas of existing good air quality, while progressively realising better air quality in degraded areas. ***Sharon Meyer-Douglas, EAP***
13	At the time of the WBPA declaration, the Minister was "satisfied that the ambient air quality … may exceed the		The exceedance of PM_{10} and Ozone has nothing to do with the SO_2 retrofit, Medupi will be retrofitted with Fabric filter plants on commission and we will

[12] Declaration of the Waterberg National Priority Area in GG35435 of 15 June 2012.
[13] GN1210 in *GG32816* OF 24 December 2009 and GN486 in *GG35463* of 29 June 2012.

	national ambient air quality standards in the near future, and that a trans-boundary situation exists between the Waterberg District Municipality and the Bojanala Platinum District Municipality in the North West Province which may cause a significant negative impact on air quality I both areas". She also commented on the possible trans-boundary air pollution impact between South Africa and its neighbours – particularly Botswana. However, it is clear from a recent presentation by the DEA at the WPA multi-stakeholder reference group meeting on 26 June 2014 that permitted levels of PM2.5 (particulate matter with aerodynamic diameter less than 2.5 micron metres), PM10 (particulate matter with matter with aerodynamic diameter less than 10 micron metres) and ozone have been exceeded in all monitoring stations. In other words, there is now, subsequent to its declaration as a priority area, non-compliance with the AAQS. This presentation is attached hereto as annexure "1". The fact that there is currently non-compliance with AAQS emphasises the importance of ensuring FGD installation as soon as possible, my integrating FGD into the units.		not have any PM10 exceedances. ***Sharon Meyer-Douglas, EAP***
5.2.2	**FGD Technology alternatives related comments**		
1	**Alternatives to wet-flue gas desulphurisation:** The BID makes mention only of wet FGD as a means to control SO_2 emissions from the Medupi Power Station, describing the Project as follows: *"The FGD (flue gas desulphurisation) will be operated on wet systems; very small volumes of water will be*	[redacted] Centre *For* Environmental Rights Letter: 07 July 2014	Refer to 474-10175 Medupi FGD Technology Study Report. ***Sharon Meyer-Douglas, EAP***

	circulated from the absorber reaction tank to spray headers. The water will be abstracted from the existing raw water reservoir."		
2	Defining the project in this manner forecloses a discussion about whether SO_2 emissions from the Medupi Power Station would be better controlled through alternative technology such as dry (or semi-dry) FGD technology.		Studies have been undertaken on technology options for Medupi FGD (between wet and dry) and it has shown that there are no significant difference in total life-cycle costs. These two alternatives are considered equal on an overall technical and economic basis. It is further noted that since the Medupi Power Station is under construction and an adequate supply of limestone and water are available to the plant for operation, this should continue. Technology Selection Study Report appended to Scoping Report. ***Sharon Meyer-Douglas, EAP***
3	Eskom has argued that using dry (or semi-dry) FGD technology for controlling so_2 emissions at Medupi is not economically feasible. Further, Eskom has stated – in its responding statement to our client's appeal for the Medupi AEL – that the comparable costs of the various technical options for controlling SO_2 emissions cannot be divulged because of "commercial sensitivity" the responding statement is attached hereto as annexure "2". Without knowledge of these costs, I&APs cannot comment meaningfully on economic feasibility of various forms of FGD. As a result, these costs and the technical assessments associated with this decision have been requested.		Studies have been undertaken on technology options for Medupi FGD (between wet and dry) and it has shown that there are no significant difference in total life-cycle costs. These two alternatives are considered equal on an overall technical and economic basis. It is further noted that since the Medupi Power Station is under construction and an adequate supply of limestone and water are available to the plant for operation, this should continue. Technology Selection Study Report appended to Scoping Report. ***Sharon Meyer-Douglas, EAP***
4	Eskom's statement regarding the economic feasibility of dry (or semi-dry) FGD technology is in contradiction to a statement by the Environmental Protection Agency (EPA) in the United State, as follows: ***"****Dry scrubbers have significantly lower capital and annual costs than wet systems because they are simpler, demand less water and waste disposal is less complex. Dry injection systems install easily and use less space; therefore, they are good candidates retrofit*		Studies have been undertaken on technology options for Medupi FGD (between wet and dry) and it has shown that there are no significant difference in total life-cycle costs. These two alternatives are considered equal on an overall technical and economic basis. It is further noted that since the Medupi Power Station is under construction and an adequate supply of limestone and water are available to the plant for operation, this should continue. Technology Selection Study Report appended to Scoping Report. ***Sharon Meyer-Douglas, EAP***

	applications."[14]		
5	The DSR states that wet FGD is the preferred choice of technology, despite the fact that wet FGD technology requires a significant amount of water for operation, and Lephalale has significant water constraints. If the analysis (which should include an assessment of water availability) is that wet FGD is the preferred option, then it should only be considered with gas cooling, to reduce the water use. The DSR states that: the assessment studies favour wet FGD technology, assuming no water constraints' (page 29). However, there are clearly significant water constraints in Lephalale, which is a water stressed area. This means that if wet FGD is still considered, it should only be with the installation of a flue gas cooler. The assessment of the preferred technology type should include an assessment of water availability in the area,	[redacted] Greenpeace Environmental Organization NPC Letter: Undated (Attached to e-mail dated 09 January 2015)	The selection of WET FGD as the preferred technology was completed by Eskom prior to the initiation of the EIA process, and therefore falls outside of the EIA process scope of work. The EIA will proceed with WET FGD as the preferred technology. Any comments on this technology will be included within the appropriate documentation for this process, but alternatives to WET FGD will not be investigated as part of this process. The Technology Selection Study Report has been provided by Eskom, and this has been made available to all stakeholders and will be appended to the FSR for further review. ***Sharon Meyer-Douglas, EAP*** Eskom will not be making use of Lephalale's water reserves. The MCWAP imports water. ***Carel van Heerden, Eskom***

[14] USEPA "Air Pollution Control Technology Fact Sheet: Flue Gas Desulfurization (FGD) – Wet, Spray Dry, and Dry Scrubbers." http://www.epa.gov/ttncatc1/dir1/ffdg.pdf

	and how the allocation of water to FGD will impact on water use in the area.		
5.2.3 GYPSUM DISPOSAL ALTERNATIVES RELATED COMMENTS			
1	The role of the EIA process is partially defined in the BID as follows: *"The EIA will identify, propose and assess:* • *Feasible sites for disposing the by-products,* • *Different technologies for the managing of commercial-grade saleable gypsum, ash and sludge disposal; and* • *Various possible designs for disposal facilities."*	[redacted] Centre *For* Environmental Rights Letter: 07 July 2014	Agreed. Specialist consultants will inform the EIA process. It needs to be noted that ash disposal is not part of this proposed project's Scope of Work. ***Sharon Meyer-Douglas, EAP*** The quality of the limestone to be used in the Medupi FGD process is unknown, and therefore the gypsum quality has not yet been determined. Limestone sourcing as well as the gypsum market offtake is being investigated by Eskom in parallel and the outcome of this investigation will determine the opportunity for the sale of gypsum. ***Carel van Heerden, Eskom***
2	Working toward the fulfilment of the role of the EIA process, the BID further states that:		Agreed. The feasibility of alternatives will be informed by technical and financial factors as well as social and environmental implications.

	"the EIA team has thus far investigated all possible options for the use/disposal of gypsum, ash and sludge. It was found that the most feasible manner in which to co-dispose of all waste into the lined ADF."		***Sharon Meyer-Douglas, EAP***
3	Our clients object to this investigation having been conducted outside of the current process. We have requested information relating to this investigation in paragraph 5.6 above.		The quality of the limestone to be used in the Medupi FGD process is unknown, and therefore the gypsum quality has not yet been determined. Limestone sourcing as well as the gypsum market offtake is being investigated by Eskom in parallel and the outcome of this investigation will determine the opportunity for the sale of gypsum. ***Carel van Heerden, Eskom***
4	The statement in the BID regarding the lack of possible alternatives to gypsum disposal in a lined AFD is in contradiction to the experience in the united states. As of 2008, more than half of gypsum produced by use of FGD systems at coal-fired power plants in the united states		Agreed. The limitation in SA is that the Kusile gypsum sales can fulfil the current market and there is very little additional demand for the product at this stage. However, the client is hoping to investigate new markets and sell the gypsum rather than dispose of it in the long term. The reuse of waste products will be re-investigated at a later stage. ***Sharon Meyer-Douglas, EAP***

	was reused, principally as gypsum panel products (i.e. Construction drywall).[15] similarly, more than 40% of bottom ash and fly ash from coal-fired power plants was reused, principally for the manufacture of concrete, concrete products and grout. This is not to say that our clients are necessarily in agreement with all of these alternative uses – but merely to illustrate that some alternatives are available.		The quality of the limestone to be used in the Medupi FGD process is unknown, and therefore the gypsum quality has not yet been determined. Limestone sourcing as well as the gypsum market offtake is being investigated by Eskom in parallel and the outcome of this investigation will determine the opportunity for the sale of gypsum. ***Carel van Heerden, Eskom*** A market research for the use of gypsum produced by Eskom's power stations has been done and a copy of the Report on the findings is available. Refer to Appendix J. ***Kubentheran Nair, Eskom***
5	The proposed co-disposal of the gypsum waste with the ash may sterilise both waste streams so that they cannot		The BID offers only a brief overview of the project and does not go into any detail in terms of the intricacies of waste reuse or disposal. The Scoping

[15] American Coal Ash Association "2008 Coal combustion Product (CCP) Production & Use Survey: Report http://acaa.affiniscape.com/associations/8003/files/2008_ACAA_CCP_Survey_Report_FINAL_100509.pdf

	be reused. The BID should include a comprehensive examination of opportunities to minimise waste disposal by maximising the reuse of FGD gypsum, of bottom ash and fly ash from Medupi.		Report will offer some additional detail in this regard. A Waste Classification Study is also being commissioned in order to understand the constituents of the wastes and how they would react with one another should these be co-disposed. ***Sharon Meyer-Douglas, EAP*** A market research for the use of gypsum produced by Eskom's power stations has been done and a copy of the Report on the findings is available. Refer to Appendix J. ***Kubentheran Nair, Eskom***
5.2.4	**WATER RELATED COMMENTS**		
1	Eskom will apparently depend on the Mokolo-Crocodile River augmentation scheme for the operation of Medupi Power Station, as well as the project. This means that, in the case of a prolonged drought in the primary catchment,	[redacted] Centre *For* Environmental Rights	Eskom has worked closely with the Department of Water and Sanitation which has identified the two sources of water for running the Medupi Power plant, including FGD. The MCWAP is being developed in two Phases to supply Medupi Power Station. MCWAP Phase 1 currently under construction

	the project will either stop operating or need to obtain water from another source.	Letter: 07 July 2014	will supply water from the Mokolo Dam to Medupi and Matimba power stations. Phase 2 will augment the Phase 1 water supply with surplus return flows from water treatment works in the Crocodile River (West) Catchment. Capacity requirements are being finalised by DWS and it is expected to be implemented by the end of 2020. Eskom has water licence for MCWAP-1 for Matimba and Medupi power stations and will apply for a water licence for the MCWPA-2 to make up the shortfall from Phase-1 which is required in 2022. ***Sharon Meyer-Douglas, EAP***
2	The BID should consider alternative water sources for the project, which will affect both the scoping and EIA phases of the project.		DWS is the custodian and implementer of the MCWAP project. The EIA for Phase 1 was done and DWS will undertake an EIA for Phase 2 in due course. ***Sharon Meyer-Douglas, EAP***
3	Since the water consumption rates for semi-dry FGD may be as much as 60% lower than for wet FGD,[16] the selection of wet FGD for Medupi clearly significantly		Medupi has been constructed to be FGD-ready for wet FGD. This includes allocating space behind the stack for the absorber and common facilities, lining the stacks, and sizing the Induced Draught (ID) fans to include the additional system resistance due to the FGD. Should an alternative

[16] IEA Clean Coal Centre: Low Water FGD Technologies. No 12/15 December 2012. http://www.iea-coal.org.uk/.At 1.

	increases the overall demand for water for so_2 abatement. This is another reason why the project must include a detailed consideration of alternatives to wet FGD.		technology like semi-dry CFB technology be selected at this stage, substantial modifications to the existing design would need to be made to Medupi, which would significantly delay the commissioning of the units, and add significant costs to the project. The modifications to accommodate the change to semi-dry CFB technology include relocation of the existing fabric filter plant or construction of a new fabric filter plant; relocation of the ID fans; an increase in the size, height and location of the flue gas duct work after the CFB; and the addition of a recirculation duct for low load operation. ***Sharon Meyer-Douglas, EAP***
4	It is submitted that the selection of semi-dry FGD over the currently selected wet FGD would have avoided the delay in the installation of FGD – apparently due to insufficiency of available water, since it appears that there is sufficient water for only 3 (of 6) units equipped with wet FGD[17] - but this would be sufficient for 6 units equipped with semi-dry FGD.		The Scoping Phase is looking more closely at alternatives. Same response as above. ***Sharon Meyer-Douglas, EAP***

[17] Eskom's Water Resources Assessment (Postponement Applications). Available at: http://www.iliso.com/emes1/Annexure%20F_Water%20Resources%20Report/Water%20Resources%20Assessment_FINAL_2013.12.13.pdf

5	The BID should address all of these issues.		The BID offers only a brief overview of the project and does not go into any detail in terms of specific issues. The purpose of the BID is to notify stakeholders of the project in order to stimulate comments and queries for address during the Scoping and EIA phases of the project. ***Sharon Meyer-Douglas, EAP***
6	Greenpeace believes that the situation cannot exist where there is enough water for mega new coal-fired power stations (namely Medupi and Kusile), but there is not enough water for pollution abatement technology, which is required by law to protect people's health and give effect to Section 24 of the constitution.	[redacted] Greenpeace Environmental Organization NPC Letter: Undated (Attached to e-mail dated 09 January 2015)	Eskom has been in long term discussion with DWS on the issue of water allocation. DWS has indicated that there is provision for water to Medupi Power Station from MCWAP Phase 1 and Phase 2. DWS is the custodian of water resources within South Africa and any allocation of water is investigated through this department. Please refer to the relevant documentation available for the original Medupi Power Station environmental authorisation regarding the pollution abatement issue. ***Sharon Meyer-Douglas, EAP***
7	The full impact of the development has not been taken into account in terms of water use requirements and the broader impact of the water needs for FGD.		MCWAP Phase 1 has already licensed water allocation to Medupi Power Station. An application for additional allocation from Phase 2 will be addressed within the Water Use License Application that will be carried out simultaneously to the EIA Phase of this process. Eskom has been in long term discussions with DWS in terms of water allocation for the Medupi Power Station, including the FGD. DWS, as custodians of the national water resources, has the authority to approve or deny water allocation applications, depending on the security of water available. ***Sharon Meyer-Douglas, EAP*** As part of basic design process Eskom considered all of the water minimisation options as part of the life cycle assessment. This assessment is inherent in the design process. ***Carel van Heerden, Eskom***
8	The fact that the DSR states that 'it is anticipated that the approval of the wet FGD retrofit to Medupi Power Station will have a significant impact on water utilization in the area' further highlights the poor decision making that took place to select the site for Medupi in the first place.	[redacted] Greenpeace Environmental Organization NPC Letter: Undated	This application focuses on the FGD retrofit and the site selection for the Medupi Power Station is not a component of this environmental impact assessment process. ***Sharon Meyer-Douglas, EAP***

		(Attached to e-mail dated 09 January 2015)	As part of basic design process Eskom considered all of the water minimisation options as part of the life cycle assessment. This assessment is inherent in the design process. ***Carel van Heerden, Eskom*** Eskom has been in long term discussion with DWS on the issue of water allocation. DWS has indicated that there is provision for water to Medupi Power Station from MCWAP Phase 1 and Phase 2. DWS is the custodian of water resources within South Africa and any allocation of water is investigated through this department. ***Sharon Meyer-Douglas, EAP***

5.2.5 WASTE RELATED COMMENTS			
1	On June 10, 2010, the united states EPA proposed a new regulation containing environmental safeguards for the disposal of coal combustion residuals.[18]	[redacted] Centre *For* Environmental Rights Letter: 07 July 2014	This is not relevant to the project at hand and does not include any measures at this stage related to the possible impacts and mitigations associated with FGD-related waste. The document will however need to be revised to include all additional aspects and impact mitigations related to FGD through the current FGD EIA process which will also form part of the documents for review. The current version is already a public documented and can be found on Eskom's website, Appendix K in the FSR. (http://www.eskom.co.za/OurCompany/SustainableDevelopment/EnvironmentalImpactAssessments/Pages/Medupi_Operation_EMP.aspx) The disposal of coal combustion wastes was already covered in the initial EIA conducted for Medupi Power Station (DEA ref no.: 12/12/20/695) and also included a study into alternative ash disposal options. This application

[18] U.S. EAP (2010) "Hazardous and Solid Waste Management System: Identification and Listing of Special Wastes; Disposal of Coal Combustion Residuals from Electric Utilities." http://www.regulations.gov/#!documentDetail;D=EPA-HQ-RCRA-2009-0640-0352

			resulted in a positive decision for an Integrated Environmental Authorisation and Waste Management License. The relevant documents can be found on Eskom's website, below is the link. (http://www.eskom.co.za/OurCompany/SustainableDevelopment/EnvironmentalImpactAssessments/Pages/Medupi_Power_Station_Ash_Disposal_Options.aspx http://www.eskom.co.za/OurCompany/SustainableDevelopment/EnvironmentalImpactAssessments/Pages/Medupi_Power_Station.aspx) It is important to note that the disposal of coal combustion waste is managed through technical procedures and not through the OEMPr (Appendix K in the FSR). The OEMPr only covers possible impacts associated with the management, transport and handling of hazardous substances and wastes, dust emissions, water protection, etc. upon which the specific procedures/management plans are based upon. This is managed through a certified ISO 14001 Environmental Management System. ***Emile Marell, Eskom***

2	One key aspect of EPA's proposed rule is strongly to discourage the disposal of coal ash in wet impoundments, encouraging, instead, the disposal of coals ash in dry form: ***"****under the Subtitle C proposal, EPA is adopting measures intended to phase out the wet handling of CRRs and existing surface impoundments; under the Subtitle D proposal, existing impoundments would require liners, which will create strong incentives to close these impoundments and transition to safer landfills which store coal ash in dry form."*[19]		Noted. The ash disposal facility (a dry ashing facility as Medupi is a dry-cooled power station) has already been authorised and licensed by the relevant process carried out in 2008. Only changes to the Ash Disposal Facility (additional wastes) will require that we look at significant changes to design. Your comment will be taken cognisance of in this instance. The South African legislation requires an EIA to be conducted for the storage of hazardous waste in lagoons excluding storage of effluent, wastewater or sewage. Moreover, the ash disposal facility (a dry ashing facility as the power station is dry-cooled) has been authorised and has a waste management license. The first 2 years of the dump have been lined with a Class C liner, to cater for the disposal of ash. ***Sharon Meyer-Douglas, EAP,***
3	Therefore, the BID should specifically require consideration of the elimination of wet impoundments for the disposal of coal ash and FGD gypsum and, to the extent that these wastes cannot be beneficially reused,		The BID is a background information document providing only an introduction to and an overview of the proposed project in order to notify stakeholders of the process and encourage engagement. Specific project detail is generally not included in a BID, but will be included within the Scoping and EIA phases

[19] U.S. EPA "Frequent Questions: Coal Combustion Residues (CCR) – Proposed Rule." http://www.epa.gov/solidwaste/nonhaz/industrial/special/fossil/ccr-rule/ccrfaq.htm

	disposing them in dry form consistent with internationally-accepted best practice.		of the project. ***Sharon Meyer-Douglas, EAP,***
4	For me, the ideal situation would be to find a way to utilize the gypsum product, thereby minimizing the need to dump the product. We have been discussing the matter internally, and find that the best way would be to process the waste gypsum into plasterboard/drywall. We are currently looking into feasibility of setting up a plasterboard production plant, For a small scale operation, the production plant would require 120ton of gypsum per day, Will this be enough to alleviate forecasted waste disposal issue? If possible please provide me with estimated volume/tonnage of waste gypsum which Medupi plant will product per day, So that we can in turn calculate optimum capacity of plasterboard plant. In order for this operation to work effectively, we would need to be allowed to setup production plant in close proximity to disposal landfill, Thereby minimizing additional transport cost and CO2 emissions, Ideally the best way would be if we could setup a conveyor system to transport product from landfill to production site. Other factors to consider, Plant is said to utilize in excess of 5000kwh per day, This can be offset if we utilize LP GAS for drying purposes. We will also look into retrofitting plant with Solar panels, to make site as "Green" as possible. Plant will also require in excess of 45000 l of clean water per day. Please let me know if this would be workable solution,	[redacted] Chain Manager *For* Bit Group Complete Email: 16 October 2014	We will be forwarding your e-mail to Eskom to provide us with responses regarding the questions raised in your e-mail and will revert back to you as soon as possible. Please also be informed that we had registered you as an interested and/or affected party on this proposed project's database and you will receive all further public notices and documents. Attached for your attention is the notification letter informing you of the availability of the Draft Scoping Report and also inviting you to any one of the two Public Meetings (or both should you wish to attend). ***Nicolene Venter, Public Participation Practitioner,*** The quality of the limestone to be used in the Medupi FGD process is unknown, and therefore the gypsum quality has not yet been determined. Limestone sourcing as well as the gypsum market offtake is being investigated by Eskom in parallel and the outcome of this investigation will determine the opportunity for the sale of gypsum. ***Carel van Heerden, Eskom***

	and something that Eskom would consider to partner with us in. Note- entire exercise is dependent on quality of gypsum, in needs to be free from radioactive impurities in order to be acceptable for production of plasterboard for home/construction industry.		
5.2.6 ENVIRONMENTAL PROCESS COMMENTS			
1	**Overview:** The CER act for groundwork and ELA Johannesburg. Their clients are I&APs in Eskom's EIA, WML and WUL (to be "initiated later within the EIA process") Applications for the proposed Medupi Power Station FGD project ("the Project"). Kindly ensure that our clients are also registered as I&APs in relation to the WUL, and any other processes relevant to the project.	[redacted]: Centre *For* Environmental Rights Letter: 07 July 2014	Noted and the mentioned entities will be registered on the database as IAPs and will be kept informed of the status of the EIA. ***Sharon Meyer-Douglas, EAP***
2	The EIA process would be the proper avenue for scrutiny		Technology alternatives do not form part of the scope of work for this EIA,

	of Eskom's claims that controlling SO_2 emissions by use of dry (or semi-dry) FGD technology are not feasible because of cost concerns. Therefore, examination of this issue should not be excluded by how the project is defined in the BID. Rather, proof of an examination of all alternatives to wet FGD should be included in the BID.		however, the impacts of the preferred technology will be assessed. The Eskom Technology Selection Study Report will be an appendix to the Scoping report. ***Sharon Meyer-Douglas, EAP***
5.2.7 PROJECT RELATED COMMENTS			
1	The first major FGD unit was installed in 1931 at Battersea Power Station in the United Kingdom.[20] Internationally, it is not a new technology, but it is relatively new in South Africa where there is currently no coal-fired power station running the technology.[21] Additional employees and training will be needed to run the Project, and the processes surrounding the EIA and	[redacted] Centre *For* Environmental Rights Letter: 07 July 2014	No provision for training has been complied as the project is still in the early conceptual phase. ***Ishana Harripersad, Eskom***

[20] Biondo, SJ and Marten, JC. (1977). A History of Flue Gas Desulphurisation Systems since 1850. *Journal of the Air Pollution Control Association,* 27(10), 948-961.
[21] Although these boilers are much smaller than a typical Eskom power station, it is worth mentioning that Mondi paper mill installed FGD on its coal fired/ missed fuel boilers in 2005. http://www.angloamerican.com/media/releases/2005pr/2005-12-05.aspx

	WML should make provision for these, to ensure that the Project is not delayed.		
2	In the event that the Project is delayed, there would be serious economic and environmental implications. For this reason, we submit that the project timeline should be included in the BID. Our client submits that there should be penalties for non-compliance with this timeline.		The BID is a background information document providing only an introduction to and an overview of the proposed project in order to notify stakeholders of the process and encourage engagement. Specific project detail is generally not included in a BID, but included within the Scoping and EIA phases of the project. ***Sharon Meyer-Douglas, EAP***
5.2.8	**LEGAL COMPLIANCE RELATED COMMENTS**		
1	**Background to the Project:** Medupi is a coal-fired power plant project currently under construction west of Lephalale in the Limpopo Province, south Africa. It will be made up of six units with a gross nominal capacity of 800MW each, so that Medupi will have a total capacity of 4 800MW. Construction activities commenced in May 2007, with the first of six units of the power plant planned to operate by the end of 2014.	[redacted] Centre *For* Environmental Rights Letter: 07 July 2014	Agreed. ***Sharon Meyer-Douglas, EAP***
2	The funding for Medupi came in part from a World Bank loan, for which the loan agreement is dated 16 April 2010. The agreement sets out the terms of the loan, and includes a section on Environmental and Social Safeguards. This section requires the installation of FGD at Medupi as follows:		Funding for the construction of Medupi Power Station and funding for the FGD Plant are separate. Medupi FGD is a separate project to the Power Station. ***Sharon Meyer-Douglas, EAP***
3	*"2. The Borrower shall:* *(a) not later than June 30, 2013, develop, adopt and thereafter implement a program, satisfactory to the Bank, to install FGD equipment in each of the six power generation units of the Medupi Power Plant, taking into account technical, environmental and financial criteria in accordance with terms of reference to be discussed with the Bank, such program to be designed such that the installation of the FGD equipment for the first power generation unit shall commence in the later of (i) the sixth*		Noted. Annual reporting and every six month engagements with the World Bank take place to share information on the developmental efforts of the FGD project. ***Sharon Meyer-Douglas, EAP***

	anniversary of the Commissioning Date or (ii) March 31, 2018 or such later date as the Bank may establish following consultations with the Borrower), and, thereafter, continue the installation of the FGD equipment sequentially, in each case thereafter at the time each of the remaining five power generation units is taken out of service for the first major planned outage, it being understood and agreed that all the FGD equipment for the six power generation units shall be installed and fully operational not later than December 31, 2021, or such later date as the Bank may establish following the said consultations with the Borrower; and *afford the Bank a reasonable opportunity to exchange views with the Borrower on such FGD installation program at each of its preparation and implementation phases."*		
4	Therefore, although the BID refers to compliance with the minimum emission standards (discussed below), Eskom is contractually obliged to install FGD technology at Medupi also to comply with its loan agreement with the World Bank.		Both are requirements by Eskom. In addition, the Minimum Emissions Standards of the NEM: Air Quality Act hold reference. ***Sharon Meyer-Douglas, EAP,***
5.2.9 CONSULTATION RELATED COMMENTS			
1	**Overview:** Upfront, we are instructed to state that it is essential that the Project be brought to the attention of all the stakeholders in the Waterberg Bojanala Priority Area – so that all I&APs can register, and that the implications of the Project can be discussed in meetings relating to the Priority Area.	[redacted] Centre *For* Environmental Rights Letter: 07 July 2014	Zitholele Consulting thank the CEIR NPO for this information and it can be confirmed that the Waterberg Bojanala Priority Area stakeholders have been registered on the project database. We had also consulted the DEA for contact details of these stakeholders. ***Nicolene Venter, Public Participation Practitioner***
2	In these submissions, we make representations for the expansion of the EIA and WML to include the areas of concern mentioned below.		The BID is a background information document providing only an introduction to and an overview of the proposed project in order to notify stakeholders of the process and encourage engagement. Specific project detail is generally not included in a BID, but will be included within the Scoping and EIA phases

			of the project. ***Sharon Meyer-Douglas, EAP,***
3	In summary, our clients submit that Eskom's BID for the EIA and WML is incomplete and should also consider the following:		
3.1	Integration of FGD into the design, construction and commissioning of units 2-6[i], with unit one retrofitted as soon as possible, and not later than 6 years after it is commissioned;		Please note that the function of the BID is to give the public a basic understanding of the proposed project. This information will allow the stakeholder to decide whether to register as an interested and affected party, or not. Detailed information is provided later in the process and not within the BID. ***Sharon Meyer-Douglas, EAP***
3.2	The implications of the fact that there is non-compliance with ambient air quality standards in the Waterberg Bojanala Priority Area;		Please note that the function of the BID is to give the public a basic understanding of the proposed project. This information will allow the stakeholder to decide whether to register as an interested and affected party, or not. Detailed information is provided later in the process and not within the BID. ***Sharon Meyer-Douglas, EAP***
3.3	Alternatives to wet FGD in the scoping stage; including, but not limited to semi-dry and dry FGD;		Please note that the function of the BID is to give the public a basic understanding of the proposed project. This information will allow the stakeholder to decide whether to register as an interested and affected party, or not. Detailed information is provided later in the process and not within the BID. ***Sharon Meyer-Douglas, EAP***
3.4	Alternatives in the scoping stage to disposal of gypsum in lined ADFs; specifically the reuse of gypsum;		Please note that the function of the BID is to give the public a basic understanding of the proposed project. This information will allow the stakeholder to decide whether to register as an interested and affected party, or not. Detailed information is provided later in the process and not within the BID. ***Sharon Meyer-Douglas, EAP***
3.5	Alternative water sources for the Project;		Please note that the function of the BID is to give the public a basic understanding of the proposed project. This information will allow the stakeholder to decide whether to register as an interested and affected party, or not. Detailed information is provided later in the process and not within the BID.

			Sharon Meyer-Douglas, EAP
3.6	An independent examination of international best practices for the disposal for coal combustion residuals/waste as a basis for a decision on the practice to be adopted in the Project;		Please note that the function of the BID is to give the public a basic understanding of the proposed project. This information will allow the stakeholder to decide whether to register as an interested and affected party, or not. Detailed information is provided later in the process and not within the BID. It must be understood that the FGD project does not include any coal combustion wastes, nor the management of these wastes, including ash. This has been addressed within the original Medupi Power Station environmental authorisation. ***Sharon Meyer-Douglas, EAP***
3.7	Provision for additional employees and their training prior to commencement of the Project; and		Please note that the function of the BID is to give the public a basic understanding of the proposed project. This information will allow the stakeholder to decide whether to register as an interested and affected party, or not. Detailed information is provided later in the process and not within the BID. This information will be dependent on the contractual arrangements with the supplier. ***Sharon Meyer-Douglas, EAP***
3.8	A project timeline, together with penalties for non-compliance with this timeline.		Please note that the function of the BID is to give the public a basic understanding of the proposed project. This information will allow the stakeholder to decide whether to register as an interested and affected party, or not. Detailed information is provided later in the process and not within the BID. ***Sharon Meyer-Douglas, EAP***
4	In order for our clients to participate meaningfully and make submissions in the process, to interrogate the bases for the applications, and in keeping with their rights in terms of the Promotion of Administrative Justice Act, 2000, we have, at this stage, been instructed to request copies of the following documents:		Please see below the responses received from Eskom regarding the availability of information. ***Sharon Meyer-Douglas, EAP***
4.1	copies of all contract Eskom has with coal mines that will		4.1 This is not relevant to the Medupi FGD project

	supply Medupi;		***Theuns Blom, Eskom***
4.2	the construction schedule for the whole Medupi plant;		4.2 The Stakeholder is requested to please follow due process in terms of PAIA and to request the information from Eskom through the appropriate channels. ***Sharon Meyer-Douglas, EAP***
4.3	the construction and commissioning schedule, including the preliminary design, construction and commissioning schedules, for the retrofitting of the FGD units;		4.3 The Stakeholder is requested to please follow due process in terms of PAIA and to request the information from Eskom through the appropriate channels. ***Sharon Meyer-Douglas, EAP***
4.4	the costing, technical assessments, and water use requirements for FGD, including the comparative assessment of wet, dry and semi-dry FGD systems;		4.4 The Medupi FGD Technology Selection Report (Appendix D in the FSR) provides detailed information on the comparative analysis of wet, dry and semi-dry. Theuns Blom, Eskom
4.5	detailed information regarding Medupi's water demand projections, including: the time when water from each water source will become available for Medupi; the amount of water that will be available at the relevant times; and copies of all contracts relating to Medupi's water use;		4.5 The DWS is currently developing MCWAP 2, and the project consists of a number of phases. DWS is currently busy with Phase 1 which entails an increase in the capacity from the Mokolo Dam to Lephalale. Eskom has already secured 10.9 cubic litres of water from Phase 1 of the Project through a pipeline infrastructure, which will provide water for the full Energy Production at Medupi Power Station as well as for three of the FGD units. Phase 2 will bring water from the Crocodile River and return flows from the waste water treatment plants from Johannesburg and Tshwane for the purpose of supplying the Power Station with additional water to cater to all six (6) FGD units. The current water use license for the 10.9 cubic litres is sufficient until 2020/23, before Phase 2 is needed. Another 15.4 cubic litres will be needed for the Energy Production and FGD facilities combined, which will become available from Phase 2 of the MCWAP Project. Eskom is currently in discussions with DWS and TCTA, and water users have submitted their requirements. The matter is currently in the hands of National Treasury to provide the guarantees for the pipeline which will hopefully be finalised by the end of November 2014. Contracts have been negotiated and it is therefore not a question of whether the pipeline is going to be built, but merely the size of the pipeline. ***Ian Midgley, Eskom***

			To supplement above please find Appendix I in the FSR. ***Felicia Sono***
4.6	all documentation relating to the investigation of *"all possible options for the use/disposal of the gypsum, ash and sludge"*; including the terms of reference and proof of public participation in this process; and		4.6 The PED marketability study, (Appendix J in the FSR) gives an insight on the possible use and or disposal of the waste from the FGD process. Further investigations on the disposal options analysis will be undertaken during the EIA phase. ***Theuns Blom, Eskom***
4.7	the most recent Environmental Management Plan for the disposal of coal combustion residuals/wastes.		4.7 The disposal of coal combustion wastes was already covered in the initial EIA conducted for Medupi Power Station (DEA ref no.: 12/12/20/695) and also included a study into alternative ash disposal options. This application resulted in a positive decision for an Integrated Environmental Authorisation and Waste Management License. The relevant documents can be found on Eskom's website, below is the link. (http://www.eskom.co.za/OurCompany/SustainableDevelopment/EnvironmentalImpactAssessments/Pages/Medupi_Power_Station_Ash_Disposal_Options.

			aspx http://www.eskom.co.za/OurCompany/SustainableDevelopment/EnvironmentalImpactAssessments/Pages/Medupi_Power_Station.aspx) ***Emile Marell, Eskom***
5	In the circumstances, it is submitted that the BID should be revised in order to include the following:		The BID is a background information document providing only an introduction to and an overview of the proposed project in order to notify stakeholders of the process and encourage engagement. Specific project detail is generally not included in a BID, but will be included within the Scoping and EIA phases of the project. ***Sharon Meyer-Douglas, EAP,***
5.1	Integration of FGD into the design, construction and commissioning of units 2-6,[22] with unit one retrofitted as soon as possible, and not later than 6 years after it is commissioned;		Information on the reasons for the retrofit will be provided within the FSR for public review. ***Sharon Meyer-Douglas, EAP*** Eskom investigated the feasibility of co-commissioning the remaining units at

[22] See fn 1.

			Medupi Power Station with FGD and it was found not to be feasible to commission any of the remaining units with FGD. ***Theuns Blom, Eskom***
5.2	the implications of the fact that there is non-compliance with ambient air quality standards in the WBPA;		Medupi Power Station will comply with "old plant" emissions standards initially. Once the FGD retrofit has been completed, then the power station will comply with the "new plant" emissions standards. Eskom is in discussion with the relevant authorities in this regard. ***Sharon Meyer-Douglas, EAP*** Medupi Power Station will have continuous emission monitors that measure the PM and gaseous emissions and the results are reported to the DEA, as required by the Legislation. The CER and members of the public can request a copy of these reports from the DEA. It is important to note that there are other contributors to the air quality in the Marapong / Lephalale area and that Eskom is not the only contributor. ***Olga Makhalemele, Eskom***
5.3	alternatives to wet FGD in the scoping stage; including, but not limited to semi-dry and dry FGD;		The Technology Selection Study Report (appendix D on the FSR) provides the information supporting the Eskom decision to proceed with WET FGD as the preferred technology. The EIA process is being undertaken with WET FGD as the technology choice, and no technology alternatives will be investigated within the process. The technology selection was carried out independently by Eskom without environmental impact assessment. ***Sharon Meyer-Douglas, EAP***
5.4	alternatives in the scoping stage to disposal of gypsum in lined ash disposal ADFs; specifically the reuse of gypsum;		Eskom has carried out market research regarding the reuse or saleability of gypsum produced at Kusile and Medupi Power Stations. There currently is not sufficient market for gypsum to cater to Kusile alone. Therefore, as a worst case scenario, the disposal of gypsum from Medupi Power station must be designed for and included as a component of the environmental authorisation application. ***Sharon Meyer-Douglas, EAP*** The quality of the limestone to be used in the Medupi FGD process is unknown, and therefore the gypsum quality has not yet been determined. Limestone sourcing as well as the gypsum market offtake is being investigated by Eskom in parallel and the outcome of this investigation will

			determine the opportunity for the sale of gypsum. ***Carel van Heerden, Eskom***
5.5	alternative water sources for the Project;		Eskom has been in discussions with DWS in terms of water allocation for the Medupi FGD. An application for water allocation from MCWAP Phase 2 will included within the project Water Use License Application. DWS is the custodian of all national water resources and is authorised to allocate available resources to applications as appropriate. ***Sharon Meyer-Douglas, EAP***
5.6	an independent examination of international best practices for the disposal of coal combustion residuals/wastes as a basis for a decision on the practice to be adopted in the Project;		Coal combustion is not a component of the FGD project and any studies relating to coal or ash are irrelevant for the FGD EIA Process. ***Sharon Meyer-Douglas, EAP***
5.7	provision for additional employees and their training prior to commencement of the Project; and		The requested information is not known at this stage of the project. This information are dependent on the supplier contract which will only be in place after the tender and appointment process, should an Environmental Authorisation be granted for the proposed FGD project. ***Andrea Williams, Eskom***
5.8	a project timeline, together with penalties for non-compliance with this timeline.		Eskom is not in a position to comment on this point hence no contracts has been placed. Penalties and clauses will be subject to contract placement and may include these aspects. ***Theuns Blom, Eskom***

Appendix F-8: Bridging Document (September 2016)

Zitholele Consulting
Reg. No. 2000/000392/07

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REPORT

Medupi FGD retrofit EIA Bridging Document

Report No: Bridging Report-Rev1

Submitted to :

Eskom Holdings SOC
Megawatt Park
Maxwell Drive
Sunninghill
Johannesburg 2000

30 September 2016 12949

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LIST OF ACROYNYMS

Acronym	Description
BID	Background Information Document
CRR	Comments and Response Report
DEA	Department of Environmental Affairs
DWS	Department of Water and Sanitation
EA	Environmental Authorisation
EAP	Environmental Assessment Practitioner
EIA	Environmental Impact Assessment
EIR	Environmental Impact Report
FGM	Focus Group Meetings
GIS	Geographic Information System
IAP	Interested and Affected Party
IDP	Integrated Development Plan
IWWMP	Integrated Water and Waste Management Plan
KSW	Key Stakeholder Workshop
MCWAP	Mokolo Crocodile Water Augmentation Project
NEMA	National Environmental Management Act (Act 107 of 1998 as amended)
NEMWA	National Environmental Management: Waste Act (Act 59 of 2008 as amended)
NWA	National Water Act (Act 36 of 1998 as amended)
PP	Public Participation
PPP	Public Participation Process
SDF	Strategic Development Framework
SEA	Strategic Environmental Assessment
WML	Waste Management License
WULA	Water Use License Application
WUL	Water Use License
ZIMS	Zitholele Information Management System

1 INTRODUCTION

1.1 Background

Eskom Holdings SOC Limited (Eskom) obtained an Environmental Authorisation in 2006 for Medupi Power Station, with a generation capacity of up to 4800MW of electricity. According to the Environmental Authorisation (***Appendix A***), the Medupi Power Station must "install, commission and operate any required SO_2 abatement measures to ensure compliance with any applicable emission or ambient air quality standards published in terms of the National Environmental Management: Air Quality Act NEMAQA (Act No 39 of 2004)" (Section 3.2.1.2, ***Appendix A***).

Eskom identified wet Flue Gas Desulphurisation (FGD) as the most appropriate technology for SO_2 abatement in accordance with the NEMAQA, particularly for the Lephalale area since it was declared a Priority Airshed. The key reason for utilising wet FGD is that it is the most effective technology to reduce SO_2 emissions by the required amount according to the NEMAQA. This technology will reduce SO_2 emissions from Medupi Power Station by more than 95%. This FGD plant would be retrofitted to the existing Medupi designs.

Zitholele Consulting was appointed to undertake the integrated Environmental Impact Assessment (EIA) process for the proposed Medupi Power Station FGD retrofit project. This process was initiated early in 2014 and the Scoping Report was accepted by the Department of Environmental Affairs (DEA) at the end of July 2015.

1.2 Purpose of Document

This bridging report has three key purposes:

1. To update all registered Interested & Affected Parties (I&AP) on relevant activities that have taken place between the end of the Scoping Phase (August 2015) and current (August 2016).
2. To inform all registered IAPs of the decision to split the current integrated EIA Process into two (2) separate integrated Environmental Authorisation (EA) Processes.
3. To inform all registered I&APs that it has been observed that the current Environmental Authorisation/Waste Management License of the Ash Disposal Facility (ADF) will require amendment to include the disposal of gypsum at this facility. However, the ADF does not require a new EA or WML for this purpose.

As a means to achieve the above purposes, this document provides background to the original EIA process, and indicates the scope of this project that will be carried through to the end of the Impact Assessment Phase.

2 SCOPE OF WORK FOR MEDUPI FGD EIA

2.1 Original Scope of work

The Medupi FGD retrofit project originally included the following activities within the integrated Environmental Authorisation process:

- FGD retrofit infrastructure to be constructed and operated within the Medupi Power Station footprint;
- Disposal of FGD waste at the existing authorised Ash Disposal Facility ADF from year 6 onwards;
- Railyard for the possible transport of limestone and gypsum to and from the power station, respectively.

2.2 Additional Activity

During the project initiation and clarification of the scope of the project, it was indicated that the ADF would only have capacity to accommodate wastes for the first 20 years of power station operation. Therefore, the following activity was identified as additional scope for inclusion in the integrated authorisation application:

- New disposal facilities for the disposal of gypsum, ash, salts and sludge for year 21 to year 50 post commissioning.

This additional activity was identified, and a Site Screening was initiated, while the Scoping Phase was submitted for review by the competent authority The Site Screening covered an area of 10km radius from the power station block.

2.3 New Disposal Facility Site

Since the current ADF was deemed to only have capacity to accommodate the disposal of ash for the first 20 years of the Medupi Power Station operation, a second facility would need to be established. Eskom had earmarked an area to the south of the existing authorised ADF.

The proposed new facilities would be greenfield areas with a footprint of about 600 hectares to accommodate the disposal of ash, gypsum, salts and sludge.

2.4 Site Screening

The Site Screening process, which was revised in early 2016, yielded 3 site alternatives. These included Site 13, Site 12 and Site 2. Site 2 and Site 12 were investigated in more detailed by specialist consultants, and were identified as highly sensitive in terms of biodiversity and surface water habitat. A meeting with the DEA and Department of Water and Sanitation (DWS) confirmed

that these sites should not be considered as feasible sites for development due to their environmental sensitivity.

At this stage it was agreed that the Site Screening process would need to be revisited. This rework would constitute a delay in the EIA process of at least 12 months. A decision needed to be made regarding the rework of the Site Screening and this was workshopped between the client and Zitholele Consulting in order to find the most effective solution. The decision took the project schedule into account as well as commitments of the power station to other authorisation and license conditions.

A decision was reached in July 2016 to review the scope of the current EIA in order to fast track the application for authorisation and licensing of the FGD retrofit.

3 SPLITTING OF THE INTEGRATED EIA

The Medupi Power Station has an Atmospheric Emissions License (AEL), which was issued in March 2015, see ***Appendix B***. This license provides categories of emissions standards with timelines for compliance. The Power Station must currently comply with Category 1: Combustion Installations for existing plant status. However, by April 2025, the plant must reduce SO_2 emissions to less than 500mg/Nm^3.

Therefore, the installation of the appropriate FGD technology is time critical, and the application for an integrated authorisation must be accelerated in order for the power station to remain compliant to the AEL conditions. Should the EIA scope remain unchanged, there is a significant risk of a delay to the overall project development process, due to the site screening for disposal sites, which needs to be reinitiated. For this reason, the decision has been made to split the current EIA into two (2) separate environmental authorisation processes.

3.1 Environmental Authorisation 1 (EA1) Process

The key activities that will remain the focus of EA1 are:

- Authorisation of the FGD infrastructure within the Power Station footprint;
- Required licensing (Water Use License) of the existing Ash Disposal Facility to accommodate ash and gypsum from year 6 to year 20 of station's operation;
- Temporary trucking of salts and sludge to a designated hazardous waste facility for disposal.

This EA will continue under the current DEA reference number 14/12/16/3/3/3/110, and will follow on from the Scoping Phase completed in 2015. The Impact Assessment Phase will commence in mid to late September 2016, and the Draft Environmental Impact Report (DEIR), is expected to be provided to stakeholders in late March 2017.

The splitting of the EIA scope into separate processes means some listed activities will be removed from the application, due to their inapplicability in EA1. As per **Table 1** below, the listed activities under the National Environmental Management Act NEMA (Act 107 of 1998, as amended) remain unchanged at this time. Updated application forms will be submitted with the DEIR and FEIR and will be updated with any additional changes, as necessary.

Table 1: Listed Activities for this project under NEMA (Act 107 of 1998 as amended) and the Environmental Impact Regulations (2010)

Relevant Notice	Activity Number	Listed activity description
NEMA GNR 545 (2010)	3	The construction of facilities or infrastructure for the storage, or for the storage and handling, of limestone as an input into the FGD process. The limestone will be stored at a volume of more than 500 cubic metres at any one time.
NEMA GNR 545 (2010)	6	The construction of facilities of infrastructure for the bulk transportation of gypsum using conveyors with a throughput capacity of more than 50 tons per day.
NEMA GNR 545 (2010)	11	The construction of a railway yard for purposes of transport of products to the Power Station and waste products from the Power Station.
NEMA GNR 545 (2010)	15	The physical alteration of undeveloped, vacant, or derelict land for purposes of a railway yard and associated infrastructure.

In terms of the National Environmental Management: Waste Act NEMWA (Act 59 of 2008, as amended), the activities applied for in the original application form will be amended and submitted with the DEIR and FEIR. Please see Table 2 below, which indicates the activities that are no longer being applied for under EA1. These are struck through and highlighted in red.

Table 2: Listed Activities for this project in terms of the National Environmental Management: Waste Act (Act 59 of 2008 as amended). Activities removed are struck through and highlighted in red.

Relevant Notice	Activity Number	Listed activity description
~~NEMWA GNR 718 Category B~~	~~1~~	~~The storage, including temporary storage, of hazardous waste in lagoons. This activity will be triggered should the sludge require separate disposal and not be co-disposed of at the Ash Disposal Facility.~~
~~NEMWA GNR 718 Category B~~	~~5~~	~~The treatment of sludge in lagoons. This activity will only be triggered should the preferred option of co-disposal not be supported by the waste classification assessment.~~
NEMWA GNR 718 Category B	7	The disposal of any quantity of gypsum to the existing Ash Disposal Facility.
NEMWA GNR 718 Category B	10	The construction of facilities for activities listed in this schedule.
NEMWA GNR 718 Category C	2	The storage, including temporary storage, of hazardous waste such as gypsum, salts and sludges from the FGD process prior to disposal on or off-site. The combined storage of hazardous waste will be more than 35m^3 at any one time.

Please note that the listed activities in Tables 1 and 2 are not the final activities, as the EIA process is still ongoing. Thus, the final updated application forms will be submitted with the DEIR and FEIR.

3.2 Environmental Authorisation 2 (EA2) Process

Environmental Authorisation 2 (EA2) will be a new process which will apply under a new reference number and commence from project initiation, through Scoping Phase and Impact Assessment Phase. The focus of this EA2 will be to investigate a new site for the required additional disposal facility to service the rest of the station's operational life, for disposal of ash and gypsum (for years 21 to 50 post commissioning). The site may also accommodate the disposal of sludge and salts (Type 1 wastes) on the same footprint, if feasible. Alternatives for disposal of ash, gypsum, salts and sludge will be assessed within this EA2.

4 ADF EXISTING AUTHORISATION TO BE AMENDED

During the splitting of the EIA, it was observed that the ADF has a separate Environmental Authorisation (EA) and Waste Management License (WML) to the Power Station (***Appendix C***). It was further noticed that the disposal of gypsum with the ash at the authorised ADF would require minimal changes to the current EA/WML. Therefore, it was decided to remove the existing authorised ADF from the scope of the current integrated EIA. Rather, an application will be submitted to have the existing EA/WML amended to accommodate the disposal of gypsum at this facility.

By removing the ADF from the current integrated EIA (iEA1), the listed activities triggered by the scope of this iEA1 has changed. While there are no changes to the NEMA listed activities, there are changes to the NEMWA activities. Please see Table 3 and Table 4 below for the amended listed activities identified under NEMA and NEMWA, respectively.Table 1

Table 3: Listed Activities for this project under NEMA (Act 107 of 1998 as amended) and the Environmental Impact Regulations (2010)

Relevant Notice	Activity Number	Listed activity description
NEMA GNR 545 (2010)	3	The construction of facilities or infrastructure for the storage, or for the storage and handling, of limestone as an input into the FGD process. The limestone will be stored at a volume of more than 500 cubic metres at any one time.
NEMA GNR 545 (2010)	6	The construction of facilities of infrastructure for the bulk transportation of gypsum using conveyors with a throughput capacity of more than 50 tons per day.
NEMA GNR 545 (2010)	11	The construction of a railway yard for purposes of transport of products to the Power Station and waste products from the Power Station.
NEMA GNR 545 (2010)	15	The physical alteration of undeveloped, vacant, or derelict land for purposes of a railway yard and associated infrastructure.

Table 4: Listed Activities for this project in terms of the National Environmental Management: Waste Act (Act 59 of 2008 as amended). Activities removed are struck through and highlighted in red.

Relevant Notice	Activity Number	Listed activity description
~~NEMWA GNR 718 Category B~~	~~1~~	~~The storage, including temporary storage, of hazardous waste in lagoons. This activity will be triggered should the sludge require separate disposal and not be co-disposed of at the Ash Disposal Facility.~~
~~NEMWA GNR 718 Category B~~	~~5~~	~~The treatment of sludge in lagoons. This activity will only be triggered should the preferred option of co-disposal not be supported by the waste classification assessment.~~
~~NEMWA GNR 718 Category B~~	~~7~~	~~The disposal of any quantity of gypsum to the existing Ash Disposal Facility.~~
~~NEMWA GNR 718 Category B~~	~~10~~	~~The construction of facilities for activities listed in this schedule.~~
NEMWA GNR 718 Category C	2	The storage, including temporary storage, of hazardous waste such as gypsum, salts and sludges from the FGD process prior to disposal on or off-site. The combined storage of hazardous waste will be more than 35m^3 at any one time.

5 WAY FORWARD

5.1 EA1

Zitholele Consulting will continue as the independent Environmental Assessment Practitioners for the EA1 for Medupi FGD retrofit. It is expected that the DEIR will be available for public review and comment in early 2017. All registered I&APs will be notified when the DEIR is made available. A public meeting will be held during the public review period in order for stakeholders to engage with Zitholele Consulting on the DEIR content.

5.1.1 EIA and Waste Management License

Currently, Zitholele Consulting is appointed for the continued undertaking of EA1. This EA1 will initiate Impact Assessment Phase in September 2016. The tasks as per **Figure 5-1** will unfold within the Impact Assessment Phase.

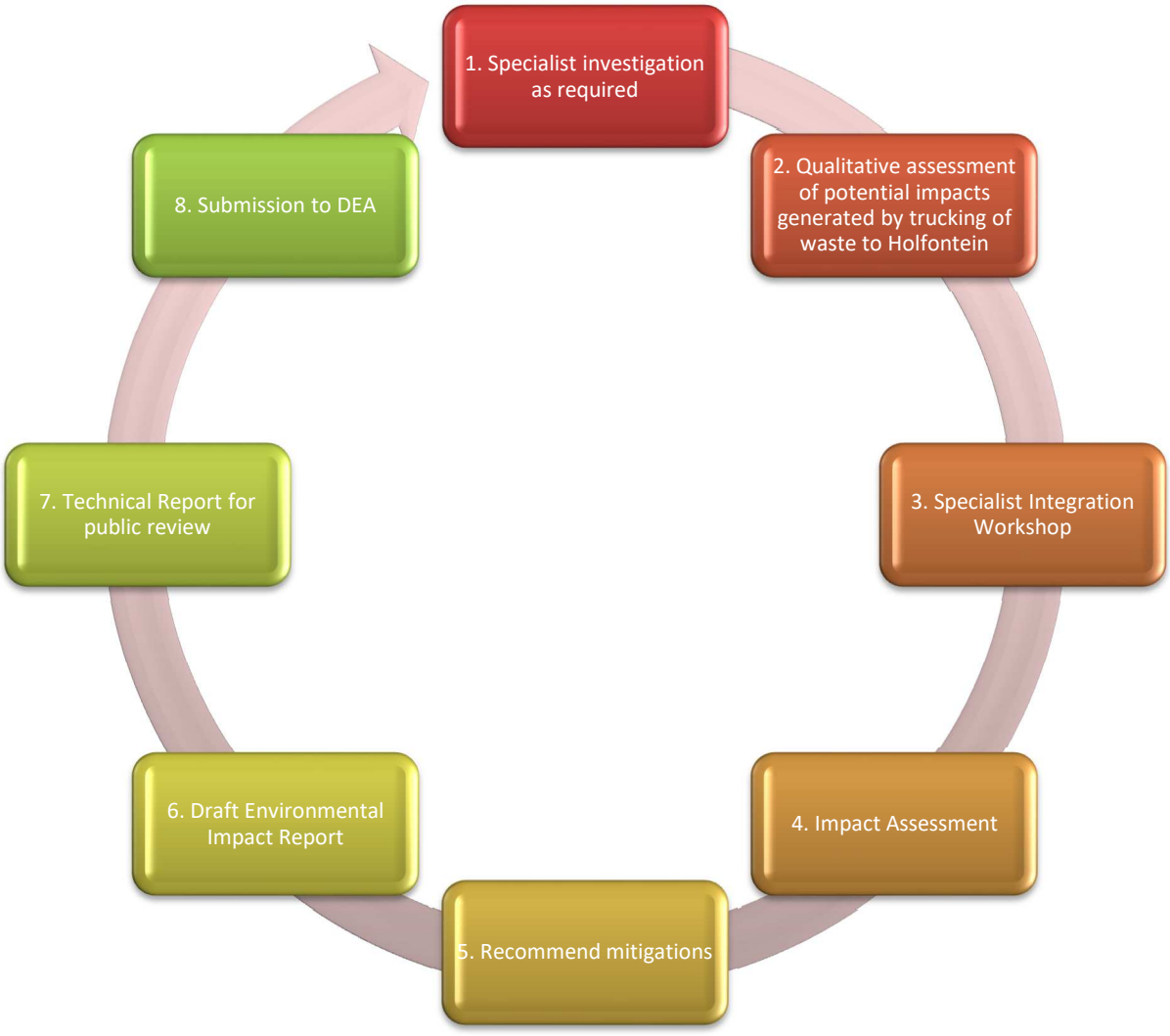

Figure 5-1: Sequence of tasks for EIA and Waste Management License Application for EA1

5.1.2 Water Use License Application

The Water Use License Application (WULA) Process for all water uses associated with the EA1 activities will be initiated in late September / early October 2016. However, this WULA will not include application for abstraction of water from MCWAP Phase 2A take-off point. This application for bulk water abstraction can only be submitted once the MCWAP Phase 2A EIA process has been completed and the project is authorised. At present, the MCWAP Phase 2A is still in the initial stages of undertaking their environmental authorisation process, and therefore cannot yet accept applications for allocation.

The tasks as per Figure 5-2 below will be carried out simultaneously with the EA1 Impact Assessment Phase.

Figure 5-2: Tasks to be carried out for the WULA for water uses associated with EA1

The current identified water uses that are expected to be included within this WULA are indicated in **Table** 5 below.

Table 5: List of water uses currently identified for inclusion in the Medupi FGD retrofit EA1 WULA

Water Use	Activity
21 (b)	Storage of water in dams and reservoirs on site for purposes of the FGD operation.
21 (g)	Disposing of waste in a manner which may be detrimental to a water resource, this is associated with the disposal of waste at the Northern Ash Disposal Facility, as well as all storage areas for wastes from the FGD process and dirty water dams.
21 (e)	Engaging in a controlled activity: irrigation of any land with waste or water containing waste generated through an industrial activity or by a water work.
21 (h)	Disposing in any manner of water which contains waste from, or which has been heated in, any industrial or power generation process.
21 (c) and (i)	*Potentially for any instances where infrastructure may require the impeding, diverting or altering of a surface water body. This water use will be confirmed and is not a certainty.*

The water uses have been discussed at the pre-application meeting with the DWS that took place on 30 August 2016. A site visit with the DWS has taken place on 23rd September 2016 and the water uses will be confirmed prior to application. It is expected that the Water Use License Application, together with the supporting Technical Report, will be submitted to the DWS in early 2017.

5.1.3 ADF EA amendment

The application for the ADF EA/WML amendment will be submitted within the next 6 months. This application will undergo the process as required by the NEMA and NEMWA regulations. The amendment will include any changes to supporting infrastructure that may be required. It is anticipated that the following aspects of the ADF will remain unchanged:

- The footprint of the current authorised ADF will not change.
- The height of the current authorised ADF will not change.
- The method of transportation of waste to the ADF will not change.

- The general operational philosophy of the ADF will not change.
- The volumes of waste for disposal will not change.
- The Type of waste will remain Type 3, requiring a Class C barrier system.

5.2 EA2

Zitholele Consulting has not yet been appointed for EA2. This authorisation process will commence as soon as the client has made the appointment of an Environmental Assessment Practitioner to undertake the scope of work. EA2 can be conducted concurrently with EA1. A supporting WULA will be included within this authorisation process to address the water uses associated with the EA2 scope of work.

5.3 Floating WULAs and BAR

A WULA will be required for the application of water allocation from the MCWAP Phase 2. This application for bulk water allocation can only be submitted once the MCWAP Phase 2 project has received the Environmental Authorisation and Licensing required. DWS has indicted that applications for bulk allocations should be submitted separately from other water use applications.

A second WULA will be submitted for water uses associated with the transportation and storage of water between the MCWAP offtake and the point of use at Medupi Power Station. This second WULA may be supported by a Basic Assessment Process, culminating in a Basic Assessment Report (BAR) for the authorisation of associated infrastructure, such as pipelines from the take off point to the point of use at Medupi Power Station.

6 CONCLUSION

This bridging document is aimed at clarifying the way forward for this environmental process (EA1) and has served to inform stakeholders of the change in scope of the current application for environmental authorisation. Confirmation of specialist studies and terms of reference thereof will be provided to the registered stakeholders prior to these studies being carried out.

Should you have any queries regarding this document, please contact the public participation office at Zitholele Consulting.

ZITHOLELE CONSULTING (PTY) LTD

Sharon Meyer
Project Manager

Mathys Vosloo
Project Associate

APPENDIX A: Medupi Power Station Environmental Authorisation

Ref: 12/12/20/695
Tel: (012) 310 3031 Fax: (012) 320 7539 e-mail: mntene@deat.gov.za
Enquiries: Ms Mosili Ntene

Ms D Herbst
Eskom Holdings Limited: Generation Division
PO Box 1091
JOHANNESBURG
2000

Fax: (011) 800 3501

Dear Ms Herbst

GRANTING OF CONDITIONAL AUTHORISATION FOR PROJECT REFERENCE 12/12/20/695: CONSTRUCTION OF THE PROPOSED ESKOM HOLDINGS LIMITED: GENERATION DIVISION 4800MW COAL FIRED POWER STATION AND ASSOCIATED INFRASTRUCTURE NEAR LEPHALALE

Please find attached the record of decision in respect of your application for authorisation in terms of Regulations R1182 and R1183 (as amended) promulgated under sections 21, 22, 26 and 28 of the Environment Conservation Act (Act 73 of 1989).

Yours sincerely

Ms Pam Yako
Director-General
Department of Environmental Affairs and Tourism

Date: 21/09/06.

CC: Ms Ashlea Strong Bohlweki Environmental Fax: (011) 466 3841

RECORD OF DECISION FOR PROJECT REFERENCE 12/12/20/695: CONSTRUCTION OF THE PROPOSED ESKOM GENERATION 4800MW COAL FIRED POWER STATION, NEAR LEPHALALE

By virtue of the power delegated by the Minister in terms of section 33(1) Environment Conservation Act, (Act 73 of 1989) ("the Act"), I hereby, in terms of section 22(3) of the Act, authorise Eskom Generation to undertake the activities specified/ detailed below subject to the indicated conditions.

1. DESCRIPTION, EXTENT AND LOCATION OF THE ACTIVITY:

As illustrated in the site layout Plan in Appendix A of the Final Environmental Impact Report dated 22 May 2006 the proposed development entails the following:

- The construction of a 4800MW coal fired power station near Lephalale, on approximately 700ha of the farm Naauwontkomen 509 LQ
- The installation of ancillary infrastructure including the ashing facility on 500-1000ha of the farm Eenzaamheid 687 LQ
- The construction of a conveyor belt for coal supply on the eastern alignment
- The re-routing of the Steenbokpan Road to the northern alternative
- The construction of the overland ash conveyor belt

2. KEY FACTORS INFORMING THE DECISION:

2.1 In reaching its decision in respect of the application, the Department of Environmental Affairs and Tourism ("the Department") has taken, *inter alia,* the following into consideration:

a) The information contained in the:
- Final Scoping Report dated
- Final Environmental Impact Assessment Report dated 22 May 2006.
- Specialist Reports contained in the Final Environmental Impact Assessment Report.
- Addendum to the Final Environmental Impact Assessment Report dated June 2006.
- Comments on the Environmental Impact Assessment Report dated 18 July 2006 from the Department of Water Affairs and Forestry (DWAF).
- Minutes of the meeting held on 10 May 1982 in the office of the Chief Officer (Air Pollution Control) between Eskom and the Department of Health to discuss the Pollution Control conditions related to Eskom's power stations and related matters.

b) Compliance with applicable international and national legislation and departmental policies:
- The Act
- The principles set out in Section 2 of the National Environmental Management Act, 1998 (Act 107 of 1998) (NEMA)
- Process 29 set out in the Scheduled processes under the Second Schedule to the Atmospheric Pollution Prevention Act, 1965 (Act No. 45 of 1965).
- The principles of sound management of toxic chemical set out in Chapter 19 of Agenda 21
- Minimum requirements for landfills by the Department of Water Affairs and Forestry (second edition, 1998)
- Stockholm Convention

c) The findings of the site inspection undertaken by Mr Vincent Matabane and Mr Ndhivhuwo Netshilaphala on 6th April 2005

d) The objections from MW De Jager Kinder Trust/Landelani Game Lodge & MW De Jager Safaris set out in the letter dated 2nd August 2006 from Ivan Pauw & Partners to Bohlweki Environmental Consultants in Midrand.

2.2 In reviewing this information, the Department made the following findings:

The existing Matimba Power Station is a dry cooled, coal fired pulverised fuel power station comprising six 665 MW units, representing a total nominal capacity of 3990 MW and a total net maximum generation capacity of 3690 MW

- The proposed power station is a dry cooled, coal fired pulverised fuel power station will have a generation capacity of 4800 MW
- Existing sources of atmospheric emission which occur in the vicinity of the proposed development sites include:
  - Existing Matimba Power Station and its associated ash dump
  - Grootgeluk coal mining operations
  - Brickworks operating at Hanglip
  - Household fuel combustion
  - Potential veld fires
  - Sewage works (Farm Nelsonkop)
  - Wind blown dust from areas and agricultural activities
  - Vehicle exhaust releases and road dust entertainment along paved and unpaved roads in the area
- The proposed power station is approximately 3 Km away from the existing Matimba Power Station and the Marapong Village
- The existing Matimba Power Station does not have SO_2 and NO_2 abatement measures in place
- The burning of coal in the proposed power station will potentially release significant amounts of air pollutants such as Sulphur Dioxide (SO_2), Nitrogen oxides (NO_x), Carbon Monoxide (CO), and trace amounts of mercury.
  Ambient SO_2 levels resulting from the new power station are predicted to cause health effects in the Marapong residential area
  The proposed power station will potentially release significant amounts of greenhouse gases, namely, Carbon Dioxide (CO_2) and Nitrous Oxide (N_2O).
  Ambient SO_2 standards are already being exceeded in the area where the new power station is proposed.
- Ambient air quality standards in the Marapong residential area are already being exceeded
- The proposed development will result in a loss of approximately 1 500 hectares of vegetation due to the required pre construction site clearing.
  Approximately 1000 ha of the above are intended for facility for disposal / storage of ash. A conventional ash dam has been proposed and assessed but mention is made of investigations into alternatives to this disposal option, including backfilling at the Grootegeluk open cast coal mine. The investigation of alternatives in this regard has not sufficiently progressed to allow for an informed decision with regard to ash disposal / storage at this stage. It is however acknowledged that an ashing facility will be required.
  The proposed development is part of Eskom's new capacity installation programme and is intended to meet the future base load electricity demands of South Africa which is under severe pressure.

- The purpose of the proposed power station is to increase the Eskom Generation base load capacity to facilitate the forecast increase in demand by 2010 and to further supply this additional capacity in such a way that it improves security of supply to the national grid system and South Africa in its entirety.

Based on the information considered, the Department's conclusions are that:
(a.) the proposed activities may lead to substantial detrimental impact on the environment;
(b.) the need for the project have been adequately demonstrated;
(c.) the activities will result in some socio-economic benefits, not only to the Lephalale area, but to the country as a whole;
(d.) the implementation of the mitigation measures and conditions set out in this Record of Decision, are considered adequate to minimise detrimental impacts to acceptable levels;
(e.) subject to successful implementation of conditions and mitigation measures, the proposed development is likely to be acceptable; and
(f.) the principles of section 2 of NEMA can largely be upheld.

It is further the Department's conclusion that further information on alternatives for the disposal of ash produced by the facility is required before an informed decision can be made on this aspect of the application.

The Department has accordingly decided to grant Eskom Holdings Limited: Generation Division authorisation in terms of Regulations R 1182 and R 1183 (as amended), promulgated under section 21, 22 and 26 of the Environment Conservation Act (Act 73 of 1989) for the activities specified below, subject to the conditions and provisions listed below.

3. CONDITIONS

3.1 Description of the activity

The authorisation applies in respect of the following activities as listed in Schedule 1, regulation R. 1182 and described in the final environmental impact report dated 22 May 2006 and the addendum report to the final environmental impact report dated June 2006:

Item 1: The construction, erection or upgrading of-
- (a) facilities for commercial electricity generation with an output of at least 10 megawatts and infrastructure for bulk supply;
- (c) with regard to any substance which is dangerous or hazardous and is controlled by national legislation-
  - (i) infrastructure, excluding road and rails, for the transportation of any such substance; and
  - (ii) manufacturing, storage, handling, treatment or processing facilities for any such substance;
- (d) roads, railways, airfields and associated structures;
- (n) sewerage treatment plants and associated infrastructure;

Item 2: The change of land use from-
- (c): agricultural or zoned undetermined use or an equivalent zoning to any other land use.

Item 9: Scheduled processes listed in the Second Schedule to the Atmospheric Pollution Prevention Act, 1965 (Act No. 45 of 1965). (Process 29 (a) – Power Generation Processes in which fuel is burned for the generation of electricity for distribution to the public or for purposes of public transport).

The following activity applied for is not included in this authorisation and will be addressed in an amended or supplementary record of decision:

- Item 8: The disposal of waste as defined in section 20 of the Act, excluding domestic waste, but including the establishment, expansion, upgrading or closure of facilities for all waste, ashes and building rubble

The decision contemplated above will be based on the review of the investigation and assessment of alternative ash disposal options to be submitted to the Department for consideration.

SPECIFIC CONDITIONS

Air quality management

3.2.1.1 Eskom must initiate a programme for the continuous monitoring of ambient concentrations of pollutants in the Marapong residential area as well as surrounding areas around the proposed power station and existing Matimba power station. This programme must be included in the construction EMP and the operational EMP to be submitted to the authorities for acceptance prior to construction, commissioning and operation of the power station. The programme must, among others, detail the installation of air quality monitoring equipment at an appropriate location within the Marapong residential area. The site for the air quality monitoring equipment should be such that the monitored ambient air represents a fair reflection of the ambient air the majority of Marapong residents are likely to breathe. The air quality monitoring equipment must be such as to provide continuous measurement of the following substances or mixtures of substances: Sulphur Dioxide (SO_2); Nitrogen Dioxide (NO_2); Carbon Monoxide (CO); Particulate Matter (PM10 and PM 2.5); Ozone (O_3); and Mercury (Hg).

The installation should also include gas-sampling systems as appropriate for the parameters being monitored, meteorological equipment and data management systems that will allow the effective and reliable transfer of data. The programme must also detail the compilation of a commissioning report produced by an independent party indicating that the installations are in place, calibrated and operating to internationally acceptable standards of operation. The programme must also detail reporting procedures including, among others, the submission of quarterly reports to the department detailing the monitoring results obtained from the installation detailed above and any other monitoring results from Eskom monitoring stations in the area. The monitoring reports must provide, but are not limited to the provision of, both a numeric and graphical representation of measured concentrations of the measured pollutants with a comparison against any applicable ambient air quality standards published in terms of the National Environmental Management: Air Quality Act, 2004 (Act No. 39 of 2004). This information should include detailed information for the 3 month period to which the report relates as well as a summary of historical trends from the commencement of monitoring activities.

3.2.1.2 Eskom shall install, commission and operate any required SO_2 abatement measures that may be necessary to ensure compliance with any applicable emission or ambient air quality standards published in terms of the National Environmental Management: Air Quality Act, 2004 (Act No. 39 of 2004).

3.2.1.3 Notwithstanding the measures referred to in 3.2.8.2, should the monitoring referred to in 3.2.8.1 indicate non-compliance with ambient SO_2 standards, Eskom shall install, commission and operate any required SO_2 abatement measures in respect of the existing Matimba Power Station as may be necessary to ensure compliance with any applicable emission or ambient air quality standards published in terms of the National Environmental Management: Air Quality Act, 2004 (Act No. 39 of 2004).

3.2.1.4 Eskom must initiate a programme of support for initiatives aimed at improving air quality in the Marapong residential area. This programme must be included in the construction EMP and carried through to the operational EMP.

3.2.1.5 The power station must be operated in compliance with any related Registration Certificate issued in terms of the Atmospheric Pollution Prevention Act, Act 45 of 1965, or any related Atmospheric Emission License issued in terms of the National Environment Management: Air Quality Act, Act 39 of 2004

3.2.2 Environmental Monitoring Committee (EMC)

3.2.2.1 This development is authorised on condition that the developer establishes an EMC with clear terms of reference as described in 3.2.2.6.

3.2.2.2 Amongst others the EMC shall consist of the following members:

(a) A chairperson as described in 3.2.2.3,
(b) The ecologist that participated in the EIA process, or any other suitably qualified and experienced ecologist approved for this purpose by the department,
(c) Two representatives of the public, one community member from Marapong and one from Lephalale.
(d) Environmental Control Officer (ECO) (once appointed in terms of 3.2.4 below), and
(e) A senior site manager from the main contractor.

3.2.2.3 The EMC must appoint an independent chairperson who has appropriate people and project management skills.

3.2.2.4 The EMC must meet on a bi-monthly basis from the inception of the project.

3.2.2.5 The EMC must report to the Director-General of the Department of Environmental Affairs and Tourism on a bi–monthly basis and the report must include matters as described in 3.2.2.6 below.

3.2.2.6 The purpose of the EMC is to execute the following:

(a) To monitor and audit project compliance to the conditions of this record of decision, environmental legislation and specific mitigation requirements as stipulated in the environmental impact report and the Environmental Management Plans.
(b) To make recommendations to the Director-General on issues related to the monitoring and auditing of the project.

(c) The EMC shall decide on the frequency of meetings should a need arise to review the prescribed frequency. This change should be communicated to the department for acceptance.

3.2.2.7 All costs associated with the EMC shall be borne by the applicant. The terms of reference for the EMC must, in addition to the scope of work as detailed in 3.2.2.6, clearly set out roles and responsibilities related to logistical arrangements, administration and financial arrangments associated with the EMC.

3.2.2.8 Upon completion of construction, the role, responsibilities and constitution of the EMC shall be re-considered and re-established with new terms of reference for the operational phase of the development.

3.2.3 Environmental Management Plan (EMP)

3.2.3.1 Eskom must submit a site specific construction EMP to the relevant authorities for acceptance before commencement of any of the activities related to this authorisation. The EMP must include but not be limited to the following aspects:

- Rehabilitation of all areas disturbed during the construction phase of the project excluding those areas where permanent structures are erected.
- Siting and management of construction camps, sanitation, ablution and housing facilities as well as material storage areas used by the contractor. All work areas must be supplied with proper sanitation facilities.
  Management and rehabilitation of access roads to individual construction areas that will not become permanent roads upon completion of construction. Any new road constructed for any purpose not authorised as part of this authorisation, must comply with the relevant SANS codes and permission for construction must be obtained from DEAT as required by Schedule 1, item 1 (d) of R. 1182.
- Waste avoidance, minimisation and disposal of waste at an appropriate facility.
- Protection of any heritage sites likely to be impacted by the development should such sites be found during any phase of the project to follow.
  Provisions for harvesting of any medicinal plants that may occur on site prior to site clearance.
- Protection of indigenous vegetation where such is not affected by the physical footprint of the power station plant or ancillary infrastructure and associated construction works.
- Provision for plant search and rescue of protected and endangered species which should be done before commencement of any construction related activity.
- Management of traffic during the construction phase of the development where the site access roads and other transportation networks intersect.
- Measurement, monitoring and management of noise and dust pollution levels during the construction phase.
- A fire control management plan for implementation on site.
- Implementation of site specific erosion and sediment and dust control measures during the construction phase of the project.
- Insofar as it relates to the activities hereby approved, all recommendations and mitigation measures as proposed in the final environmental impact report dated 22 May 2006 and the

addendum report to the final environmental impact report dated June 2006 forms part of this record of decision and must be implemented as part of the EMP.
All relevant requirements emanating from 3.2.1 above.

3.2.3.2 Once accepted by DEAT, the revised construction EMP will be seen as a dynamic document. However, any changes to the EMP, must be submitted to DEAT for acceptance before such changes could be effected. Such a submission for consideration by DEAT must be accompanied by recommendations of the EMC.

3.2.3.3 Compliance with the accepted construction EMP must form part of all tender documentation for all contractors working on the project and must be endorsed contractually.

3.2.3.4 Eskom must submit an EMP for the operational phase of the development to DEAT and other relevant provincial and local authorities for acceptance prior to the completion of construction phase and the inception of the operational phase of the development. The revised operational EMP will be seen as a dynamic document. However, any substantial changes to the operational EMP, which is environmentally defendable, must be submitted to DEAT for acceptance before such changes could be effected.

3.2.4 Environmental Control Officer (ECO)

3.2.4.1 The EMC in conjunction with the developer must appoint a suitably qualified Environmental Control Officer (ECO) who would on behalf of the EMC, on a daily basis monitor the project compliance with conditions of the record of decision, environmental legislation and recommendations of the EMP. The cost of the ECO shall be borne by the applicant.

3.2.4.2 The ECO must be appointed one month before the start of construction and the authorities must be notified of such an appointment for communication purposes.

3.2.4.3 The ECO shall ensure that periodic environmental performance audits are undertaken on the project implementation.

3.2.4.4 The ECO shall submit an environmental compliance report on a two-monthly basis, in writing, to the Director-General of the Department of Environmental Affairs and Tourism (DEAT), copied to the Limpopo Department of Economic Development, Environment and Tourism.

3.2.4.5 The ECO shall maintain the following on site:

- A daily site diary
- A non-conformance register
- A public complaint register
- A register of audits

3.2.4.6 The ECO shall remain employed until all rehabilitation measures, as required for implementation due to construction damage, are completed and the site is handed over to Eskom by the contractor for operation.

3.2.4.7 The ECO shall report to and be accountable to the EMC.

Monitoring and auditing

3.2.5.1 Records relating to monitoring and auditing must be made available for inspection to any relevant authority in respect of this development.

3.2.5.2 This department reserves the right to monitor and audit the development throughout its full life cycle to ensure that it complies with the conditions stipulated in the record of decision as well as mitigation measures in the final environmental impact report dated 22 May 2006, the addendum report to the final environmental impact report and the construction and operational EMPs.

Transportation and handling of hazardous materials.

3.2.6.1 During the construction of the power station, an effective monitoring system must be put in place to ensure safety and to detect any leakage or spillage of coolants from all oil containing equipment during transportation, their handling and installation.

3.2.6.2 The transportation and handling of hazardous substances must comply with all the provisions of the Hazardous Substances Act, (Act No.15 of 1973), associated regulations as well as SABS 0228 and SABS 0229 codes.

Rehabilitation after construction

3.2.7.1 No exotic plant species may be used for rehabilitation purposes. Only indigenous plants may be utilised.

3.2.7.2 Measures aimed at controlling invasive plant species and weeds must be implemented and must form part of the relevant EMP.

3.2.7.3 No disturbance of the land at any stream or rivers edge is allowed unless such disturbance complies with legislation and conforms to strict design parameters.

Compliance with other legislation

3.2.8. Archaeological remains, artificial features and structures older than 60 years are protected by the National Heritage Resources Act, 1999 (Act No. 25 of 1999). Should any archaeological artefacts be exposed during excavation for the purpose of laying foundations, construction in the vicinity of the finding must be stopped. An archaeologist must be called to the site for inspection. Under no circumstances shall any artefacts be destroyed or removed from the site. The South African Heritage Resource Agency must be contacted to this effect. Their recommendations should be included in the construction EMP and be adhered to.

3.2.8.2 All provisions of the Occupational Health and Safety Act, 85 of 1993, and any other applicable legislation must be adhered to by the holder of this authorisation.

3.2.8 3 All provisions of the National Water Act, Act 36 of 1998, must be adhered to by the holder of this authorisation.

3.2.8 4 All provisions of the National Environment Management: Air Quality Act, Act 39 of 2004, must be adhered to by the holder of this authorisation.

3.2.8 5 All provisions of the Atmospheric Pollution Prevention Act, Act 45 of 1965, must be adhered to by the holder of this authorisation.

3.2.8.6 All provisions of the National Environment Management: Biodiversity Act, Act 10 of 2004, must be adhered to by the holder of this authorisation.

3.2.8.7 Should fill material be required for any purpose, the use of borrow pits must comply with the provisions of the Minerals and Petroleum Resources Development Act, 28 of 2002 administered by the Department of Minerals and Energy.

3.2.8.9 A permit shall be obtained from the provincial department of nature conservation for the removal of indigenous protected and endangered plant and animal species.

Water quality management

3.2.9.1 Eskom shall continuously monitor the ground water quality and implement measures to ensure that pollution of the resource does not occur. The monitoring programme for water quality and measures to control and prevent pollution of the resource shall be included in the operational EMP.

3.3 GENERAL CONDITIONS

This authorisation is granted only in terms of section 22 of the Environment Conservation Act,1989 (Act No.73 of 1989) and does not exempt the holder thereof from compliance with any other legislation.

This authorisation refers only to the activities as specified and described in the final environmental impact report dated 22 May 2006 and the addendum report to the final environmental impact report dated June 2006. Any other activity listed under section 21 of the Environment Conservation Act, 1989 (No. 73 of 1989) which is not specified above, is not covered by this authorisation, and must therefore comply with the requirements of the Environment Conservation Act, Government Notice R 1182 and R.1183 (as amended).

This authorisation is subject to the approval of the relevant local authorities in terms of any legislation administered by those authorities.

The applicant must, within 7 (seven) calendar days of receipt of this record of decision inform all interested and affected parties and at least include the following:

(i) That an authorisation has been issued to the applicant to proceed with the construction and operation of the activity. If requested, provide copies of this ROD.

(ii) That any appeals against the issuing of the authorisation must be lodged with the Minister of Environmental Affairs and Tourism within 30 (thirty) days from the date on which this ROD has been issued to the applicant at the address stipulated in this ROD.

(iii) That an appeal questionnaire may be used in the lodging of an appeal. It is obtainable from the Department's offices at tel. (012) 310 3590 or e-mail: cveeden@deat.gov.za.

(iv) The date on which the ROD was issued to the applicant in terms of regulation 10(1) and the date by which appeals must reach the Minister.

Failure to inform interested and affected parties within the stipulated time period may result in the Minister considering requests from such parties for permission to submit a late appeal favourably.

One week's written notice must be given to this Department before commencement of construction activities. Such notice shall make clear reference to the site location details and reference number given above.

One week's written notice must be given to this Department before commencement of operation activities. Such notice shall make clear reference to the site location details and reference number given above.

The applicant shall be responsible for ensuring compliance with the conditions contained in this ROD by any person acting on his behalf, including but not limited to, an agent, servant, or employee or any person rendering a service to the applicant in respect of the activity, including but not limited to, contractors and consultants.

The applicant must notify the Department in writing, within 24 (twenty four) hours if any condition of this authorisation cannot, or is not, adhered to. The notification must be supplemented with reasons for non-compliance.

A copy of the authorisation and ROD shall be available on site during construction and all staff, contractors and sub-contractors shall be familiar with or be made aware of the contents of this authorisation and ROD.

3.3.10 Compliance/non-compliance records must be kept and shall be made available on request from the authorities within five days of receipt of the request.

3.3.11 Any changes to, or deviations from, the project description set out in this letter must be approved, in writing, by the Department before such changes or deviations may be effected. In assessing whether to grant such approval or not, the Department may request such information as it deems necessary to evaluate the significance and impacts of such changes or deviations.

3.3.12 This Department may review the conditions contained in this letter from time to time and may, by notice in writing to the applicant, amend, add or remove a condition.

3.3.13 In the event that the predicted impacts exceed the significance as predicted by the independent consultant in the final environmental impact report and appendices dated 22 May 2006 and the addendum report to the final environmental impact report dated June 2006, the authorisation may be withdrawn after proper procedures have been followed.

3.3.14 In the event of any dispute concerning the significance of a particular impact, the opinion of the Department of Environmental Affairs and Tourism (DEAT) in respect of its significance will prevail.

3.3.15 The applicant must notify the Department, in writing, at least 10 (ten) days prior to the change of ownership, project developer or the alienation of any similar rights for the activity described in this letter. The applicant must furnish a copy of this document to the new owner, developer or person to whom the rights accrue and inform the new owner, developer or person to whom the rights accrue that the conditions contained herein are binding on them.

3.3.16 Where any of the applicant's contact details change, including the name of the responsible person, the physical or postal address and/or telephonic details, the applicant must notify the Department as soon as the new details become known to the applicant.

3.3.17 National government, provincial government, local authorities or committees appointed in terms of the conditions of this application or any other public authority or authorisation shall not be held responsible for any damages or losses suffered by the applicant or his successor in title in any instance where construction or operation subsequent to construction be temporarily or permanently stopped for reasons of non-compliance by the applicant with the conditions of approval as set out in this document or any other subsequent document emanating from these conditions of approval.

3.3.18 If any condition imposed in terms of this authorisation is not complied with, the authorisation may be withdrawn after 30 days written notice to the applicant in terms of section 22(4) of the Environment Conservation Act, 1989 (Act No. 73 of 1989).

3.3.19 Failure to comply with any of these conditions shall also be regarded as an offence and may be dealt with in terms of sections 29, 30 and 31 of the Environment Conservation Act, 1989 (Act No. 73 of 1989), as well as any other appropriate legal mechanisms.

3.3.20 The applicant shall be responsible for all costs necessary to comply with the above conditions unless otherwise specified.

Any complaint from the public during construction must be attended to as soon as possible to the satisfaction of the parties concerned. A complaints register must be kept up to date and shall be produced upon request.

3.3.22 Departmental officials shall be given access to the properties earmarked for construction activities for the purpose of assessing and/or monitoring compliance with the conditions contained in this document at all reasonable times.

All outdoor advertising associated with this activity, whether on or off the property concerned, must comply with the South African Manual for Outdoor Advertising Control (SAMOAC) available from this Department.

3.4 DURATION OF AUTHORISATION

If the activity authorised by this letter does not commence within 4 (four) years from the date of signature of this letter, the authorisation will lapse and the applicant will need to reapply for exemption or authorisation in terms of the above legislation or any amendments thereto or any subsequent new legislation.

4. CONSEQUENCES OF NON-COMPLIANCE

The applicant must comply with the conditions set out in this letter. Failure to comply with any of the above conditions may result in, *inter alia*, the Department withdrawing the authorisation, issuing directives to address the non-compliance – including an order to cease the activity – as well as instituting criminal and/or civil proceedings to enforce compliance.

5. APPEALS

Appeals in respect of this decision must be lodged with the Minister of Environmental Affairs and Tourism within 30 (thirty) days of the date of this decision. Appeals can be submitted utilising one of the following methods:

By facsimile:	(012) 322 0082
By post:	Private Bag X447, Pretoria 0001
By hand:	2nd Floor, Fedsure Forum Building, North Tower, cor. Van der Walt and Pretorius Streets, Pretoria.

Appeals must comply with the provisions of Regulation 11 of Government Notice No. R. 1183 which reads as follows:
"An appeal to the Minister or provincial authority under section 35(3) of the Act must be done in writing within 30 days from the date on which the ROD was issued to the applicant in terms of regulation 10(1);
An appeal must set out all the facts as well as the grounds of appeal, and must be accompanied by all relevant documents or copies of them which are certified as true by a commissioner of oaths."

An appeal questionnaire may be used in the lodging of an appeal. It is obtainable from the Department's offices at tel. (012) 310 3590 or e-mail: cveeden@deat.gov.za.

Should the applicant wish to appeal any aspect of this decision, the applicant must notify and furnish copies of the appeal which will be submitted to the Minister, to all registered interested and affected parties. Proof of such notification must be submitted to the Minister with the appeal. Failure to comply with this provision may result in the Minister refusing to consider the appeal.

6. APPLICANT:

Eskom Holdings Limited: Generation Division
P O Box 1091
JOHANNESBURG
2000

Contact person: Ms Deirdre Herbst

Tel: (011) 800 3501

Fax: (011) 800 5140

7. CONSULTANT:

Bohlweki Environmental (Pty) Ltd
P O Box 11784
VORNA VALLEY
1686

Contact person: Ms Ashlea Strong

Tel: (011) 466 3841

Fax: (011) 466 3849

8. SITE VISIT

A site visit was undertaken by Mr Vincent Matabane and Mr Ndhivhuwo Netshilaphala from the department, Eskom personnel and the consultant on 6th April 2005.

Ms Pam Yako
Director – General
Department of Environmental Affairs and Tourism

Date: 21/09/06

APPENDIX B: Atmospheric Emissions License

LIMPOPO
PROVINCIAL GOVERNMENT
REPUBLIC OF SOUTH AFRICA

DEPARTMENT OF
ECONOMIC DEVELOPMENT, ENVIRONMENT & TOURISM

PROVISIONAL ATMOSPHERIC EMISSION LICENSE AS CONTEMPLATED IN CHAPTER 5 OF THE NATIONAL ENVIRONMENTAL MANAGEMENT: AIR QUALITY ACT, 2004, (ACT NO. 39 OF 2004)

The Provisional Atmospheric Emission License issued to **Eskom Holdings SOC Limited – Medupi Power Station** in terms of section 40(1)(a) of the National Environmental Management: Air Quality Act, 2004 (Act No. 39 of 2004) ("the Act"), in respect of Listed Activities No. 1.1, 2.4 and 5.1. The Provisional Atmospheric Emission License has been issued on the basis of a decision taken with respect to an application for postponement of compliance timeframes with minimum emission limits identified in terms section 21 of the Act and information that became available during processing of the application.

The Provisional Atmospheric Emission License is issued subject to the conditions and requirements set out below which form part of the Provisional Atmospheric Emission License and which are binding on the holder of the Provisional Atmospheric Emission License ("the License Holder").

This Provisional Atmospheric Emission License is valid for a period of five (05) years from the date of issuance. The Provisional Atmospheric Emission License expiration terminates the License Holder's right to operate the Listed Activities unless a complete Renewal application has been submitted to the relevant Licensing Authority no later than six (06) months prior to the expiration date of this License. If a complete renewal application has been submitted by the renewal application due date, this Provisional Atmospheric Emission License and all conditions contained therein shall not expire until the renewal License has been issued or denied. This protection shall cease to apply if, subsequent to a renewal application completeness determination, the applicant fails to submit by the deadline any additional information identified by the Licensing Authority as necessary to process the application.

The Provisional Atmospheric Emission License is valid until 01 April 2020

1. ATMOSPHERIC EMISSION LICENSE ADMINISTRATION

Name of the Licensing Authority	Department of Economic Development, Environment and Tourism
Atmospheric Emission License Number	12/4/12L-W2/A3
Atmospheric Emission Licence Issue Date	31 March 2015
Expiry date	01 April 2020
Atmospheric Emission License Type	***Provisional***
Review Date, not later than	When deemed necessary by the Licensing Authority

DEPARTMENT OF ECONOMIC DEVELOPMENT, ENVIRONMENT & TOURISM
INTEGRATED POLLUTION & WASTE MANAGEMENT
2015-04- 01

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2. ATMOSPHERIC EMISSION LICENSE HOLDER DETAILS

Enterprise Name	Eskom Holdings SOC Limited
Trading as	Medupi Power Station
Enterprise Registration Number (Registration Numbers if Joint Venture)	2002/015527/06
Registered Address	Megawatt Park, Maxwell Drive, Sunninghill, Sandton
Postal Address	PO Box 1091 Johannesburg 2000
Telephone Number (General)	011 800 3861
Industry Sector	Electricity Generation
Name of Responsible Officer/ Emission Control Officer	Johan Prinsloo
Telephone Number	013 656 4061
Cell Phone Number	083 655 9140
Fax Number	013 656 4973
Email Address	CJ.Prinsloo@eskom.co.za
After Hours Contact Details	083 655 9140
Land Use Zoning as per Town Planning Scheme	N/A

3. LOCATION AND EXTENT OF POWER STATION

3.1 Location and Extent of Plant

Physical Address of the Premises/Plant	Lephalale
Description of Site (Erf)	Farm Naauwontkomen; Farm Eenzaamheid
Coordinates of Approximate Centre of Operations	Latitude: 23.7038316°S Longitude: 27.5617951°E
Extent (km²)	6.3
Elevation Above Mean Sea Level (m)	900
Province	Limpopo
District Municipality	Waterberg District Municipality
Local Municipality	Lephalale Local Municipality
Designated Priority Area	Waterberg – Bojanala Priority Area

3.2 Description of Surrounding Land Use (within 5 km radius)

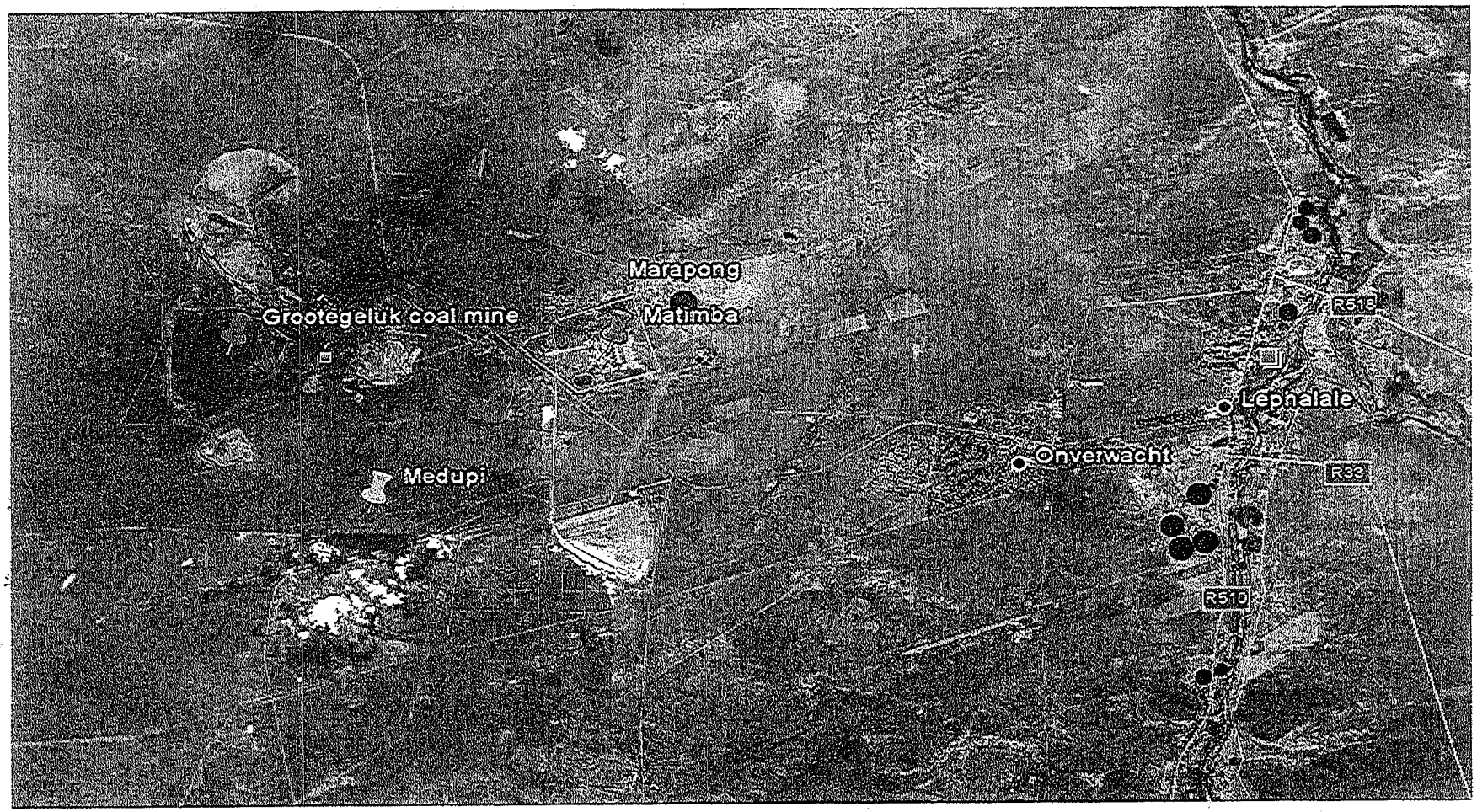

Figure 1: Location of premises in relation to surrounding community

4. GENERAL CONDITIONS

4.1 Process and ownership changes

The holder of the atmospheric emission License must ensure that all unit processes and apparatus used for the purpose of undertaking the listed activity in question, and all appliances and mitigation measures for preventing or reducing atmospheric emissions, are at all times properly maintained and operated.

No facilities (building, plant or site of works) related to the listed activity or activities shall be extended, altered or added to the listed activity without prior approval by the Licensing Authority. The investigation, assessment and communication of potential impact of such an activity must follow the basic assessment procedure as prescribed in the Environmental Impact Assessment Regulations published in terms of section 24(5) of the National Environmental Management Act, 1998 (Act No. 107 of 1998) (NEMA), as amended.

Any changes in processes or production increases, by the License Holder, will require prior approval by the licensing authority.

Any changes to the type and quantities of input materials and products, or to production equipment and treatment facilities will require prior written approval by the licensing authority.

The License Holder must, in writing, inform the Licensing Authority of any change of ownership of the enterprise. The Licensing Authority must be informed within thirty (30) days after the change of ownership.

The License Holder must immediately on cessation or decommissioning of the listed activity inform, in writing, inform the licensing authority.

4.2 General duty of care

The License Holder must, when undertaking the listed activity, adhere to the duty of care obligations as set out in section 28 of the NEMA.

The License Holder must undertake the necessary measures to minimize or contain the atmospheric emissions. The measures are set out in section 28(3) of the NEMA.

Failure to comply with the above condition is a breach of the duty of care, and the License Holder will be subject to the sanctions set out in section 28 of the NEMA.

4.3 Sampling and or analysis requirements

Measurement, calculation and or sampling and analysis shall be carried out in accordance with any nationally or internationally acceptable standard. A different method may be acceptable to the Licensing Authority as long as it has been consulted and agreed to the satisfactory documentation necessary in confirming the equivalent test reliability, quality and equivalence of analyses.

The License Holder is responsible for quality assurance of methods and performance. Where the License Holder uses external laboratories for sampling or analysis, accredited laboratories shall be used.

4.4 General requirements for License Holder

The License Holder is responsible for ensuring compliance with the conditions of this License by any person acting on his, her or its behalf, including but not limited to, an employee, agent, sub-contractor or person rendering a service to the holder of the License.

The License does not relieve the License Holder to comply with any other statutory requirements that may be applicable to the carrying on of the listed activity.

A copy of the License must be kept at the premises where the listed activity is undertaken. The License must be made available to the environmental management inspector representing the Licensing Authority who requests to see it.

The License Holder must inform, in writing, the Licensing Authority of any change to its details including the name of the emission control officer, postal address and/or telephonic details.

4.5 Statutory obligations

The License Holder must comply with the obligations as set out in Chapter 5 of the Act.

4.6 Payment of atmospheric emission License processing fee

The License Holder must pay the processing fee to the Licensing Authority within 30 days of receipt of atmospheric emission License processing fee invoice.

4.7 License Revisions, Termination and Reissuance

The License Holder may request the Licensing Authority to revise the conditions of this License by submitting an application that contains the information specified in Section 46 of the Act. The Licensing Authority will revise the License using the same procedures that apply to initial License issuance.

If the License Holder wishes to terminate the License, a written request must be submitted to the Licensing Authority explaining the reasons for the request and, if necessary for continued operation, submitting applications for any License or approvals that the License Holder avoided by establishment of the limits contained in this License.

This License may be terminated, revised, or revoked and reissued by the Licensing Authority for cause. Cause exists to terminate, revise, or revoke and reissue this License under the following circumstances:

a) This License contains a material mistake;
b) Inaccurate statements were made in establishing the terms or conditions of this License;
c) Newly discovered material information or material change in environmental conditions, environmental technology or applicable law or regulations since the issuance of the existing License;
d) The License Holder fails to comply with any condition of this License; or
e) This License must be terminated, revised, or reopened and reissued to assure compliance with Air Quality Act requirements.

The Licensing Authority will use the same proceedings to terminate, revise, or revoke and reissue a License for cause as for initial License issuance. Before initiating proceedings to terminate, revise, or revoke and reissue a License, the Licensing Authority will provide the License Holder at least 30 days' advance written notice of Licensing Authority's intent to terminate, revise, or revoke and reissue the permit, except that the Licensing Authority may provide a shorter notice period in the case of an emergency.

4.8 Non-Compliance with Conditions

If the License Holder fails to comply with the conditions or requirements of the License, the Licensing Authority may by notice in writing call upon such holder to comply with such conditions or requirement within a reasonable period specified in the notice, and in the event of failure on the part of such holder to comply with the said conditions or requirement within the period so specified, the Licensing Authority may cancel the License or suspend the operation thereof for such period as he or she may deem fit.

4.9 Appeal of Licence

A. The License Holder must, within seven (07) calendar days of receipt of this license, inform all interested and affected parties and at least include the following:
   (i) That an Atmospheric Emission License has been issued to the applicant to proceed with the operation of the activities. If requested provide copies of this license.
   (ii) That any appeals against the issuing of the license must be lodged with the Member of the Executive Council of Limpopo Department of Economic Development Environment and Tourism ("the MEC") as per chapter 2 of National Appeal Regulations Government Notice No. R.594 in Government Gazette No. 38303 of 8 December 2014.
   (iii) The date on which the license was issued to the applicant in terms of section 40 of the Act and the date by which appeals must reach the MEC.

B. Failure to inform interested and affected parties within the stipulated time period may result in the MEC considering requests from such parties for permission to submit late appeal favourably.

C. An appeal lodged with the MEC must be submitted to the Department of Limpopo Department of Economic Development Environment and Tourism by means of one of the following methods:
   By post: Private Bag X 9484, **POLOKWANE**, 0700
   By fax: (015) 291 5809
   By hand: Evridiki Towers, 19 Biccard Street, Polokwane 0700

D. An appeal must be
   (i) submitted in writing
   (ii) accompanied by:
   - a statement setting out the grounds of appeal;
   - supporting documentation which is referred to in the appeal and is not available to the relevant Licensing Authority
   - a statement that the appellant has complied with regulation 60(2) or (3) of NEMA EIA Regulations

5. NATURE OF PROCESS

5.1 Process description

Medupi Power Station was designed to produce a combined 4800MW nominal, generated from six (6) 800MW nominal power generating units. Coal is supplied, into the 10 000 Ton Silo, from Grootegeluk Exxaro mine by means of conveyor belts. The delivered coal is either stored at the Coal Stock Yard or conveyed directly into the individual unit's Mill Bunkers. The Mill Feeders are then used to transport coal into the mills. Bunker 150 Fuel Oil (FO) is transported and delivered into the Power Station by means of road trucks. FO is then offloaded into one (1) of the two (2) FO Storage Tanks. It is then pumped into the FO Burners by means of the FO pumps.

Liquefied Petroleum (LP) Gas is used to start the combustion fire in the boiler furnace by means of the Igniter. The LP Gas flame is used to ignite the Bunker 150 Fuel Oil (FO), which is injected into the boiler furnace, using the FO Burners. When FO has ignited and the flame is stable, LP Gas is turned off. The vertical spindle mills crush coal (from the Mill Bunkers) into powder, namely the Pulverized Fuel (PF). FO is then used to ignite PF that is introduced into the boiler furnace by means of the PF Low (Nitrogen Oxide) NOx Burners. The PF Low NOx Burners are also used to control the NOx emissions. Once the PF has ignited and the boiler furnace flame is stable, FO Burners are turned off. Four (4) mills per Unit are required to achieve the Unit Generated Load of 800MW nominal.

The LP Gas, FO, and/or PF burnt in the furnace are converted into a combination of combustion gases, fly ash and coarse ash. A combination of combustion gases and fly ash is known as flue gas. Coarse ash is collected at the bottom of the boiler furnace and quenched inside the Submerged Scrapper Conveyor (SCC) water. The SSC conveys the coarse ash into the coarse ash conveyors, which sends the coarse ash into the ash dump for disposal. Fly ash (which is responsible for particulate emissions) exits the boiler through the flue gas path. The flue gas path components consist of the Gas Air Heater (GAH), flue gas ducting, Pulse Jet Fabric Filter Plant (PJFFP), fly ash hoppers, Induced Draught (ID) Fan, and the Smoke Stack.

PJFFP is used to control the particulate emissions, by filtering the fly ash from the flue gas and cause the fly ash to fall inside the fly ash hoppers. The balance of the cleaner flue gas is then sucked out of the PJFFP using the ID fans to exit through the Smoke Stack. The fly ash is extracted from the fly ash hoppers and transported to one of the six (6) fly ash silos by means of compressed air. The fly ash then exits the bottom of the fly ash silos and is sprayed with water in the fly ash conditioner to form a paste. The hydrated fly ash is then allowed to mix with coarse ash on the coarse ash conveyor. The mixed ash is then transported to the ash dump.

Demineralized water, produced from the Water Treatment Plant (WTP), is pumped into the Feed Water Tank (FWT) by means of Condensate Extraction Pumps (CEPs). This water is then pumped into the boiler using the Electric Feed Pumps (EFPs). The furnace flame then heats up the demineralized water; through transfer of heat into the boiler tubes, Economizers and Super-heaters to produced superheated steam. Super-heated steam exits the boiler by means of the High Pressure (HP) piping and is introduced into the turbine to turn the turbine shaft. The turbine shaft that is coupled to the Generator shaft is used to turn the Generator rotor. This induces electricity on the Generator stator, and thereby generating electricity. The turbine steam that leaves the turbine exhausts then flows into the Air Cooled Condensers (ACC) that converts the steam into condensate. The condensate is collected from the Air Cooled Condensate Collecting Tank (ACCCT) and pumped by the CEP back into the FWT.

5.2 Listed activity or activities

List of all Listed Activities, as published in terms of Section 21 of the AQA, authorised to be conducted at the premises by the License Holder:

Category of Listed Activity	Sub-category of the Listed Activity	Description of the Listed Activity
1 – Combustion Installations	1.1 – Solid Fuel Combustion Installations	Solid fuels combustion installations used primarily for steam raising or electricity generation
2 – Petroleum Industry	2.4 – Storage and Handling of Petroleum Products.	Petroleum product storage tanks and product transfer facilities, except those under liquefied petroleum gas
5 –Mineral Processing, Storage and Handling	5.1 – Storage and Handling of Ore and Coal	Storage and handling of ore and coal not situated on the premises of a mine or works as defined in the Mines Health and Safety Act 29/1996

5.3 Unit process or processes

List of all unit processes associated with the listed activities to be undertaken at the premises.

Unit Process	Unit Process Function	Batch or Continuous Process
Boiler - Unit 1	Electricity Generation – 800 MW	Continuous
Boiler - Unit 2	Electricity Generation – 800 MW	Continuous
Boiler - Unit 3	Electricity Generation – 800 MW	Continuous
Boiler - Unit 4	Electricity Generation – 800 MW	Continuous
Boiler - Unit 5	Electricity Generation – 800 MW	Continuous
Boiler - Unit 6	Electricity Generation – 800 MW	Continuous
Coal stockyard	Coal Storage	Continuous
Excess coal stockyard	Coal Storage	Continuous
Fuel Oil Storage Tanks	Fuel Oil Storage	Continuous
Ashing facility	Ash Dump	Continuous

5.4 Hours of operations

Hours of operation of all unit processes associated with the listed activities at the premises.

Unit Process	Operating Hours	Days of Operation per Year
Boiler - Unit 1	00:00 – 24:00	366
Boiler - Unit 2	00:00 – 24:00	366
Boiler - Unit 3	00:00 – 24:00	366
Boiler - Unit 4	00:00 – 24:00	366
Boiler - Unit 5	00:00 – 24:00	366
Boiler - Unit 6	00:00 – 24:00	366
Coal stockyard	00:00 – 24:00	366
Excess coal stockyard	00:00 – 24:00	366
Fuel Oil Storage Tanks	00:00 – 24:00	366
Ashing facility	00:00 – 24:00	366

5.5 Graphical Process Information

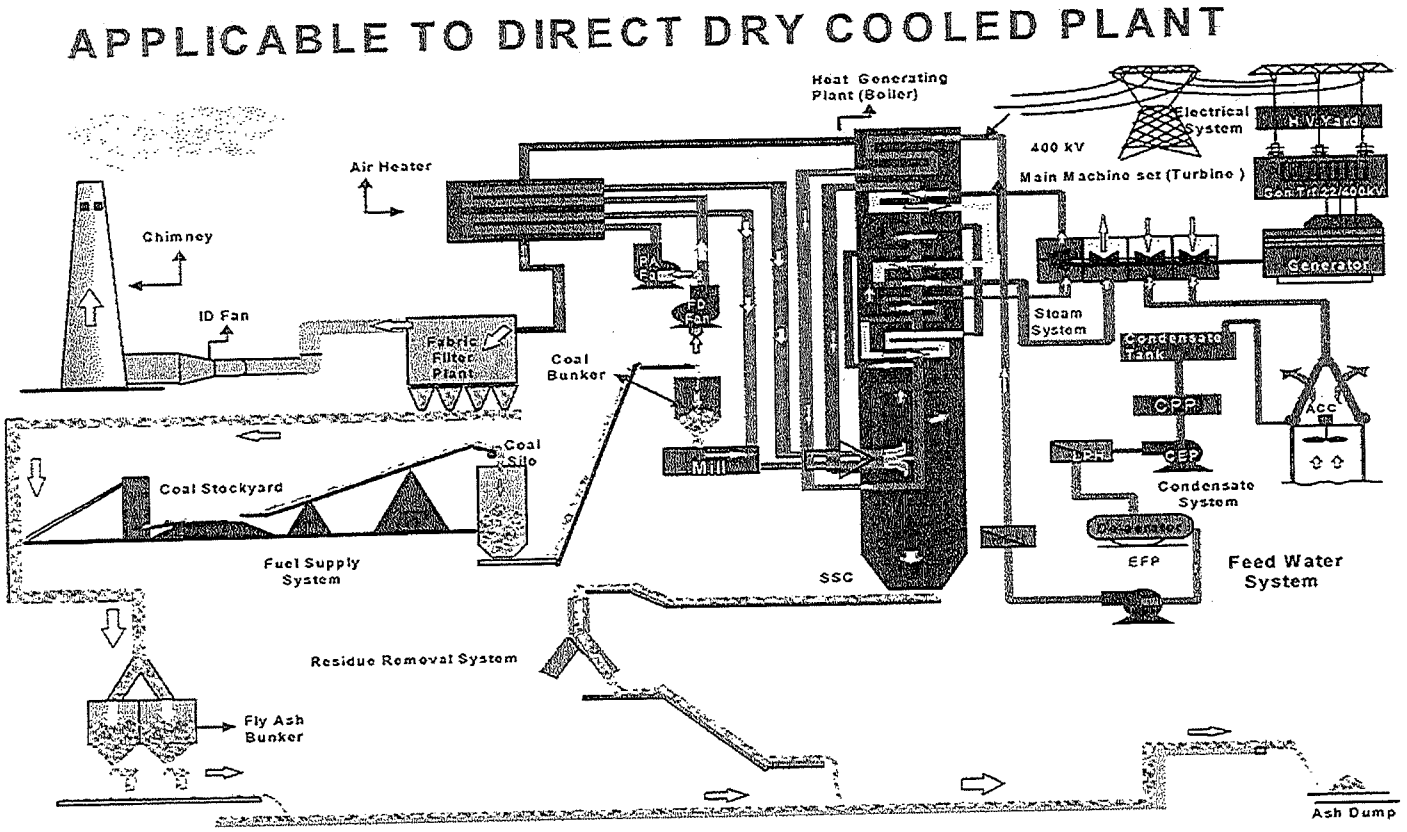

Figure 2: Process Flow Diagram Applicable to Direct Dry Cooled Plant

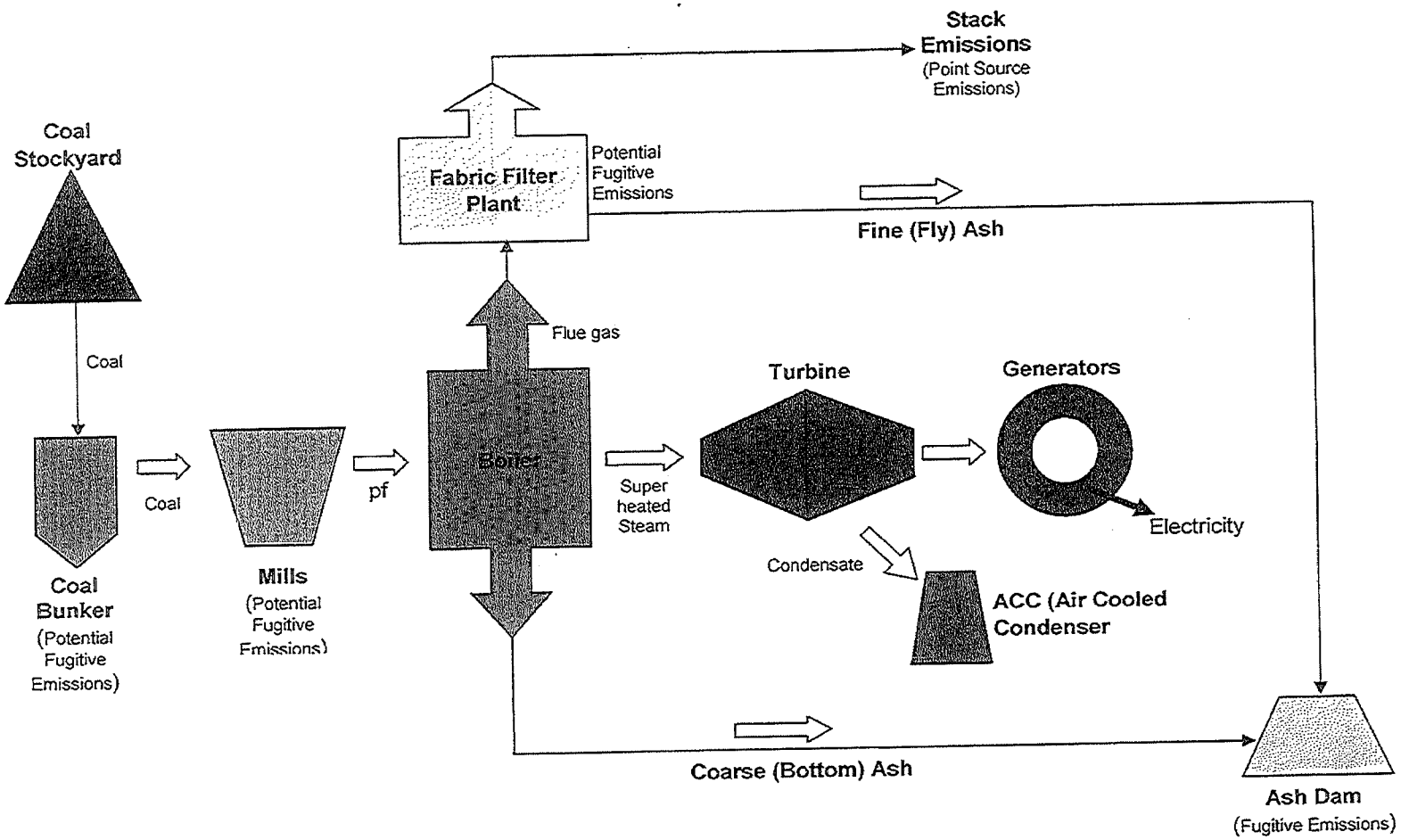

Figure 3: Process flow chart indicating inputs,outputs and emissions at the site of works,including points of potential fugutive emissions

6. RAW MATERIALS AND PRODUCTS

6.1 Raw materials used

Regulated Raw Materials		
Raw Material Type	Maximum Permitted Consumption Rate (Quantity)	Units (quantity/period)
Coal	1 875 000	tons/month
Fuel oil*	40 000	tons/month
Non-regulated Raw Materials		
Raw Material Type	Maximum Permitted Consumption Rate (Quantity)	Units (quantity/period)
Water	1 429 000	litres/month

* Regulated raw materials refers to those materials when increased or decreased may result in the change of air emissions output.
* Non-regulated raw materials refers to those materials when increased or decreased may not result in any change of air emissions output.

Limitations and Standards

6.1.1 The Coal consumption rate shall not exceed 1 875 000 tons per month.

6.1.2 The Fuel Oil consumption rate shall not exceed 40 000 tons per month

6.2 Production rates

Product Name	Maximum Permitted Production Capacity (Quantity)	Units (quantity/period)
Electricity	4 800	MW

6.3 Materials used in energy sources

Materials for Energy Source	Actual Consumption Rate (Quantity)	Units (quantity/period)	Materials Characteristics (Monthly Average)
Coal	1 875 000	Tons/month	Sulphur Content: 1.3 – 2.2% Ash Content: 35 – 39%
Fuel oil	40 000	Tons/month	Sulphur Content: 0.5 - 3.5% Ash Content: 0.02 - 0.1%

6.3.1 No fuel must be used with material characteristics with an exceedance of the largest value by over 10% without the approval by the Licensing Authority.

6.4 Sources of atmospheric emission

6.4.1 Point source parameters

Point Source Code	Source Name	Latitude (decimal degrees)	Longitude (decimal degrees)	Height of Release Above Ground (m)	Height Above Nearby Building (m)	Effective Diameter at Stack Tip/Vent Exit (m)*	Actual Gas Exit Temperature (°C)	Actual Gas Volumetric Flow (m³/hr)	Actual Gas Exit Velocity (m/s)	Emission Hours	Type of Emission (Continuous / Batch)
		South	East								
Stack 1	Stack 1	23.7028928°S	27.5614339°E	220	100	21.9	140	4 000 000	18 -24	24 hours	Continuous
Stack 2	Stack 2	23.7047792°S	27.5617951°E	220	100	21.9	140	4 000 000	18 -24	24 hours	Continuous

6.4.2 Area and or line source parameters

Area and or Line Source Code	Source Name	Source Description	Latitude (decimal degrees) of SW corner	Longitude (decimal degrees) of SW corner	Height of Release Above Ground (m)	Length of Area (m)	Width of Area (m)	Emission Hours	Type of Emission (Continuous / Intermittent)
A1	Coal stockyard	Storage and handling of coal	23.710818°S	27.550252°E	12	897	616.6	24	Continuous
A2	Excess coal stockyard	Storage and handling of coal	23.70941°S	27.52924°E	20	2000	2000	24	Continuous
A3	Ash disposal facility	Storage of ash	23.748821°S	27.515143°E	60	4200	4000	24	Continuous
A4	Fuel oil tank 2	Fuel oil storage	2623173.400 SW	57523.252 SW	16.5	16.5	12	24	Continuous
A5	Fuel oil tank 1	Fuel oil storage	2623235.4449 SW	57559.027 SW	16.5	16.5	12	24	Continuous

7. APPLIANCES AND MEASURES TO PREVENT AIR POLLUTION

7.1 Appliances and control measures

Associated Source Code	Appliances			Abatement Equipment Control Technology						
	Appliance /Process Equipment Number	Appliance serial number	Appliance Type / Description	Abatement Equipment Technology Name and Model	Abatement Equipment Technology Manufacture Date	Commission Date	Technology Type	Design Capacity	Minimum Control Efficiency (%)	Minimum Utilisation (%)
Stack 1	Boiler 1	To be provided as per Condition 7.1.1	Fabric filter plant	Fabric filter plant	2013 – 2019	2013 – 2019	Fabric filter plant	To be provided as per Condition 7.1.1	99.0%	100%
			Low NOx burners and Overfire air	Low NOx burners and Overfire air	2013 – 2019	2013 – 2019	Low NOx burners and Overfire air	To be provided as per Condition 7.1.1	70%	100%
	Boiler 2	To be provided as per Condition 7.1.1	Fabric filter plant	Fabric filter plant	2013 – 2019	2013 – 2019	Fabric filter plant	To be provided as per Condition 7.1.1	99.0%	100%
			Low NOx burners and Overfire air	Low NOx burners and Overfire air	2013 – 2019	2013 – 2019	Low NOx burners and Overfire air	To be provided as per Condition 7.1.1	70%	100%
	Boiler 3	To be provided as per Condition 7.1.1	Fabric filter plant	Fabric filter plant	2013 – 2019	2013 – 2019	Fabric filter plant	To be provided as per Condition 7.1.1	99.0%	100%
			Low NOx burners and Overfire air	Low NOx burners and Overfire air	2013 – 2019	2013 – 2019	Low NOx burners and Overfire air	To be provided as per Condition 7.1.1	70%	100%

Associated Source Code	Appliances			Abatement Equipment Control Technology						
	Appliance /Process Equipment Number	Appliance serial number	Appliance Type / Description	Abatement Equipment Technology Name and Model	Abatement Equipment Technology Manufacture Date	Commission Date	Technology Type	Design Capacity	Minimum Control Efficiency (%)	Minimum Utilisation (%)
Stack 2	Boiler 4	To be provided as per Condition 7.1.1	Fabric filter plant	Fabric filter plant	2013 – 2019	2013 – 2019	Fabric filter plant	To be provided as per Condition 7.1.1	99.0%	100%
			Low NOx burners and Overfire air	Low NOx burners and Overfire air	2013 – 2019	2013 – 2019	Low NOx burners and Overfire air	To be provided as per Condition 7.1.1	70%	100%
	Boiler 5	To be provided as per Condition 7.1.1	Fabric filter plant	Fabric filter plant	2013 – 2019	2013 – 2019	Fabric filter plant	To be provided as per Condition 7.1.1	99.0%	100%
			Low NOx burners and Overfire air	Low NOx burners and Overfire air	2013 – 2019	2013 – 2019	Low NOx burners and Overfire air	To be provided as per Condition 7.1.1	70%	100%
	Boiler 6	To be provided as per Condition 7.1.1	Fabric filter plant	Fabric filter plant	2013 – 2019	2013 – 2019	Fabric filter plant	To be provided as per Condition 7.1.1	99.0%	100%
			Low NOx burners and Overfire air	Low NOx burners and Overfire air	2013 – 2019	2013 – 2019	Low NOx burners and Overfire air	To be provided as per Condition 7.1.1	70%	100%

Appliances and control measures requirements:

7.1.1 The control devices' details must be forwarded to the Licensing Authority thirty (30) days prior to commissioning of the equipment/technology.
7.1.2 Off-gases from each heat generating plant (Boiler) shall be vented via a fabric filter plant to a stack at all times the emissions unit is in process. Low NOX burners Overfire air must be utilized to control NOX emissions.
7.1.3 The License Holder must inspect all control systems, specified in the Appliances and Control Measures Table 7.1 above for the plant, weekly to ensure that they are operated and maintained in conformance with their designs.
7.1.4. The License Holder shall, continuously operate, and maintain a flue gas desulphurization (FGD) plant for control of SO_2 on all six units. The Flue Gas Desulphurisation plant shall be retrofitted in each unit within Six (06) years after the first commissioning of each unit and during the General Overhaul outages.

7.2. **Point source – maximum emission rates (under normal conditions)**

Point Source Code	Pollutant Name	Maximum Release Rate			Duration of Emissions
		(mg/Nm³)	Date to be Achieved By	Average Period	
Stack 1	SO_2	3500 mg/Nm³	01 April 2015	Daily	Continuous
		500 mg/Nm³	01 April 2025	Daily	Continuous
	NOx	750 mg/Nm³	01 April 2015	Daily	Continuous
	PM	50 mg/Nm³	01 April 2015	Daily	Continuous
Stack 2	SO_2	3500 mg/Nm³	01 April 2015	Daily	Continuous
		500 mg/Nm³	01 April 2025	Daily	Continuous
	NOx	750 mg/Nm³	01 April 2015	Daily	Continuous
	PM	50 mg/Nm³	01 April 2015	Daily	Continuous

Point source – maximum emission rates and requirements

7.2.1 Emissions to the atmosphere from each unit shall be limited as set out in the Table 7.2 when the processes are in operation. The License Holder must be in compliance with the emissions limitations in Table 7.2 at all times, except during periods of start-up, maintenance, and shutdown.

7.2.2 PM10 emissions shall not exceed 50 mg/Nm^3, NO_x emissions shall not exceed 750 mg/Nm^3, and SO_2 emissions shall not exceed 3500 mg/Nm^3 during the period 01 April 2015 to 31 March 2025 and shall not exceed 500 mg/Nm^3 from 01 April 2025, averaged daily under normal conditions of 273 K, 101.3 kPa and 10% oxygen (O_2).

7.2.3 The License Holder must prevent deviations from normal operating conditions that would result in emissions exceeding specified limit values, and shall scale back or halt its operations under excessive emissions if it is likely that the permitted levels of emissions would otherwise be exceeded.

7.2.4 The License Holder must develop a written start-up, maintenance, and shutdown plan that describe, in detail, procedures for operating and maintaining each boiler during periods of start-up, maintenance, and shutdown; and a program of corrective action for malfunctioning process, air pollution control, and monitoring equipment used to comply with the emission limitations in Table 7.2. The start-up, maintenance, and shutdown plan does not need to address any scenario that would not cause either unit to exceed an emission limitation. During periods of start-up, maintenance, and shutdown, the License Holder must operate each unit in accordance with the start-up, maintenance, and shutdown plan.

7.2.5 Deviations that occur during a period of start-up, maintenance, and shutdown are not violations if the License Holder demonstrates to the Licensing Authority satisfaction that the License Holder was operating in accordance with the start-up, maintenance, and shutdown plan. The Licensing Authority will determine whether deviations that occur during a period of start-up, maintenance, and shutdown are violations in accordance with Section 51 of the Act.

7.2.6 The License Holder must apply for an exemption from the conditions of the License in the event of equipment malfunction or breakdown within twenty four (24) hours of the incident. Should the normal start-up, maintenance, upset and shutdown conditions exceed 48 hours, Section 30 of the National Environmental Management Act (Act No. 107 of 1998), as amended, shall apply.

7.2.7 The duration of start-up (number of hours from fires in to synchronization) and shut down must be reported in the report required in terms of Condition 7.7.1. The number of hours for which emissions exceed the limit during Emergency Generation, and the number of hours declared as Emergency Generation by National Control, must be included in the report required in terms of Condition 7.7.1.

7.3. Point source – emission monitoring and reporting requirements

Point Source Code	Emission Sampling / Monitoring Method	Sampling Frequency	Parameters to be Measured	Parameters to be Reported	Reporting Frequency	Conditions Under Which Monitoring Could Be Stopped
Stack 1	Continuous emission monitoring (in-stack)	Continuous	Continuous (90% of hours in a year)	PM, SO_2, NO_x, CO_2	As per Condition 7.7 of the License	Upon written approval by the Licensing Authority
Stack 2	Continuous emission monitoring (in-stack)	Continuous	Continuous (90% of hours in a year)	PM, SO_2, NO_x, CO_2	As per Condition 7.7 of the License	Upon written approval by the Licensing Authority

Point source – monitoring and reporting requirements

7.3.1 The License Holder shall install, calibrate, and operate a Continuous Emissions Monitoring System (CEMS) each for Stack 1 and Stack 2 that measures Particulate Matter (PM10), Sulphur Dioxide (SO_2), Oxides of Nitrogen (NO_X) and Carbon Dioxide (CO_2). The concentrations of the gaseous pollutants shall be corrected to 10% O_2 on a dry basis. The averaging period for the purposes of compliance monitoring shall be expressed on a daily average basis.

7.3.2 The CEMS shall be operated, calibrated and maintained continuously, dependent of the units' operation. The License Holder must measure and record valid continuous emission data for the parameters listed in Condition 7.3 during all periods of the units' operation including periods of unit start-up, shutdown, malfunction or emergency conditions, except for periods of CEMS quality assurance/quality control ("QA/QC"), routine maintenance, or uncontrolled malfunction. Nevertheless, the CEMS must be maintained to yield a minimum of 90% valid hourly average values during the reporting period. CEMS must be audited by a SANAS accredited laboratory at least once every two (02) years.

7.3.3 The License Holder shall conduct spot measurement or correlation stack tests to verify the accuracy of the continuous emission measurement. The Licensing Authority, or the Licensing Authority's duly authorized representative, may witness or conduct such test(s). Should the Licensing Authority opt to conduct such test(s), the operator shall provide all necessary sampling connections and sampling ports to be located in such manner as the Licensing Authority may require, power for test equipment and the required safety equipment, such as scaffolding, railings and ladders, to comply with generally accepted good safety practices. Such tests shall be conducted in accordance with the methods and procedures set out in this License or as otherwise approved or specified by the Licensing Authority.

7.3.4 All spot measurement or correlation stack tests to verify the accuracy of the continuous emission measurement and such other tests as specified in this License shall be conducted in accordance with an approved test method as contained in Schedule A of Section 21 Notice (Government Notice No. 893). Methods other than those contained in Schedule A may be used with the written consent of the National Air Quality Officer. Such methods shall be submitted to the Licensing Authority in writing at least thirty (30) days prior to any testing and shall contain the information set out by the Licensing Authority or as per Condition 7.8(A)(iii).

7.3.5 The License Holder shall notify the Licensing Authority prior to any isokinetic sampling, spot measurement or correlation stack tests, in accordance with Condition 7.8, so the Licensing Authority may have the opportunity to observe such tests. This notification shall include the actual date and time during which the test will be conducted and, if appropriate, verification that the tests will fully conform to a referenced method previously approved by the Licensing Authority.

7.3.6 In addition to installing, operating and maintaining a CEMS for monitoring and reporting of emissions, the License Holder shall install, maintain and operate an ambient air quality [Sulphur Dioxide (SO_2); Nitrogen Dioxide (NO_2), Carbon Monoxide(CO); Particulate Matter(PM10 and PM 2.5); Ozone(O_3); and Mercury(H g)] monitoring and associated meteorological stations in the Marapong residential area as well as at relevant areas upwind and downwind of the facility. An ambient air quality monitoring plan must be submitted to the Licensing Authority for approval as per Condition 7.9.

7.3.7 The License Holder shall also conduct public education and awareness campaigns focusing on air quality improvements and shall implement a program of support for initiatives aimed at improving air quality in the surrounding communities and performance reports must be submitted to the Licensing Authority as per Condition 7.7.1(V). A five year public education and awareness plan must be developed and submitted to the Licensing Authority for review and approval by the Licensing Authority as per Condition 7.9.

7.4. Area and or line source – management and mitigation measures

Area and/or Line Source Code	Source Name	Source Description	Description of specific measures	Required control efficiency (%)	Timeframe for achieving required efficiency	Method of monitoring measures' effectiveness
A1	Coal stockyard	Storage and handling of coal	- Compaction of strategic stockpile - Spraying of water for dust suppression	Fallout dust not to exceed dust fallout standards set out in Regulation 3 of the National Dust Control Regulation, 2013	Immediately	Dust fallout and PM10 monitoring
A2	Excess coal stockyard	Storage and handling of coal	- Compaction of strategic stockpile - Spraying of water for dust suppression	Fallout dust not to exceed dust fallout standards set out in Regulation 3 of the National Dust Control Regulation, 2013	Immediately	Dust fallout and PM10 monitoring
A3	Ash dump	Storage of ash	- Spraying of water for dust suppression - Rehabilitation of ash dump by planting vegetation	Fallout dust not to exceed dust fallout standards set out in Regulation 3 of the National Dust Control Regulation, 2013	Immediately	Dust fallout and PM10 monitoring
A4	Fuel oil tank 1	Fuel oil storage	- Monthly visual inspection of the exterior walls of the tank - Perform inventory reconciliation and annual leak detection tests	Fallout dust not to exceed dust fallout standards set out in Regulation 3 of the National Dust Control Regulation, 2013	Immediately	Dust fallout and PM10 monitoring
A5	Fuel oil tank 2	Fuel oil storage	- Monthly visual inspection of the exterior walls of the tank - Perform inventory reconciliation and annual leak detection tests	Fallout dust not to exceed dust fallout standards set out in Regulation 3 of the National Dust Control Regulation, 2013	Immediately	Dust fallout and PM10 monitoring

Area and or line source management and mitigation measures

7.4.1 The License Holder shall perform all necessary operations to minimize emissions arising from the coal stockpile, ash dump, coal and ash handling equipment, and any other associated infrastructure or activity. Measures including good housekeeping, compaction of stockpile, rehabilitation of ash dump by planting vegetation and spraying of water for dust suppression shall be implemented at all times as shall be necessary to minimize the generation of dust from the works and to prevent detrimental impacts on adjacent receptors.

7.4.2 The License Holder shall perform all necessary operations to minimize emissions arising from the fuel oil storage area, fuel oil handling equipment, and any other associated infrastructure or activity. The area shall be bunded to cater for double the volume of each tank at the minimum (i.e. 2400m^3 per tank) with an additional freeboard of 300mm so that each tank has its own bunded area with a double volume bund and spare change. The bund shall be constructed of concrete with all joints sealed, excess water shall be discharged through a drain-off facility within the bunded area and oil traps shall be used to separate oil from water prior to release into the wastewater system. A sand-bitumen mix placed at the bottom of the tank shall be used to prevent leaking. Fuel oil tanks shall be fitted with a breather pipe with flame arrestor, full fire-water system and fire blanket system installed along the top of the bunker walls.

7.4.3 Periodic evaluation of the coal, ash dump and fuel oil storage sites' implemented control measures must be undertaken to identify the success of those measures, in-line with the requirements of the Fugitive Emissions Management Plan contemplated in Condition 7.9.

7.4.4 The License Holder shall conduct dust fallout monitoring/measurements in accordance with an approved test method at sites around the stockyard area, ash dump area as well as along the site boundary (at least upwind and downwind) to determine contributions from background sources.

7.4.5 Monitoring systems and control measures must be implemented to ensure prevention or mitigation of spontaneous combustion of coal stockpiles

7.4.6 Reviews of the monitoring results and effectiveness of implemented mitigation measures shall be carried out. Results of such reviews (including calibration data, monitoring protocol, measured dust concentrations, and data analysis) must be submitted to the Department in accordance with Condition 7.7.1. Records of specific dust events, dust complaints and site conditions including prevailing meteorology must be included in the report.

7.4.7 The License Holder shall keep readily accessible records showing the dimension of each storage vessel, an analysis showing the capacity of each storage tank and the maximum true vapor pressure of the stored liquid. Records shall be retained for the life of the facility. The License Holder shall also keep records sufficient to determine the throughput of fuel oil for each storage tank for use in the report as per Condition 7.7.1.

7.4.8 Emissions of Total Volatile Organic Compounds (TVOC) from fuel oil storage tanks' venting and working loss shall be estimated using methods approved by the Licensing Authority. Visual inspection of the exterior walls of the tanks results, fuel oil inventory reconciliation data, fuel oil throughput data and TVOC emission estimation results shall be submitted to the Licensing Authority as per Condition 7.7.1.

7.4.9 The License Holder must install and maintain appropriately designed stormwater management and treatment infrastructure to control and prevent pollution of water resources. Any runoff from the coal stockyard, ash dump and fuel oil storage area must be directed to the treatment system.

7.4.10 The License Holder must revise and submit a fugitive emission management plan as per Condition 7.9. The plan must identify all significant sources of fugitive emission and measures that will be implemented to address these fugitive sources. The plan must include detailed control methodologies/techniques, contingency plans, timeframes for implementation, assessment of efficiency, and regular monitoring and reporting systems/criteria.

7.5. Energy Conservation Measures

The License Holder shall evaluate its activities to improve energy utilization and efficiency. This information should be provided to the Licensing Authority upon request.

7.6. Cleaner Production Targets

The License Holder must investigate cleaner production processes and practices that are relevant to its operations with a view towards reducing energy consumption and atmospheric emissions related to the processes. This information should be provided to the Licensing Authority upon request.

7.7. Routine Reporting and Record-keeping

7.7.1 Monthly Reporting

The License Holder must complete and submit to the Licensing Authority a Monthly Report no later than thirty (30) days after the end of each reporting period. The report must include information for the period under review. The Monthly Report must include, but not limited to, the following:

I. Complaints Register

The License Holder must maintain a Complaints Register at its premises, and such register must be made available for inspections. The Complaints Register must include the following information on the complainant, namely, the name, physical address, telephone number, date and the time when the complaint was registered. The register should also provide space for noise, dust and offensive odours complaints. Furthermore, the License Holder is to investigate and, monthly, report to the Licensing Authority in a summarised format on the total number of complaints lodged. The complaints must be reported in the following format with each component indicated as may be necessary:

a) Air pollution complaints received;
b) Date the complaint was received and the date the facility responded,
c) Investigations to determine the cause of the complaint;
d) Results of the investigation, and
e) Any actions taken to resolve the complaint.

The Licensing Authority must also be provided with a copy of the Complaints Register upon request.

II. Operation and Production Records

The License Holder must track and record the operation and production such that source-wide emissions can be estimated on a daily basis. Records must include, but not be limited to:

a) Daily hours of operation
b) Daily production Rate
c) Daily fuel consumption rate
d) Ash and sulphur content (%) of any Coal
e) Sulphur content (%) of fuel oil combusted;
f) Coal, Ash and Fuel oil throughput data
g) Visual inspection of the exterior walls of the fuel oil tanks results and fuel oil inventory reconciliation data
h) Documentation of any time periods when the unit process is operational and the Fabric filter plant and/or low NO_X burners are not fully operational

III. Emissions monitoring and measurements and performance against limits

The License Holder must record and report, in a summarised format, any performance and/or compliance testing of machinery and equipment that has a direct or indirect impact on the atmospheric emissions to the Licensing Authority. Any non-compliance must be described thoroughly in the report. The performance tests and compliance testing report should include (but not be limited to) the following information:

a) Point sources monitoring and measurements results indicating performance against the specified emission limits in Table 7.2;
b) Pollutant emissions trend including Greenhouse gas emissions;
c) Fugitive emissions estimation/measurement information
d) Start-up, maintenance, shutdowns or malfunction occurrence and duration;
e) Major upgrades projects (i.e. abatement equipment or process equipment);
f) Excess emissions, source code or name, emission standard exceeded, root cause analysis;
g) Calculation of impacts/emissions associated with the non-compliance incidents and dispersion modelling of pollutants where applicable;
h) Measures implemented or to be implemented to prevent recurrence; and
i) Date by which measures were or will be implemented.

IV. Spot/correlation stack tests

Records of all required compliance testing shall include the following:

a) The date, place, and time of sampling or measurements;
b) The date analyses were performed;
c) The company or entity that performed the analyses;
d) The analytical techniques or methods used;
e) The results of all such analyses; and
f) The operating conditions existing at the time of sampling or measurement

V. Air Quality Improvement and Social Responsibility

a) Ambient air quality monitoring results;
b) Air quality improvement initiatives;
c) Public education and awareness campaigns;

7.7.2 Bi-annual Reporting

The License Holder must complete and submit to the Licensing Authority a Bi-annual Report no later than thirty (30) days after the end of each reporting period. The report must include information for the period under review. The Bi-annual Report must include, amongst others, the following items:

a) Compliance with regard to each AEL condition
b) Interpretation of all available data, tests and monitoring results regarding operation of the plant and all impacts on the environment
c) Recommendations regarding non-compliance or potential non-compliance
d) Target dates for the implementation of recommendations by the License Holder to achieve compliance
e) Impact of implemented corrective action taken for identified non-compliance

7.7.3 Annual Reporting

The License Holder must complete and submit to the Licensing Authority, an Annual Report as contemplated in paragraph 17 of Section 21 Notice (Government Notice No. 893) no later than thirty (30) days after the end of each reporting period. The report must include information for the year under review. The Annual Report must include, amongst others, the following items:

a) Information specified in paragraph 18 of Section 21 Notice (Government Notice No. 893)
b) Emissions performance (emissions trend including Greenhouse gas emissions), compliance statistics and Spot/verification tests annual data summaries
c) Start-up, maintenance, shutdowns or malfunction occurrence and duration annual summary statistics
d) Operation and production annual data summaries
e) Annual summaries of deviations from License conditions or operations and maintenance plan and actions taken to resolve the problem

7.8. License Notification Requirements

A. The License Holder shall notify the Licensing Authority by letter or by electronic mail of the:

i. Actual date of initial start-up of each unit, not less than fourteen (14) days prior to such date;
ii. Actual date of commencement of commercial operation of each unit, not less than fourteen (14) days prior to such date;
iii. Date upon which isokinetic stack sampling, spot measurement or correlation stack tests will commence, in accordance with Condition 7.3.5, within fourteen (14) days prior to such date. Notification may be provided with the submittal of the performance test protocol required in terms Condition 7.3.3 and 7.3.4. The notice must state the source to be tested, the proposed time of the test, the testing date(s) and the proposed testing methods and procedures.

B. The License Holder shall notify the Licensing Authority within twenty four (24) hours following the discovery of any failure of air pollution control equipment, process equipment, or of a process to operate in a normal manner, which results in an increase in emissions above the allowable emission limits set in Section 7.2 of this License.

C. In addition, the License Holder shall provide an additional notification to the Licensing Authority in writing or electronic mail within fourteen (14) days of any such failure described under Condition 7.8 (B). This notification shall include a description of the malfunctioning equipment or abnormal operation, the date of the initial malfunction, the period of time over which emissions were increased due to the failure, the cause of the failure, the estimated resultant emissions in excess of those allowed in Section 7.2, and the methods utilized to mitigate emissions and restore normal operations.

D. The License Holder is to notify the Licensing Authority within twenty four (24) hours of any other significant incidences (i.e. spillages, fires, leakages or other similar situations). Should such incidences pose a significant health risk or nuisance, notification of the incident is to be immediate. Where excessive emissions occur, which could cause adverse health or environmental impacts or nuisance, urgent corrective measures must be taken, by the License Holder, to contain or minimise the emissions through operational interventions. Remediation, if required shall be carried out to the satisfaction of the Licensing

Authority and/or any other governmental agencies. Any incident that has the potential to create significant health, safety or environmental risk or nuisance needs to be reported immediately to the relevant authority, Section 30 of the National Environmental Management Act (Act No. 107 of 1998), as amended, shall apply.

E. Compliance with the notification provision shall in no way serve to excuse, otherwise justify, or in any manner affect any potential liability or enforcement action resulting from the occurrence.

7.9. Investigation and Reviews

The following investigations are required:

Location	License Conditions	Minimum Requirements	Timeframe
Plant Wide	Fugitive Emissions Management (revised)	Fugitive Emissions Management Plan developed, approved and under implementation as per the schedule agreed in the plan, to minimize nuisance impacts off-site	Six (06) months from the date of issue of this License.
Plant Wide	Operations and Maintenance Plan (revised)	A written start-up, maintenance, and shutdown plan that describe, in detail, procedures for operating and maintaining each unit during periods of start-up, maintenance, and shutdown; and a program of corrective action for malfunctioning process must be developed. The Maintenance Plan must illustrate how the facility will be operated and maintained in order to comply with the emission limits as specified in this License.	Six (06) months from the date of issue of this License.
Neighborhood	Five Year Public Education and Awareness Plan	Public Education and Awareness Plan must include strategies for reaching out to selected audiences, messages that promote maintenance/achievements of ambient air quality goals and messages tailored to make people from all walks of life aware of specific issues related to the facility's operations taking into account emissions to the atmosphere, their impacts on health and surroundings/environment as well as preventative measures. The plan must also include aspect of monitoring and evaluation (M&E).	Six (06) months from the date of issue of this License.
Neighborhood	Ambient Air Quality Monitoring Plan	An Ambient Air Quality Monitoring Plan must provide specifics of the monitoring network to be established including details of the monitoring sites considerations, location including street address and geographical coordinates of the identified sites, pollutants and meteorological parameters to be monitored, sampling and analysis method(s) for each parameter to be measured, monitoring objectives and spatial scale of representativeness for each monitoring site, data acquisition, management and reporting procedures, as well as necessary protocols, procedures and work instructions for effective management of the monitoring network.	Six (06) months from the date of issue of this License.

7.10. Start up, Maintenance and Shut-down Conditions

Unit Process	Description of Occurrence of Potential Releases (e.g. leakage, technology outage, etc.)	Pollutants and Associated Amount of Emissions	Briefly Outline Back Up Plan
Start-up	Fuel oil-assisted start-up to get the unit up to temperature	Particulate emissions in excess of 50 mg/Nm^3	Start-up is of limited duration
Shut-down	Plant failure /breakdown	Particulate emissions in excess of 50 mg/Nm^3	To be provided as per Condition 7.2.4
Bag leakages	Leaks in fabric filter plant bags will result in higher emissions of ash	Particulate emissions in excess of 50 mg/Nm^3	Leaking bags will be replaced
On-load rebags	Bags will be replaced if leaking or as part of normal maintenance cycle while unit is operating	Particulate emissions in excess of 50 mg/Nm^3	Bags will be replaced to maintain emissions performance

7.10.1 The License Holder shall, to the extent practicable, maintain and operate the facility including associated air pollution control equipment in a manner consistent with g practice for minimizing emissions.

7.10.2 Leaking bags must be replaced during bag leakages and as part of normal maintenance cycle in order to maintain emissions performance at all times, including periods of start-up, shutdown, shakedown, and malfunction.

7.10.3 During a period of start-up, shutdown, or malfunction, the License Holder shall operate all unit processes (including associated air pollution control equipment) in accordance with the procedure specified in the start-up, shutdown, maintenance and malfunction plan.

7.10.4 Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Licensing Authority, which may include, but is not limited to, monitoring results, review of operating maintenance procedures and inspection of the facility.

7.10.5 The License Holder shall maintain records of the occurrence and duration of any start-up, maintenance, shutdown, or malfunction in the operation of each unit; any malfunction of the air pollution control equipment; or any periods during which a CEMS is inoperative.

7.10.6 Notification of a start-up, shutdown, or a malfunction shall be made by the License Holder in accordance with Condition 7.8

8. DISPOSAL OF WASTE AND EFFLUENT ARISING FROM ABATEMENT EQUIPMENT CONTROL TECHNOLOGY

The disposal of any waste and effluent arising from pollution mitigation measures proposed must comply with the relevant legislation and requirements of the relevant authorities.

Point or Area Source Code	Waste / Effluent Type	Hazardous Components Present	Method of Disposal
Stacks 1 and 2	Ash	Heavy metal trace elements and silica	Ash dump
Stacks 1 and 2	Fabric filter bags	Heavy metal trace elements and silica	Ash dump / waste disposal site
Once FGD is installed:			
Stacks 1 and 2	Gypsum	Heavy metal trace elements and silica	Co-disposal on ash dump OR distribution to market
Stacks 1 and 2	FGD waste water	Heavy metal trace elements and silica	Waste water treatment plant

9. PENALTIES FOR NON-COMPLIANCE WITH LICENSE AND STATUTORY CONDITIONS OR REQUIREMENTS

Failure to comply with any of the License and relevant statutory conditions and/or requirements is an offence, and the License Holder, if convicted, will be subjected to those penalties as set out in section 52 of the AQA.

10. ATMOSPHERIC EMISSION LICENSE ENDORSEMENT

SIGNATURE:

NAME: T.M Mphahlele

DESIGNATION: Senior Manager

DATE: 01/04/2015

DEPARTMENT OF ECONOMIC DEVELOPMENT, ENVIRONMENT & TOURISM
INTEGRATED POLLUTION & WASTE MANAGEMENT
2015 -04- 01
P/BAG X9484, POLOKWANE, 0700
TEL: 015 290 7098
LIMPOPO PROVINCE

Appendix F-9: Bridging Document (November 2017)

Zitholele Consulting
Reg. No. 2000/000392/07

PO Box 6002 Halfway House 1685, South Africa
Building 1, Maxwell Office Park, Magwa Crescent West
c/o Allandale Road & Maxwell Drive, Waterfall City, Midrand
T : 011 207 2060 **F** : 086 674 6121 **E** : mail@zitholele.co.za

Medupi FGD retrofit second EIA Bridging Document (DEA REF: 14/12/16/3/3/3/110)

Report No: Bridging Document-02

Submitted to :

Eskom Holdings SOC
Megawatt Park
Maxwell Drive
Sunninghill
Johannesburg 2000

17 November 2017 12949

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LIST OF ACROYNYMS

Acronym	Description
ADF	Ash Disposal Facility
DEA	Department of Environmental Affairs
DEIR	Draft Environmental Impact Report
DWS	Department of Water and Sanitation
EA	Environmental Authorisation
EAP	Environmental Assessment Practitioner
EIA	Environmental Impact Assessment
EIR	Environmental Impact Report
Eskom	Eskom Holdings SOC Limited
FEIR	Final Environmental Impact Report
FGD	Flue Gas Desulphurisation
IAP	Interested and Affected Party
NEMA	National Environmental Management Act (Act 107 of 1998 as amended)
NEMAQA	National Environmental Management: Air Quality Act (Act No 39 of 2004)
NEMWA	National Environmental Management: Waste Act (Act 59 of 2008 as amended)
NFEPA	National Freshwater Ecosystem Priority Area
NWA	National Water Act (Act 36 of 1998 as amended)
PP	Public Participation
PPP	Public Participation Process
WML	Waste Management License
WULA	Water Use License Application
WUL	Water Use License
WWTP	Waste Water Treatment Plant
ZIMS	Zitholele Information Management System

1 INTRODUCTION

1.1 Background

Eskom Holdings SOC Limited (Eskom) obtained an Environmental Authorisation (EA) in 2006 for construction and operation of the Medupi Power Station, with an installed generation capacity of up to 4800MW of electricity. According to the EA granted, the Medupi Power Station must "*install, commission and operate any required SO_2 abatement measures to ensure compliance with any applicable emission or ambient air quality standards published in terms of the National Environmental Management: Air Quality Act NEMAQA (Act No 39 of 2004)*".

In order to address the requirements prescribed by the EA, Eskom embarked on a programme to retrofit a Flue Gas Desulphurisation (FGD) system at each of the Units to form part of its operations. The Medupi FGD Retrofit Project is aimed at installation of FGD systems to the six (6) x 800 megawatt coal fired steam electric generating units. As presented in the Final Scoping Report (dated June 2015), the project will encompass several activities and facilities that are necessary for the installation and operation of the Flue Gas Desulphurisation system.

As presented in the Final Scoping Report, Eskom identified wet FGD as the most appropriate technology to install for SO_2 abatement for this Priority Airshed.

1.2 EIA for the Medupi FGD to date

The proposed activities associated with the installation and operation of the FGD system and associated infrastructure would trigger a number of listed activities, waste management activities and water uses in terms of the National Environmental Management Act, No 107 of 1998 (NEMA) and EIA regulations or 2014, as amended, as well as the National Environmental Management: Waste Act, No 59 of 2008 (NEMWA) and National Water Act, No. 36 of 1998 (NWA), respectively.

Zitholele Consulting was appointed to undertake the integrated Environmental Impact Assessment (EIA) process for the proposed Medupi Power Station FGD retrofit project. This process was initiated early in 2014 and the Final Scoping Report was accepted by the Department of Environmental Affairs (DEA) at the end of July 2015. The Final Scoping Report (FSR) is still available on the Zitholele Consulting website under the heading "EIA for Medupi FGD" at the following link: http://www.zitholele.co.za/environmental/.

Since acceptance of the FSR, the project and EIA process experienced some delays as the project unfolded resulting in the need to adapt the EIA process in order for Eskom to meet its commitment to remain compliant to the NEMAQA. A Bridging Document was subsequently circulated to inform all registered Interested and Affected Parties (IAPs), key stakeholders and authorities of the proposed changes in October 2016. The Bridging Document is still available on the Zitholele Consulting website at the following link: http://tinyurl.com/bridgingdocument.

The Bridging Document provided the following information and conclusions:

1. The purpose of the report was 3-fold, i.e. to inform I&APs of activities subsequent to the acceptance of the FSR, to inform IAPs of the decision to split the EIA into 2 separate EIA processes, and that the existing Ash Disposal Facility (ADF) would require an amendment to the existing Waste Management Licence (WML).
2. The splitting of the EIA thus constituted a separate integrated EIA application to authorise the installation and operation of the FGD infrastructure under the original scope using the existing DEA reference number, a second integrated EIA application to authorise the construction of new facilities for the disposal of by-products from both the power station and FGD process, and a separate application for amendment of the WML to allow for disposal of ash and gypsum together on the existing ADF footprint.
3. The first EIA process would continue under the current application number lodged with the DEA and would constitute an integrated process (EIA and WML) which included authorisation of FGD infrastructure within the footprint of the Medupi Power Station, as well as the licencing of water uses that will be impacted by the infrastructure associated with the FGD system and waste by-products emanating from the FGD process. This EIA would not deal with the disposal of salts and sludge from the FGD WWTP process, but would include temporary (0-5yrs) trucking of the WWTP wastes to a registered waste facility.
4. The need for a new ADF was identified, but will be the subject of a separate integrated EIA process referred to in point (2) above, and would deal with the disposal of ash, gypsum, salts and sludge for the remainder of the power station lifespan. This EIA would be undertaken as a new application for environmental authorisation.
5. The amendment of the WML for the existing ADF would be undertaken as an independent process since it constituted an amendment process as opposed to the licencing of a new facility or process.

1.3 Purpose of this document

This second bridging document has three key purposes which are explained in detail below:

1. To update all registered Interested & Affected Parties (I&AP) on relevant activities that have taken place between the first bridging report (August 2016) and now (November 2017).
2. To update all registered IAPs of amendments to the Ash Disposal Facility Waste Management Licence (ADF WML) and licencing processes and updated project scope to complete the relevant applications.
3. To inform all registered IAPs on the way forward regarding the integrated EA processes and expected timelines to completion and submission of the Final Environmental Impact Report (FEIR) and WULA to the authorities.

2 RELEVANT ACTIVITIES TO DATE

2.1 New/additional Ash Disposal Facility (ADF)

This section reiterates the information conveyed in sections 3.2 and 5.2 of the first bridging document pertaining to undertaking a separate integrated EA process to investigate a new site for the required additional disposal facility to service the rest of the Medupi Power Station's operational life, for disposal of ash and gypsum (for years 21 to 50 post commissioning).

This document confirms that the scope pertaining to the proposed new facilities for the disposal of ash, gypsum, salt and sludge will not form part of the scope of the current integrated EIA application lodged with the DEA.

2.2 Amendment of the WML for the existing ADF

This section relates to information conveyed in section 4 of the first bridging document pertaining to the separation of the amendment process for the existing ADF WML from the scope of the integrated EA process.

The surface water and wetland study identified the need to reduce the approved footprint of the existing ADF in order to reduce potential impacts to the tributaries of the Sandloop River system located to the south of the current ADF. Subsequent to consultation between the Environmental Assessment Practitioner (EAP), applicant, wetland specialist and the Department of Water and Sanitation (DWS), a decision was made to undertake the following activities and updates:

- Revisit the calculation of the floodlines associated with the Sandloop tributary affected by the ADF.
- Revisit the design of the current ADF to investigate the reduction of the ADF footprint to allow minimal impact to the tributary of the Sandloop. A reduced footprint inevitably resulted in an increase in height of the ADF to optimise disposal capacity.
- Undertake a Visual Impact Assessment (VIA) to assess the impact of raising the current ADF by 12m from 60m to a maximum height of 72m.
- Amendment of the wetland specialist report to consider the impact of reduced ADF footprint within the recommended buffer zone as per the conceptual engineering design.

These studies and updates listed above are currently underway and the process of amending the existing EA/WML for the current ADF is ongoing.

Thus, this amendment process is separated from the current integrated EIA application.

2.3 Integrated EIA application (DEA Ref: 14/12/16/3/3/3/110)

Since the acceptance of the Final Scoping Report, including the comments from the public, Eskom had to respond differently to the public comments and the need to be ready to comply

with the NEMAQA compliance requirements by 2021. Thus, the integrated EIA application will now comprise the following components: the FGD plant footprint, the WWTP plant footprint, the footprint for storage of sludge and salts from the WWTP, the wastewater transportation pipeline, the limestone storage facility footprint and its Pollution Control Dam. This application will continue from the current accepted Final Scoping Report.

In this regard, Specialist Impact Assessments for identified impacts relating to the installation and operation of the FGD system and associated infrastructure within the Medupi Power Station are being completed and will be discussed as part of the Draft Environmental Impact Report (DEIR).

3 CHANGES TO THE INTEGRATED EA PROCESS

3.1 Scope of, and changes to, the Integrated EA process (Bridging report, October 2016)

The Medupi Power Station's Atmospheric Emissions License (AEL) provides categories of emissions standards with timelines for compliance. The Power Station must currently comply with Category 1: Combustion Installations for existing plant status. However, by April 2025, the plant must reduce SO_2 emissions to less than 500mg/Nm^3. As a result, the installation of the appropriate FGD technology has become time critical, necessitating the application for an integrated authorisation to be accelerated in order for the power station to remain compliant with the AEL conditions. The changes proposed in the bridging document (October 2016) were aimed at streamlining the integrated EA process in order for Eskom to meet its air quality compliance commitments.

The scope of the integrated EA process as described in **section 5.1** of the bridging document (October 2016) for the Medupi FGD retrofit project included the following activities within the integrated Environmental Authorisation process (EIA/WML and WULA):

- FGD retrofit infrastructure to be constructed and operated within the Medupi Power Station footprint;
- Temporary storage of FGD WWTP solid waste (salts and sludge) at a hazardous waste storage facility within the Medupi Power Station footprint, to be removed by an accredited service provider to an approved waste disposal facility;
- Temporary trucking of salts and sludge from the FGD WWTP to a designated hazardous waste facility for disposal.
- Construction of a pollution control facility receiving dirty water runoff from the limestone holding area (licencing in terms of the NWA);
- Construction of infrastructure for the loading and offloading of gypsum and limestone at the proposed railway siding for the possible transport of limestone and gypsum to and from the power station, respectively.

3.2 Proposed amendment to the integrated EA process (Bridging document, November 2017)

3.2.1 Staggered submission of EA application and WULA

Subsequent to the Bridging Report of October 2016, compilation of the project detailed requirements and the need to accelerate the authorisation process has necessitated Eskom to consider a staggered authorisation approach to the integrated EA process. This approach would consider the level of project detail and engineering design required in terms of the applicable legislation.

In this regard, applications in terms of the NEMA listed activities, NEMWA waste management licence activities and licencing of water uses in terms of the NWA, would be staggered in relation to when the required level of detail is expected to be available for each application. Therefore, submission of the non-waste application, i.e. NEMA FEIR to DEA would occur first, followed by the WULA to the DWS, once sufficiently detailed design information is available to fulfil the requirements of the WULA.

3.2.2 Separation of NEMA and WML activities

The Bridging Report (October 2016) concluded that the disposal of gypsum and ash together on the existing ADF could be dealt with through an amendment application of the existing WML. Therefore, the project scope pertaining to the existing ADF was removed from the integrated EA application for the Medupi FGD infrastructure and will be dealt with through the WML amendment process.

When considering the listed activities that would be triggered in terms of NEMA EIA regulations of 2010: Listing Notice 2 (GN R.545, as amended), the triggers all relate to the physical disturbance of a footprint area resulting from the construction or installation of infrastructure associated with the proposed Medupi FGD system, limestone storage and a Pollution Control Dam (PCD) for containment of waste/polluted run-off water from the limestone storage facility. Pollution potential will be considered in terms of the potential impacts resulting from the construction and operation of the infrastructure taking into consideration materials that may be generated, contained or conveyed. Therefore the NEMA application will recommend applicable mitigation and management measures to reduce potential impacts to acceptable levels.

When considering the waste management activities that may be triggered in terms of the NEMWA List of waste management activities that have, or are likely to have, a detrimental effect on the environment (GN 921, as amended) the waste management activities are focused on the potential of waste products to have a detrimental impact on the receiving environment. The only likely waste management activity in Schedule A or B that could be triggered as a result of waste generated by the FGD or a material or substance that could have a detrimental effect on the environment relate to the storage of waste. Project activities that must therefore be considered are the following:

1. 3.2.2.i Storage of solid FGD waste, i.e. salts and sludge (likely in containers) at a hazardous waste storage facility. Gypsum will be disposed together with ash at the exiting ADF;
2. 3.2.2.ii Management of waste water or effluent runoff from the limestone stockpile and gypsum storage area through the operation and management of the proposed Pollution Control Dam.

Consideration of the need for a WML is considered below for each of the project activities listed above:

3.2.2.i Storage of salts and sludge at a hazardous waste storage facility

Schedule C of GN 921 (as amended) allows for a person to undertake a waste management activity listed under the schedule to store hazardous waste at a facility that has the capacity to store in excess of $80m^3$ of hazardous waste at any one time, excluding the storage of hazardous waste in lagoons or temporary storage of such waste (activity 2 of Schedule C), given that the person comply with the relevant requirements and standards stipulated in the Norms and Standards for Storage of Waste (GN 926 of 29 November 2013).

It is Eskom's intention to design and construct the hazardous waste storage facility for the storage of salts and sludge from the FGD process in compliance with the Norms and Standards for Storage of Waste (GN 926 of 29 November 2013), therefore do not require a WML to store salts and sludge at the proposed facility. Eskom will endeavour to register the waste storage facility with the competent authority within 90 days prior to the construction of the facility taking place, and will provide all information and data required in terms of GN 926.

The need for a WML through the current EIA process for the storage gypsum, salts and sludge, and operation of the facility is therefore negated and removed from the integrated EIA application for the Medupi FGD system.

The potential impact of the construction footprint of the facilities on the receiving environment will however still be considered in terms of the NEMA listed activities and assessed in the EIA application.

3.2.2.ii. Management of wastewater or effluent runoff through management and operation of Pollution Control Dams (PCDs)

It could be construed that the management of effluent runoff from the gypsum, or salt and sludge handling and storage facilities would trigger Schedule B, waste activity 1: *The storage of hazardous waste in lagoons excluding storage of effluent, wastewater or sewage.* It is however argued that the runoff from these storage and handling facilities is defined as wastewater or effluent and are thus excluded as a waste activity. As a result, a WML is not required for the management and operation of the PCD and is therefore excluded from the integrated EIA application.

The management of wastewater and effluent, however, fall under the ambit of the NWA. Management and operation of the PCD will therefore invoke a water use and will be included in the WULA. The PCD will furthermore be designed to comply with GN 704 of 4 June 1999: *Regulations on use of water for mining and related activities aimed at the protection of water resources.*

The potential impact of the construction footprint associated with the PCD infrastructure on the receiving environment will however still be considered in terms of the NEMA listed activities and assessed in the EIA application.

4 CONCLUSION ON NATURE OF APPLICATIONS

It is therefore concluded that with the requirements for a WML for the operation and management of the hazardous waste storage facilities for gypsum, and salts and sludge, as well as operation and management of the PCD as motivated above is not required.

No other waste activities were identified based on the project scope for the installation of the FGD system at Medupi Power station and associated infrastructure, therefore the integrated EA application must be continued to an application for environmental authorisation in terms of NEMA only.

The relevant applications for licencing and authorisation of the proposed activities of the FGD system is summarised below in bullet form:

1. **4.1 NEMA EIA application**: Disturbance to the physical footprint related to construction of FGD system and associated infrastructure, and limestone storage facility and its Pollution Control Dam.
2. **4.2 WULA in terms of NWA**: All water uses triggered relating to the physical disturbance of a footprint, abstraction from a water resource and potential to cause pollution to a water resource. Exact water uses that will be applicable to the development will be confirmed during the compilation of the DEIR and WULA.
3. **4.3 WML amendment application in terms of the NEMWA:** An application for amendment of the current WML for the existing ADF will be undertaken to include the disposal of gypsum and ash together in the WML.
4. **4.4 Registration of waste facility in terms of NEMWA Norms and Standards for Storage of Waste (GN 926 of 29 November 2013:** The storage of hazardous waste (salt and sludge) will be registered in terms of the construction of an appropriate hazardous waste storage facility designed in terms of the GN 926.

5 TIMELINES ASSOCIATED WITH THE EIA

Updated timeline relating to the availability of draft reports to IAPs and authorities for review and submission of final reports to the relevant authorities are provided in **Table 1** below.

The registration process for the hazardous waste storage facilities (No 4) will be undertaken as soon as relevant engineering design reports and drawings for the salts and sludge storage facilities become available.

Table 1: Projected timeframes for completion of draft and final reports

No	EA or licence application	Report available for public review	Submission of final report to relevant authority
4.1	NEMA EIA application	DEIR for public review: January/February 2018	FEIR submission to DEA: March 2018
4.2	WULA i.t.o NWA	Draft WULA and technical report: May 2018	Final WULA and technical report: August 2018
4.3	WML amendment application i.t.o NEMWA	Draft WML amendment report: January/February 2018	Final WML amendment report: March 2018

6 WAY FORWARD

The compilation of the DEIR in terms of the NEMA EIA application, as well as the WML amendment application is currently underway. Public Participation will be undertaken during the public review process as stipulated as per the EIA regulations, 2014.

All stakeholders will furthermore be notified of the availability of draft reports, commencement of public review period and schedule public and stakeholder meetings to be undertaken during the public review period.

7 CONCLUSION

This bridging document is aimed at providing an update on the EIA process underway, amendments to the authorisation and licencing processes, anticipated timelines as well as the way forward. We look forward to conclude the draft reports for public review and engaging with IAPs on the outcomes of this report in the upcoming public review period.

ZITHOLELE CONSULTING (PTY) LTD

Mathys Vosloo
Project Manager

Nevin Rajasakran
Project Associate

February 2018

REPORT

ESKOM MEDUPI FGD

Geotechnical Impact Assessment Study

Submitted to:
Zitholele Consulting (Pty) Ltd
Maxwell Office Park
Cnr Allandale Road and Maxwell Drive, Waterfall City,
Midrand

Report Number: 1415881-299047-3

Distribution:

1 x electronic copy Zitholele Consulting (Pty) Ltd
1 x electronic copy GAA project file
1 x electronic copy Global library

Golder Associates

Executive Summary

Golder Associates Africa (PTY) Ltd (Golder) washas been appointed by Zitholele Consulting (Pty) Ltd (Zitholele) to undertake preliminary geotechnical investigations for the waste disposal facilities of three waste streams to be generated by the operation of the Flue Gas Desulfurization (FGD) at Medupi power station at Lephalale, Limpopo.

The Scope of Work was to undertake a preliminary geotechnical assessment of the Ash Disposal Facility on the preferred Alternative Site 13. The waste disposal infrastructures include a gypsum landfill and lagoons to dispose salts and sludge.

Alternative Site 13 is situated at the western portion of the Medupi power plant. Eight intrusive test pits were excavated in the area of Alternative Site 13.

A total of 8 test pits were excavated using a TLB to a median depth of 2m. The test pits intersected topsoil overlying alluvial non-cohesive material, with weathered sandstone intersected in only one test pit at a depth of 1.7m.

Recommendations have been provided on excavatability, engineering use, shear strength, shallow foundations and slope stability.

The scope of works was revised after the fieldwork was complete to include professional geotechnical opinion on additional scope items of infrastructure using supplied information.

No significant geotechnical hazards or fatal flaws were identified. All the geotechnical considerations mentioned can be mitigated in the design of the facility. Geotechnical investigations will be required as the project proceeds into design.

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APPENDICES

1.0 INTRODUCTION

Golder Associates Africa (PTY) Ltd (Golder) was appointed by Zitholele Consulting (Pty) Ltd (Zitholele) to undertake preliminary geotechnical investigation for the waste disposal facility of the three waste streams to be generated by operation of the Flue Gas Desulfurization (FGD) at Medupi power station at Lephalale, Limpopo.

This is a report of the geotechnical impact assessment findings.

2.0 OBJECTIVES

The objectives of the geotechnical investigation and impact assessment were as follows:

- Undertake a site visit, taking cognisance of the geotechnical sensitivity of the site;
- Undertake a review of existing information and conceptual plans of the study area;
  - founding material
  - waste dump material (using previous or supplied reports, published, empirical or other data sources)
  - liner system (using previous or supplied reports, published, empirical or other data sources)
- Provide mitigation measures to prevent and/or mitigate any impacts that may occur due to the proposed project;
- Assess groundwater conditions encountered during the investigation and their potential engineering impact on the proposed development.
- Provide a Geotechnical Impact Assessment commenting on any visible or readily identifiable geotechnical issues exposed during the investigations which may affect the proposed development.

3.0 SCOPE OF WORK

The scope of works was initially to assess the footprint of the ash dump waste disposal facility extension, but was revised after the fieldwork was complete to include the following:

1) Construction and operation of a rail yard/siding to transport Limestone from a source defined point via the existing rail network to the Medupi Power Station and proposed rail yard / siding. The rail yard infrastructure will include storage of fuel (diesel) in above ground tanks and 15m deep excavation for tippler building infrastructure;
2) Construction and operation of limestone storage area, preparation area, handling and transport via truck and conveyor to the FGD system located near the generation units of the Medupi Power Station;
3) The construction and operation of the wet FGD system that will reduce the SO_2 content in the flue gas emitted;
4) Construction and operation of associated infrastructure required for operation of the FGD system and required services to ensure optimal functioning of the wet FGD system. The associated FGD infrastructure include a facility for storage of fuel (diesel), installation of stormwater infrastructure and conservancy tanks for sewage;
5) The handling, treatment and conveyance of gypsum and effluent from the gypsum dewatering plant. Disposal of gypsum on the existing ADF is not included in the current EIA application and will be addressed in the ADF WML amendment application.
6) Pipeline for the transportation of waste water from the gypsum dewatering plant and its treatment at the WWTP that will be located close to the FGD infrastructure within the Medupi Power Station;

7) Construction and operation of the WWTP;

8) Management, handling, transport and storage of salts and sludge generated through the waste water treatment process at a temporary waste storage facility. In terms of the EIA process impacts related to the management of salts and sludge will be considered in the EIR. However, licencing of the storage activity and requirements relating to the waste storage facility will be assessed in the WML registration application process.

9) The transportation of salts and sludge via trucks from the temporary waste storage facility to a final Waste Disposal Facility to be contracted by Eskom for the first 5 years of operation of the FGD system. Long term disposal of salts and sludge will be addressed though a separate independent EIA process to be commissioned by Eskom in future.

10) Disposal of gypsum together with ash on the existing licenced ash disposal facility (ADF), with resulting increase in height of the ADF from 60m to 72m.

4.0 ASH DISPOSAL FACILITY SITE DESCRIPTION

4.1 Site Description

The Medupi power plant is located approximately 25km west of the town of Lephalale in Limpopo. Alternative Site 13 is within the bounds of the plant. The sites were accessed by gravel tracks that lead off the main road from the town of Lephalale.

The site layout map showing the location of the preferred Ash Disposal Facility (Alternative Site 13) in relation to alternative Sites initially considered is presented in Figure 1 below.

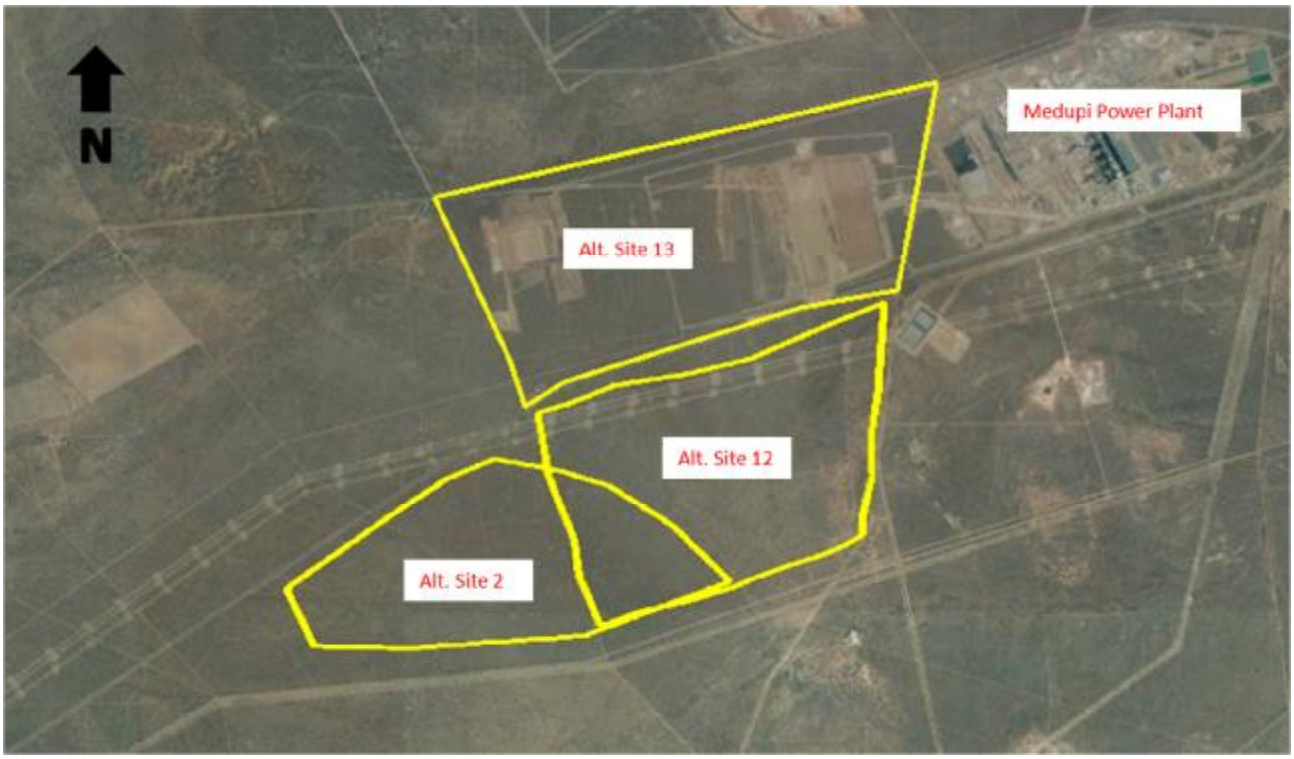

Figure 1: Site layout

The general topography of the site comprises large level plains with wild animals (bucks and warthogs) seen on the sites during the investigation. Construction is currently taking place in an area adjacent to Alternative Site 13, but it is a progressing development.

The bush comprises a thick concentration of trees, shrubs and grass interspersed with large trees. Movement through the bush by vehicles is generally difficult, with some tracks used by Eskom. The site investigation team relied on tracks formed by the excavator to navigate the site. No major rivers or water bodies were observed.

Photographs of the sites, taken during the geotechnical fieldwork, are included below:

Alternative Site 13

Figure 2: Construction activity seen on site

Figure 3: Typical test pit investigated on site (shallow refusal)

Figure 4: Typical material excavated from site

Figure 5: Typical vegetation on site

4.2 Nature of the Investigation

4.2.1 Field Investigation over the ADF Footprint

Geotechnical fieldwork was undertaken from 3 November to 6 November 2015 and comprised the following:

- Mechanical excavation, using an excavator provided by Golder, of 8 test pits at pre-determined positions. The pre-determined GPS positions of each test pit were located on site using a handheld GPS unit accurate to within about 5 m. Test pits were excavated to depths of approximately 3 m below natural ground level (NGL). Test pits were profiled according to the method of prescribed in SANS 633. Retrieval of representative soil samples was undertaken from some test pits for laboratory testing purposes.

The approximate fieldwork positions are presented in the figure attached in Appendix B.

4.2.2 Laboratory Testing

Soil samples were collected from the test pits and transported to a specialist laboratory in Johannesburg. The soil samples were submitted for testing to determine fundamental geotechnical engineering properties of the materials including soil classification, material and compaction properties.

The following sample types and number of samples were retrieved during the investigations:

Table 1: Samples types and quantities

Source	Disturbed Soil	Disturbed Soil (Bulk)
Test Pits	5	1

4.3 Geology and Soil Profile

4.3.1 Geology and Climatic Value

The published 1:250 000 Geological Map of Elisras (1993) shows the proposed site area is underlain by coarse grained brown sandstone and conglomerates of the Mogalakwena Formation, Waterberg Group. In the area of interest, thick profiles of sandy Alluvium can be expected.

The area is classified as having a climatic N-value (Weinert, 1980) of almost 5, which indicates that both chemical weathering and mechanical weathering are likely. From the description of the geology of the area it can be expected that residual soils are generally shallow and transported soils vary greatly in thickness.

4.3.2 Soil Profile

A total of 8 test pits were excavated within the footprint of Alternative Site 13. This is a deviation from the original 9 test pits that where initially planned. Test Pit 7 was inaccessible during the field investigation.

The excavated test pits intersected a relatively uniform near surface ground profile across all alternative sites. The intersected ground profile within the 3.0 m from NGL generally comprises four successive horizons. These general horizons have been described below for interpretive purposes.

Table 2: Typical Soil Profiles the Alternative ASF Site

Topsoil	Dry to slightly moist, brown to brownish grey, very loose becoming loose with increasing depth, intact, fine grained; SILTY SAND – *Topsoil* with some roots and organic material.
Transported Sand (Alluvium)	Slightly moist, reddish brown, medium dense to dense with increasing depth, intact to slightly shattered, fine to medium grained; slightly SILTY CLAYEY SAND to SILTY SAND – *Transported (Alluvium).*
Transported Gravel	Dry, brown speckled black, dense becoming dense with depth, homogenous, medium to coarse grained, matrix supported, blocky, rounded, smooth to granular, hard rock; weakly cemented GRAVEL, excavates as gravel – *Transported*
Sandstone	This material was only encountered in MTP9 at depth 1.1. Reddish brown, highly weathered, fine grained, soft rock, in situ weathered SANDSTONE excavated as rounded, subangular gravel.

Table 3: Ground Profile underlying the ADF Footprint Alternative Site 13

Test Pit ID	Depth (m)	Depth to the base of indicated horizon (or base of excavation, where indicated) (m)			
		Topsoil	Transported Sand	Transported Gravel	Sandstone
Alternative Site 13					
MTP1	1.1	0.2	1.1*	-	-
MTP2	1.2	0.4	1.2	-	-
MTP3	1.1	0.4	1.1	-	-
MTP4	1.4	0.4	1.3	1.4*	-
MTP5	1.6	0.5	1.6*	-	-
MTP6	2.5	0.4	1.5	2.5*	-
MTP8	1.5	0.5	1.0	1.5*	-
MTP9	1.7	0.4	1.1	-	1.7*

*Base of excavation

The area of the proposed development appears to be covered in its entirety by relatively thick alluvial sand. This surface horizon was found to be dry and was up to 2 m thick in some test pits.

Cemented gravel material was found is some test pits. This material is interpreted to be also be of transported origin.

Of the 8 test pits, weathered rock was only encountered in MTP9.

4.3.3 Moisture Condition

No seepage or groundwater was encountered in any of the test pits, which reached a maximum depth of 2.5m.

4.4 Laboratory test results

4.4.1 Foundation Indicators

Table 4: Foundation Indicator test results

Test Pit ID	Depth (m)	Material type	Soil Composition				GM	SG	LL (%)	PI (%)	LS (%)	USC
			Clay (%)	Silt (%)	Sand (%)	Gravel (%)						
Alternative site 13												
MTP1	0.4 – 1.1	Transported	15	12	72	1	1.01	2.598	22	11	4	SC
MTP2	1.2	Transported	19	9	63	9	1.21	2.825	26	12	6.5	SC
MTP3	0.4 – 1.1	Transported	12	7	71	10	1.41	-	24	8	4	SC
MTP5	0.5-1.0	Transported	14	9	74	3	1.14	2.658	20	10	3.5	SC
MTP8	0.5-1.0	Transported	9	8	80	3	1.18	2.852	NP	NP	NP	SM

Legend:

GM = Grading Modulus
SG = Specific Gravity
LL = Liquid Limit
PI = Plasticity Index
LS = Linear Shrinkage
SC = Clayey Sand
SM = Silty Sand

Table 4 indicates that:

- The **Transported** soil of **Alternative Site 13** comprises mostly of sand (63% to 80%) and some fraction of clay and silt. The material can be classified as Clayey Sand (SC) and Silty Sand (SM) according to the Unified Soil Classification (USC). The Plasticity Index of the material is low (8% to 12%), this together with the low clay contents are indicative of a low plastic material with a low potential expansiveness according to the method proposed by Van der Merwe (Reference 5).

4.4.2 Compaction Characteristics

Table 5: Compaction Test Results

Test pit ID	Depth (m)	Material Type	OMC (%)	MDD (kg/m^3)	Swell (%)	Soaked CBR at various ratios of MDD compactive efforts						TRH 14 Classification
						90%	93 %	95 %	97 %	98 %	100 %	
Alternative site 13												
MTP3	0.4-1.1	Transported	8.4	2115	0.2	9	13	18	21	21	23	G9

Legend

OMC = Optimum moisture content
MDD = Maximum dry density (Modified AASHTO)
Swell = Soaked at 100% Mod AASHTO compaction
TRH = Material classification according to TRH14 guidelines
CBR = California Bearing Ratio

The **Transported** sand for **Alternative Site 13** has a moderate dry density of 1961 kg/m^3 and 2115 kg/m^3 and a relatively high moisture content of 11.3 and 8.4% respectively. The swell is low at 1.4% and 0.2% respectively. The CBR value of 93% and 95% compaction effort are relatively low, but typical for sandy material. Accordingly to the TRH 14, the material can be classified as G9 material.

4.4.3 Falling Head Permeability

Table 6: Permeability Test Results

Test Pit ID	Depth (m)	Moisture Content		Dry density (Kg/m3)		Coefficient of Permeability (m/s)		
		Before Test (%)	After Test (%)	Initial	As Tested	Range		Average
						Minimum	Maximum	
Alternative Site 13								
MTP 2	0.4-1.2	8.7	14.7	1395	1760	1.9×10^{-7}	2.5×10^{-7}	2.1×10^{-7}
MTP 8	0.5-1.0	4.3	14.5	1427	1743	5.3×10^{-7}	6.9×10^{-7}	6.2×10^{-7}

The laboratory test results show a relatively low permeability. This is due to the moderate content of clay and silt in the Transported material. Should the in-situ transported soil be used in the construction of embankments or liner material, a permeability of 1×10^{-7} m/s can be expected when compacted to 95% Mod AASHTO effort.

4.4.4 pH and Conductivity

Table 7: pH and Conductivity test results

Test Pit ID	Depth (m)	pH-value	Conductivity mS/cm
Alternative Site 13			
MPT1	0.40-1.10	5.74	0.3300
MTP5	0.50-1.00	4.56	0.0897

The pH and conductivity of soil is generally determined to get an indication of the potential corrosiveness of the soil. The pH of a soil gives an indication of the acidity of the soil. As a general guideline Evans (Reference 8) noted that corrosion may take place in soil with a pH of less than 6 and that should the pH be less than 4,5 , the problem may be serious. It should however be noted that a low pH value is not necessarily an indication of serious corrosiveness as the pH of the surrounding soil will generally start to rise as soon as corrosion starts.

Corrosion is an electrochemical process whereby metals are changed and electrical energy is released. The conductivity of the soil therefore has a profound influence on the rate of corrosion of buried metallic objects.

The conductivity results are generally very corrosive (0.25 – 0.5 mS/cm) corrosion classification accordingly to the method proposed by Duligal E (Reference 7) with the exception MTP 5 in Alternative site 13. The pH value obtained are indicative of material with medium potential to corrode.

4.5 Geotechnical Impact Assessment

An evaluation of the impact of geotechnical conditions on Alternative Site 13 is presented in the sections below.

4.5.1 Excavation Class

Excavation Class was assessed according to SANS 1200D: Earthworks Specification (Reference 4) for the areas investigated by means of test pits and at the positions of the test pits, based on a summary of the Excavation Class provided below:

- *Soft* excavation, which is possible using conventional light earthmoving equipment (TLB or similar)
- *Intermediate* excavation, which will require heavier plant (tracked excavator) or pneumatic tools to break up material prior to excavation
- *Hard excavation*, requiring drill-and-blast operations, and boulder material potentially requiring localised drill and blast operations and heavy plant for removal thereof.
- *Boulder* Class, requiring individual drilling and blasting in order to be loosened

The interpreted excavation class for the sites are as follows:

Table 8: Evaluation of Excavation Class

Site	Approximate Average Depths (m)		
	Soft Excavation Class	**Soft to Intermediate Excavation Class**	**Boulder and Hard Rock Excavation Class**
Alternative Site 13	0 – 0.4m	0.6 – 2.5m	Approximately 2.5m+

Since rock was encountered from relatively shallow depths elsewhere, variation to the above can be anticipated between points of excavation. An allowance should therefore be made for boulder and hard excavation in areas not inspected, or where TLB refusal was encountered.

4.5.2 Engineering Use

A geotechnical evaluation of the engineering properties of the materials encountered on site, together with an appraisal of the suitability of the materials for engineering use and construction based on Wagner (Reference 6), is tabulated below:

Table 9: Preliminary engineering use and construction suitability

Material Type	USC Range	Workability	Homogeneous Embankment Earth Fill	Road Pavement Fill	Liner material
Transported/ Residual	SC to SM	Fair - good	Good	Poor	Fair
Transported	SC	Good	Good	Poor	Fair

USC – Unified Soil Classification

Transported sand was found within the footprint of Alternative Site 13. This material is expected to be found in abundance, although intermediate excavation measures will have to be employed to access this material. This material can be used in embankment fills. The laboratory test results revealed that there is a considerable amount of cohesive material present in the transported material and can, therefore, be appropriate for use as a lining material. Imported clay or a synthetic liner may be needed in addition to the transported material for the construction of the liner for the waste disposal facilities.

4.5.3 Shear Strength

The effective shear strength properties of the in situ soils have been estimated based on the laboratory test results, engineering experience and available literature, as follows:

Table 10: Preliminary effective shear strength parameters

Material Type	Estimated effective in situ shear strength parameters		Estimated effective shear strength parameters of material compacted to at least 95% of MDD	
	c' (kPa)	**ϕ' (degrees)**	**c' (kPa)**	**ϕ' (degrees)**
Transported	0	26 - 30	0	32

MDD: Maximum dry density

4.5.4 Shallow Foundations

The following recommendations on bearing capacity should be considered preliminary and subject to further investigation and analysis as the design proceeds.

Design of shallow strip and pad footings are considered suitable on properly compacted alluvial sand and gravel which covers the majority of Alternative Site 13. These should generally be designed for light structures (loads not exceeding 100kPa), subject to depth of embedment and minimum footing width requirements. The suitability of the site for deep pad foundations in order to found statically loaded heavy structures is considered suitable up to about 300kPa, subject to similar requirements as per lightly loaded structures above. Note that final recommendations need to be reviewed once the details of the waste disposal facilities and their accompanying loads are known. Further ground intrusive investigations (core drilling, geophysical investigation and SPT) will be required.

4.5.5 Lateral Stability of Excavation

The lateral stability of excavation side walls are not expected to be problematic. We recommend the following preliminary slopes:

- Permanent cut slopes in non-cohesive sand and gravel: 1 Vertical (V): 3.0 Horizontal (H)
- Temporary cut slopes in sand and gravel: 1V: 2H
- Permanent embankment fill slopes in non-cohesive sand and gravel: 1V: 2.5H

4.5.6 Summary of Geotechnical Impact Assessment

Table 11: Geotechnical Impact Assessment of Alternative Site 13

Activity	Nature of Impact	Impact type	Extent	Duration	Potential Intensity	Likelihood	Rating	Mitigation	Interpretation
Excavation Class	Excavation Class was assessed according to SANS 1200D: Earthworks Specification for the areas investigated by means of test pits and at the positions of the test pits.	Existing	2	1	2	1	6 - Moderate	The use of mechanical equipment or blasting to excavate below 2.5m	A contingency should be allowed from depths of 2.5m below NGL
Engineering Use	A geotechnical evaluation of the engineering properties of the materials encountered on site, together with an appraisal of the suitability of the materials for engineering use and construction based on Wagner (1957)	Existing	2	1	2	0.75	5.75 - Moderate	The material is good for use as an embankment fill but better material would need to be imported to construct the roads leading to the facility.	Gravel material (G6 or better) and clay material may need to be imported in the construction phase to use as liner and construction material
Shear strength	The effective shear strength properties of the in situ soils have been estimated based on the laboratory test results, engineering experience and available literature	Residual	2	2	2	0.75	6.75 - Moderate	The shear strength of the material is quite low and would need to be further tested. The shear strength can be improved by stabilising the material with lime or cement.	The shear strength is appropriate for lightly loaded structures but would need to be improved for heavy structures
Bearing Capacity	Bearing capacity should be considered preliminary and subject to further investigation and analysis as the design proceeds.	Existing	2	5	8	1	16 - High	Bearing capacity for shallow founding is suitable for lightly loaded structures, deep foundations would be necessary for heavy structures (bigger than 300kPa)	The bearing capacity is appropriate for lightly loaded structures but would need to be improved for heavy structures
Lateral Stability	The lateral stability of excavation side walls are not expected to be problematic. We recommend the following preliminary slopes:	Existing	2	2	4	1	9- Moderate	1V:2.5H excavations are recommended for permanent slopes while 1V:2H excavations are recommended for temporary slopes. Benching of slopes may be required.	The lateral stability of excavation side walls are not expected to be problematic if mitigation measures are implemented

5.0 FGD SYSTEM WITHIN THE MEDUPI POWER STATION FOOTPRINT

We provide a brief geotechnical assessment of the FGD system within the Power Station footprint using only supplied information, as this area was not included within our original scope of works.

Based on the Golder report reference 12087-8856-1 entitled: *Medupi Power Station: Shallow Groundwater Study,* and dated June 2009 (Reference 2), a number of percussion (hydrological) boreholes were drilled in and around the Power Station footprint. The location of these boreholes are provided in the figure in Appendix B.

The profiles presented in the report indicates the following ground conditions:

- The site is underlain by a sequence of pebbles, weathered quartzitic conglomerate with fresh variously fractured quartzitic conglomerate at depth.
- The conglomerate is interbedded with bluish grey siltstone (bands). The drilling has shown the siltstone forms discontinuous layers of up to 50cm thick but mostly about 20cm thick.
- Generally surface weathering to shallow depth (<5m) occurs. In some boreholes a second fractured and associated weathered zone is observed and is normally found between 7 - 14m.
- Some boreholes (e.g. GA001, GA003, GA004, GA005 and GA014) have no surface weathering.
- Boreholes in the extreme north or west, show the presence of deep weathering, up to 21m.
- Water strikes were made in 14 of the 35 boreholes at depths between 6 and 10.5m below surface.

Based on this information, the following brief comments are provided:

- The site is mainly underlain by quartzites, shale, sandstones and conglomerates. Soils and weathered and fractures rock are present to depths typically varying from 10 to 15m, below which the soils become relatively fresh.
- Standard foundation systems are expected to be applicable, comprising generally shallow foundations.
- Excavatability is expected to be soft to intermediate, with hard rock class (drill and blast) for excavation in moderately weathered or harder rock (location dependent, but generally below about 5m depth).

6.0 RAILWAY YARD AND LIMESTONE AND GYPSUM HANDLING FACILITIES

We provide a brief geotechnical assessment of the Railway Yard and Limestone and Gypsum Handling facilities using supplied information only, as this area was not included in our original scope of works.

Based on the supplied Rockland Geocscience report (Reference 3), the following is noted:

The investigation comprised the excavation of test pits and geophysical surveys over the site. Test pit TP7 and TP23 are located near to the proposed railway yard. These encountered medium dense silty sand to between 1.1m and 1.8m, underlain by dense gravel to between 1.5m and 2.4m, underlain by very soft rock quartzite in TP7, with TLB refusal at 1.8m on medium hard rock quartzite in TP7, and refusal on hardpan ferricrete at 2.4m in TP23. The geophysical continuous surface wave (CSW) survey CSW4 conducted adjacent to TP7 interpreted a shear wave velocity profile with highly weathered (quartzite) rock below about 1.5m, becoming moderately weathered below about 4m, then slightly weathered below about 8.5m.

Based on the Golder report reference 12087-8856-1 entitled: *Medupi Power Station: Shallow Groundwater Study* and dated June 2009, a number of boreholes were drilled in and around the Power Station footprint. We have reviewed the two boreholes closest to the proposed Railway Yard, GA026 and GA027, which are located about 800 to 1000m away. The water level measured in GA026 was dry, and in GA027 was 2.6m below surface.

Borehole GA026 indicates slightly and moderately weathered conglomeratic quartzite in zones below 3.5m depth, becoming fresh from 14.5m depth, whilst GA027 indicated the boundary between slightly to moderately weathered quartzite and fresh quartzite at 16.5m.

The Limestone Offloading Facility below the railway yard is proposed to be 15m in depth. Based on the above, the following is interpreted:

Hard rock (drill and blast excavation) will be required from a depth of about 2m.

Dependent on the thickness of the surficial soils and any fill materials over the area, a contingency allowance should be made for encountering rock during the installation of such services or shallow foundations, where hard rock excavation (hydraulic rock hammer or drill and blast) may be necessary.

Standard footing systems such as shallow pad and strip footings are expected to be applicable for the area.

Deep excavations are expected to require reinforcement and/or stabilisation, particularly at shallow depths. Dependent on the quality of the rock and degree of fracturing, the lower half of the 15m deep excavation may potentially be unreinforced and unstabilised. Core orientated geotechnical drilling and associated structural analysis of the ground will be required prior to design to test for this design solution.

Groundwater can be expected from a shallow depth in the excavation. The volume of water seepage is expected to be relatively low, and reducing as the excavation proceeds into less fractured rock.

7.0 CONCLUSION

A total of 8 test pits were excavated at the site of the ash disposal facility using a TLB to a median depth of 2m. The test pits intersected topsoil overlying alluvial non-cohesive material, with weathered sandstone intersected in only one test pit at a depth of 1.7m. Recommendations have been provided on excavatibility, engineering use, shear strength, shallow foundations and slope angles at the ash disposal facility.

The ground conditions at the site of the FGD system within the plant site were assessed using percussion (hydrological) boreholes. Based on this, weathered rock is expected from about 5m depth. We note that this depth will be highly variable, and further testing will be needed to confirm the ground conditions at each item of infrastructure.

The ground conditions at the site of the Rail Yard and the Limestone and Gypsum Offloading Facility were assessed using percussion (hydrological) boreholes about 800m to 1000m away from the area, as well as test pits and geophysics conducted near to the area. Based on this, weathered rock and/or hardpan ferricrete can be expected from about 2m depth. This is underlain by weathered quartzite, becoming slightly weathered to fresh from about 8m.

No significant geotechnical hazards or fatal flaws were identified. All the geotechnical considerations mentioned can be mitigated in the design of the facility. Significant further investigations will be required for all items of infrastructure as the design proceeds.

8.0 REFERENCES

11) Brink A.B.A. and Bruin R.M.H., 1990, “Guidelines for Soil and Rock Logging in South Africa”, 2nd Impression 2001, eds. Proceedings, Geoterminology Workshop organised by AEG, SAICE and SAIEG.

12) Golder Associates, June 2009: “Medupi Power Station: Shallow Groundwater Study”, 12087-8856-1.

13) Rockland Geocscience, March 2015: “Report on the Geotechnical Investigation Conducted for a Proposed Rail Siding, Rail Yard and Off-loading Facility at Medupi Power Station, Lephalale, Limpopo Province”, RG014/169/Rev0.

14) SANS 1200D: 1990: “Standardized Specification for Civil Engineering Construction - Part D: Earthworks” South African National Bureau of Standards, ISBN 0-626-08060-6, pg.6.

15) Van der Merwe, D. H.,1964: “The prediction of heave from the plasticity index and percentage of clay fraction of soils”, Trans. SA Inst. Civ. Eng., Vol. 6, No 6. p 103-107.

16) Wagner A.A., 1957, “The use of unified soils classification system by Bureau of Reclamation”, Proceedings of the 4th ICSMFE, London, Vol 1:125.

17) Duligal E. 1996: “Significance of Soil Resistivity on Corrosivity”.

18) Evans, U R. 1977: “The Corrosion and Oxidation of Metals: Scientific principles and practical applications. Edward Arnold (Publishers) Ltd.

9.0 DOCUMENT LIMITATIONS

Your attention is drawn to the attached: “Document Limitations”. The statements presented in this document are intended to advise you of what your realistic expectations of this report should be, and to present you with recommendations on how to minimise the risks associated with the groundworks for this project. The document is not intended to reduce the level of responsibility accepted by Golder Associates, but rather to ensure that all parties who may rely on this report are aware of the responsibilities each assumes in so doing.

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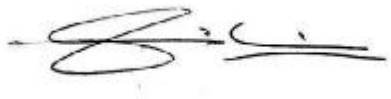

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APPENDIX A

Document Limitations

DOCUMENT LIMITATIONS

DOCUMENT LIMITATION

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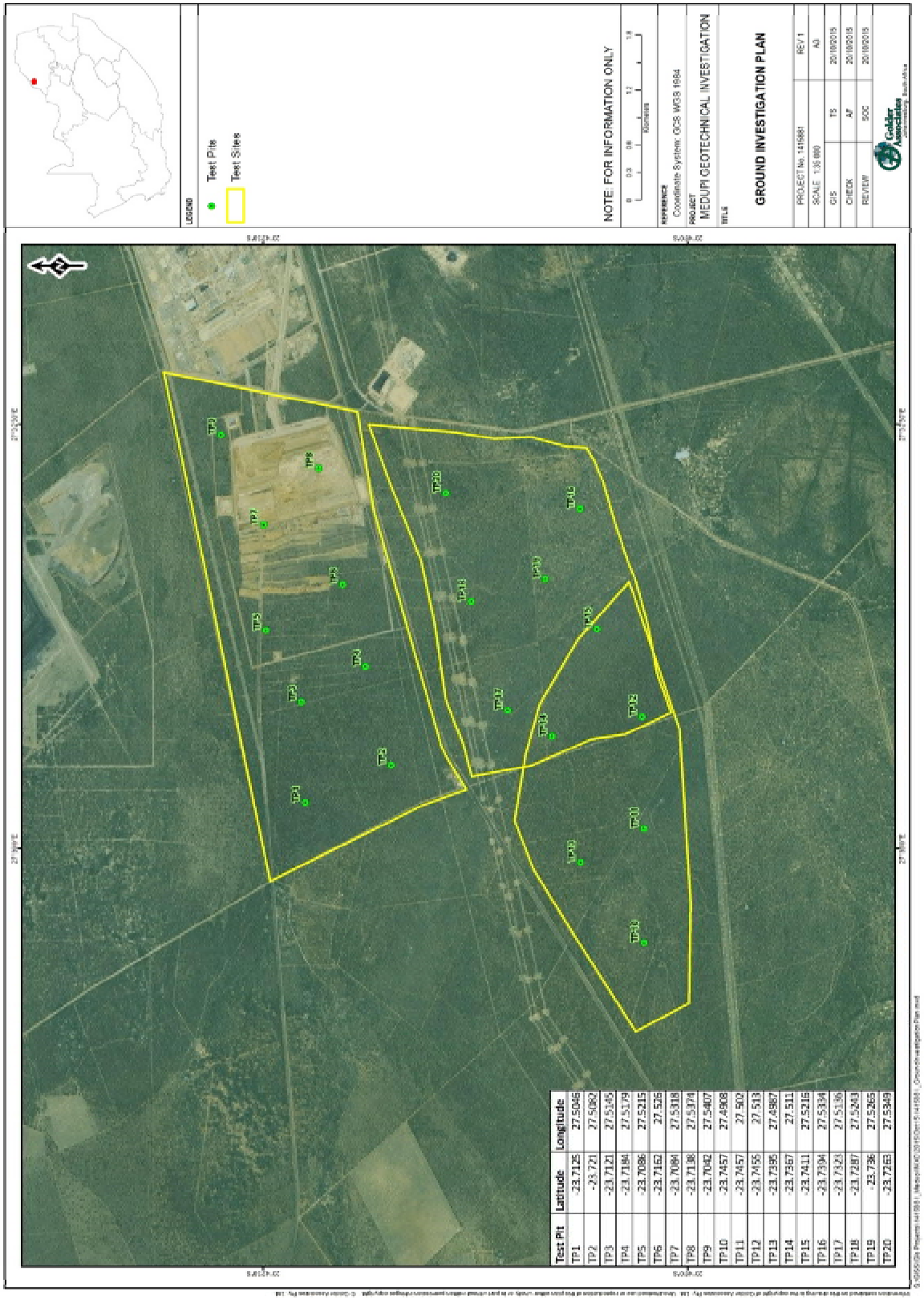
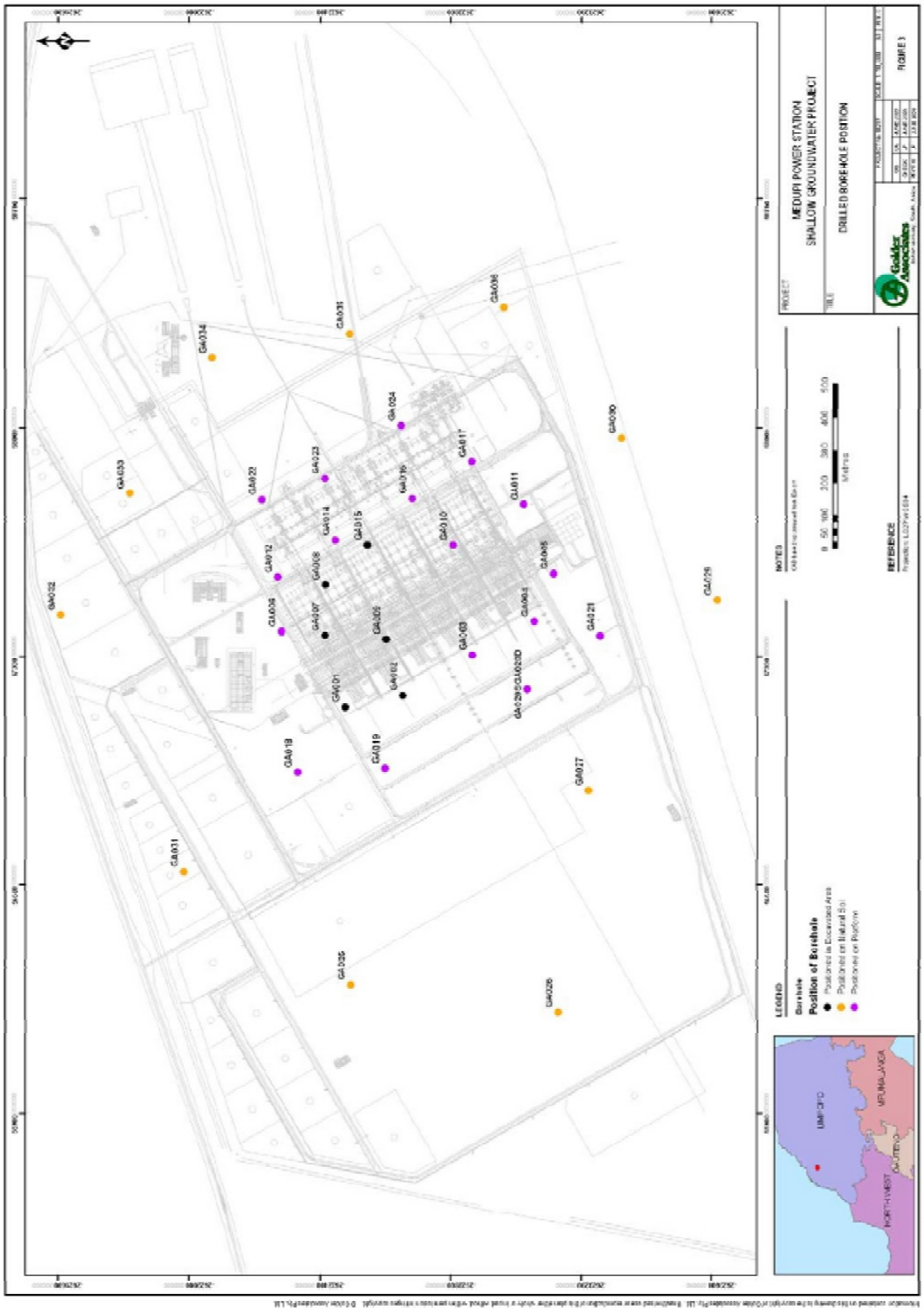
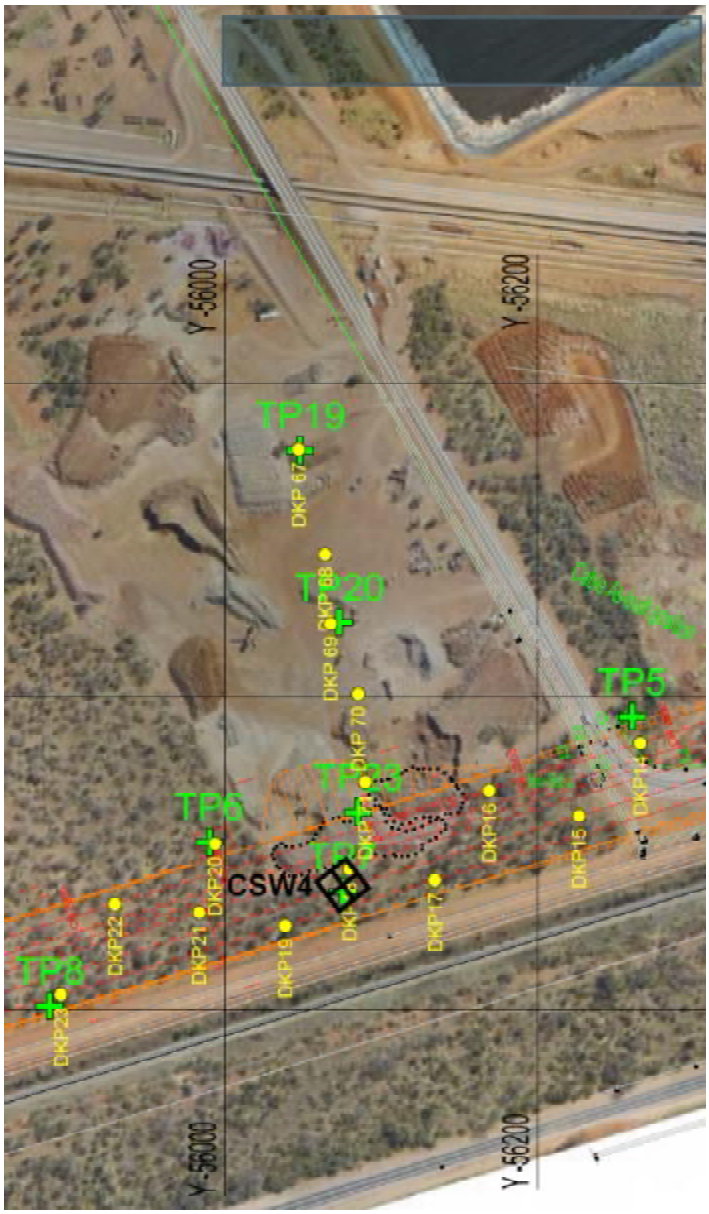
APPENDIX B

Figures


LEGEND
Test Pits
Test Sites
NOTE: FOR INFORMATION ONLY
Kilometres
REFERENCE
Coordinate System: GCS WGS 1984
PROJECT
MEDUPI GEOTECHNICAL INVESTIGATION
TITLE
GROUND INVESTIGATION PLAN
PROJECT No: 1415881
REV 1
SCALE: 1:5 000
A3
GIS
TS
20/09/2015
CHECK
AF
20/09/2015
REVIEW
SOC
20/09/2015
Golder Associates
Test Pit | Latitude | Longitude
TP1 | -23.7125 | 27.5045
TP2 | -23.721 | 27.5062
TP3 | -23.7121 | 27.5345
TP4 | -23.7184 | 27.5179
TP5 | -23.7086 | 27.5215
TP6 | -23.7162 | 27.535
TP7 | -23.7084 | 27.5318
TP8 | -23.7136 | 27.5374
TP9 | -23.7042 | 27.5407
TP10 | -23.7457 | 27.4908
TP11 | -23.7457 | 27.502
TP12 | -23.7455 | 27.513
TP13 | -23.7395 | 27.4867
TP14 | -23.7367 | 27.511
TP15 | -23.7411 | 27.5216
TP16 | -23.7394 | 27.5334
TP17 | -23.7323 | 27.5136
TP18 | -23.7287 | 27.5243
TP19 | -23.736 | 27.5265
TP20 | -23.7263 | 27.5349


MEDUPI POWER STATION
SHALLOW GROUNDWATER PROJECT
DRILLED BOREHOLE POSITION
FIGURE 3
LEGEND
Borehole
Position of Borehole
Positioned in Excavated Area
Positioned on Natural Soil
Positioned on Platform
NOTES
REFERENCE
LIMPOPO
MPUMALANGA
GAUTENG
NORTH WEST



Excerpt from Rockland Geocscience report reference RG014/169/Rev0 over area of proposed Railway Yard

APPENDIX C

Profile logs

TEST PIT PROFILE

CLIENT: ESKOM
PROJECT: Medupi Geotechnical investigation
LOCATION: Lephalale, Limpopo
PROJECT NO: 1415881

HOLE No: MPT2
X COORD: 27.50
Y COORD: - 23.71
DATUM: WGS84
ELEVATION:

Scale	Legend	Depth	Description
		0.00	Dry, brown, medium dense, intact, fine sand with roots. **TOPSOIL**.
		0.40	Dry, brown speckled red, dense to very dense, intact, coarse sand. **TRANSPORTED**.
0.5			
1.0			
		1.20	End of log

NOTES:
1: Medium to hard excavation
2: Refusal at 1.2m (very dense material)
3: No water
4: Side walls stable
5: Sample at 0.4-1.2m (FI, Permeability)

CONTRACTOR: Labante 5 (PTY) Ltd
MACHINE: CAT 48.8E TLB
PIT LxB: 2x 0.8 m
FILE REF: ESKOM.GPJ

DATE EXCAVATED: 2015/11/06
DATE PROFILED: 2015/11/06
PROFILED BY: KM/DM
CHECKED BY:

Golder Associates Africa (PTY) Ltd
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Waterfall City, Midrand 1685
Telephone: +27-11-254-4800
Fax: +27-86-582-1561

Golder Associates

TEST PIT PROFILE

CLIENT: ESKOM
PROJECT: Medupi Geotechnical investigation
LOCATION: Lephalale, Limpopo
PROJECT NO: 1415881

HOLE No: MPT3
X COORD: 27.51
Y COORD: - 23.72
DATUM: WGS84
ELEVATION:

Scale	Legend	Depth	Description
		0.00	Dry, brown, medium dense, intact, fine sand. **TOPSOIL**.
		0.40	Dry, reddish brown, dense to very dense, intact, fine sand. **TRANSPORTED**.
0.5			
1.0			
1.5			
		1.70	End of log

NOTES:
1: Medium excavation
2: Sample at 0.4-1.1m (CBR-Mod)
3: No water
4: Side walls stable
5: Refusal at 1.7m

CONTRACTOR: Labante 5 (PTY) Ltd
MACHINE: CAT 48.8E TLB
PIT LxB: 2x 0.8 m
FILE REF: ESKOM.GPJ

DATE EXCAVATED: 2015/11/06
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TEST PIT PROFILE

CLIENT: ESKOM
PROJECT: Medupi Geotechnical investigation
LOCATION: Lephalale, Limpopo
PROJECT NO: 1415881

HOLE No: MTP1
X COORD: 27.51
Y COORD: - 23.71
DATUM: WGS84
ELEVATION:

Scale	Legend	Depth	Description
		0.00	Dry, brown, loose to medium dense, intact, fine sand. **TOPSOIL**.
		0.20	Dry, brown, dense, intact, fine sand. **TRANSPORTED**.
		0.40	Dry, brown, very dense, intact, sand. **TRANSPORTED**.
0.5			
1.0			
			End of log

NOTES:
1: Medium excavation
2: No water
3: Side wall stable
4: Hole terminated at 1.1m (slow excavation)
5: Sample at 0.4 - 1.1 m (FI and permeability)

CONTRACTOR: Labante 5 (PTY) Ltd
MACHINE: CAT 48.8E TLB
PIT LxB: 2x 0.8 m
FILE REF: ESKOM.GPJ

DATE EXCAVATED: 2015/11/06
DATE PROFILED: 2015/11/06
PROFILED BY: KM/DM
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TEST PIT PROFILE

CLIENT: ESKOM
PROJECT: Medupi Geotechnical investigation
LOCATION: Lephalale, Limpopo
PROJECT NO: 1415881

HOLE No: MTP4
X COORD: 27.52
Y COORD: - 23.72
DATUM: WGS84
ELEVATION:

Scale	Legend	Depth	Description
		0.00	Dry, brown, loose, intact, fine sand. **TOPSOIL**.
		0.35	Dry, reddish brown, medium dense to dense, intact, fine sand. **TRANSPORTED**.
0.5			
1.0			
		1.25	Dry, brown speckled black and red, dense, homogeneous, ferruginised gravel excavated as gravel. **TRANSPORTED (PEBBLE MARKER?)**.
		1.40	
1.5			End of log

NOTES:
1: No water
2: Side walls stable
3: No sample taken
4: Medium to hard excavation
5: Refusal at 1.4m

CONTRACTOR: Labante 5 (PTY) Ltd
MACHINE: CAT 48.8E TLB
PIT LxB: 2x 0.8 m
FILE REF: ESKOM.GPJ

DATE EXCAVATED: 2015/11/06
DATE PROFILED: 2015/11/06
PROFILED BY: KM/DM
CHECKED BY:

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TEST PIT PROFILE

CLIENT: ESKOM
PROJECT: Medupi Geotechnical investigation
LOCATION: Lephalale, Limpopo
PROJECT NO: 1415881

HOLE No: MTP5
X COORD: 27.52
Y COORD: - 23.71
DATUM: WGS84
ELEVATION:

Scale	Legend	Depth	Description
		0.00	Dry, brown, loose to medium dense, intact, fine sand. **TOPSOIL**.
0.5		0.50	Dry, reddish brown, medium dense to dense, intact, silty sand. **TRANSPORTED**.
1.0			
1.5		1.60	End of log

NOTES:
1: No water
2: Side walls stable
3: Sample taken at 0.5-1m). (FI, chemical)
4: Easy to medium excavation
5: Refusal at 1.6m

CONTRACTOR: Labante 5 (PTY) Ltd
MACHINE: CAT 48.8E TLB
PIT LxB: 2x 0.8 m
FILE REF: ESKOM.GPJ

DATE EXCAVATED: 2015/11/06
DATE PROFILED: 2015/11/06
PROFILED BY: KM/DM
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Golder Associates

TEST PIT PROFILE

CLIENT: ESKOM
PROJECT: Medupi Geotechnical investigation
LOCATION: Lephalale, Limpopo
PROJECT NO: 1415881

HOLE No: MTP6
X COORD: 27.53
Y COORD: - 23.72
DATUM: WGS84
ELEVATION:

Scale	Legend	Depth	Description
		0.00	Dry, brown, loose, intact, fine sand. **TOPSOIL**.
		0.40	
0.5			Dry, reddish brown, medium dense to dense, intact, coarse sand. **TRANSPORTED**.
1.0			
1.5		1.50	
			Dry, yellowish brown, dense, homogeneous, cemented gravel excavated as gravelly sand. **TRANSPORTED (PEBBLE MARKER?)**.
2.0			
2.5		2.50	End of log

NOTES:
1: No water
2: Side walls stable
3: No sample taken
4: Medium excavation
5: Hole terminated at 2.5m

CONTRACTOR: Labante 5 (PTY) Ltd
MACHINE: CAT 48.8E TLB
PIT LxB: 2x 0.8 m
FILE REF: ESKOM.GPJ

DATE EXCAVATED: 2015/11/06
DATE PROFILED: 2015/11/06
PROFILED BY: KM/DM
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TEST PIT PROFILE

CLIENT: ESKOM
PROJECT: Medupi Geotechnical investigation
LOCATION: Lephalale, Limpopo
PROJECT NO: 1415881

HOLE No: MTP8
X COORD: 27.54
Y COORD: - 23.71
DATUM: WGS84
ELEVATION:

Scale	Legend	Depth	Description
		0.00	Dry, brown, loose, intact, fine sand. **TOPSOIL**.
0.5		0.50	Dry, reddish brown, medium dense, intact, fine sand. **TRANSPORTED**.
1.0		1.00	Dry, reddish brown, dense to very dense, homogeneous, ferruginised fine gravel. **TRANSPORTED**.
1.5		1.50	End of log

NOTES:
1: No water
2: Side walls stable
3: Medium excavation
4: Refusal at 1.5m
5: Sample taken at 0.5m- 1m

CONTRACTOR: Labante 5 (PTY) Ltd
MACHINE: CAT 48.8E TLB
PIT LxB: 2x 0.8 m
FILE REF: ESKOM.GPJ

DATE EXCAVATED: 2015/11/06
DATE PROFILED: 2015/11/06
PROFILED BY: KM/DM
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TEST PIT PROFILE

CLIENT: ESKOM
PROJECT: Medupi Geotechnical investigation
LOCATION: Lephalale, Limpopo
PROJECT NO: 1415881

HOLE No: MTP9
X COORD: 27.54
Y COORD: - 23.70
DATUM: WGS84
ELEVATION:

Scale	Legend	Depth	Description
		0.00	Dry, brown, loose, intact, fine sand. **TOPSOIL**.
		0.40	
0.5			Dry, reddish brown, medium dense, intact, medium-coarse sand and gravel. **TRANSPORTED**.
1.0			
		1.40	
1.5			Reddish dark brown, highly weathered, fine grained, rounded-subangular rock excavated as gravel and cobbles, soft rock
		1.70	
			End of log

NOTES:
1: No water
2: Side walls stable
3: No sample taken
4: Hard excavatiom

CONTRACTOR: Labante 5 (PTY) Ltd
MACHINE: CAT 48.8E TLB
PIT LxB: 2x 0.8 m
FILE REF: ESKOM.GPJ

DATE EXCAVATED: 2015/11/06
DATE PROFILED: 2015/11/06
PROFILED BY: KM/DM
CHECKED BY:

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Fax: +27-86-582-1561

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TEST PIT PROFILE

CLIENT: ESKOM
PROJECT: Medupi Geotechnical investigation
LOCATION: Lephalale, Limpopo
PROJECT NO: 1415881

HOLE No: MTP10
X COORD: 27.49
Y COORD: - 23.75
DATUM: WGS84
ELEVATION:

Scale	Legend	Depth	Description
		0.00	Dry, brown, loose to medium dense, intact, fine sand with roots. **TOPSOIL**.
		0.30	Dry, brown, medium dense to dense, intact, fine sand. **TRANSPORTED**.
0.5			
1.0		1.00	End of log

NOTES:
1: No water
2: Side walls stable
3: 2 samples taken at 0.3-1.0m
4: Refusal on dense sand at 1m

CONTRACTOR: Labante 5 (PTY) Ltd
MACHINE: CAT 48.8E TLB
PIT LxB: 2x 0.8 m
FILE REF: ESKOM.GPJ

DATE EXCAVATED: 2015/11/04
DATE PROFILED: 2015/11/04
PROFILED BY: KM/DM
CHECKED BY:

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Fax: +27-86-582-1561

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TEST PIT PROFILE

CLIENT: ESKOM
PROJECT: Medupi Geotechnical investigation
LOCATION: Lephalale, Limpopo
PROJECT NO: 1415881

HOLE No: MTP11
X COORD: 27.50
Y COORD: - 23.75
DATUM: WGS84
ELEVATION:

Scale	Legend	Depth	Description
		0.00	Dry, brown, loose, intact, fine sand with roots. **TOPSOIL**.
		0.30	Dry, light brown, medium dense to dense, intact, fine-medium coarse sand. **TRANSPORTED**.
0.5		0.70	Dry, brown mottled white, dense to very dense, homogeneous, calcretised gravels excavated as sub-rouded to angular, medium to coarse gravels. **TRANSPORTED**.
1.0		1.00	End of log

NOTES:
1: No water
2: Side walls stable
3: No sample taken
4: Refusal at 1m
5: Medium to hard excavation

CONTRACTOR: Labante 5 (PTY) Ltd
MACHINE: CAT 48.8E TLB
PIT LxB: 2x 0.8 m
FILE REF: ESKOM.GPJ

DATE EXCAVATED: 2015/11/04
DATE PROFILED: 2015/11/04
PROFILED BY: KM/DM
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Telephone: +27-11-254-4800
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Golder Associates

TEST PIT PROFILE

CLIENT: ESKOM
PROJECT: Medupi Geotechnical investigation
LOCATION: Lephalale, Limpopo
PROJECT NO: 1415881

HOLE No: MTP12
X COORD: 27.51
Y COORD: - 23.75
DATUM: WGS84
ELEVATION:

Scale	Legend	Depth	Description
		0.00	Dry, brown, loose to medium dense, intact, fine sand with roots. **TOPSOIL**.
		0.40	
0.5			Dry, reddish brown, loose to medium dense, intact, fine sand. **TRANSPORTED**.
1.0			
		1.20	
			Dry, reddish brown, medium dense to dense, homogeneous, cemented gravel. **TRANSPORTED**.
1.5			
2.0			
		2.40	
2.5			End of log

NOTES:
1: No water
2: Side walls stable
3: Sample taken at 1.4m, (FI)
4: Excavation stopped at 2.4m
5: Medium excavation

CONTRACTOR: Labante 5 (PTY) Ltd
MACHINE: CAT 48.8E TLB
PIT LxB: 2x 0.8 m
FILE REF: ESKOM.GPJ

DATE EXCAVATED: 2015/11/05
DATE PROFILED: 2015/11/05
PROFILED BY: KM/DM
CHECKED BY:

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Waterfall City, Midrand 1685
Telephone: +27-11-254-4800
Fax: +27-86-582-1561

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TEST PIT PROFILE

CLIENT: ESKOM
PROJECT: Medupi Geotechnical investigation
LOCATION: Lephalale, Limpopo
PROJECT NO: 1415881

HOLE No: MTP13
X COORD: 27.50
Y COORD: - 23.74
DATUM: WGS84
ELEVATION:

Scale	Legend	Depth	Description
		0.00	Dry, brown, loose, intact, fine sand. **TOPSOIL**.
0.5		0.60	Dry, reddish brown, medium dense, intact, fine sand. **TRANSPORTED**.
1.0		1.40	Dry, reddish brown, dense, intact, fine sand. **TRANSPORTED**.
1.5			
2.0		2.00	End of log

NOTES:
1: No water
2: Side walls stable
3: No sample taken
4: Refusal on dense sand at 2m

CONTRACTOR: Labante 5 (PTY) Ltd
MACHINE: CAT 48.8E TLB
PIT LxB: 2x 0.8 m
FILE REF: ESKOM.GPJ

DATE EXCAVATED: 2015/11/04
DATE PROFILED: 2015/11/04
PROFILED BY: KM/DM
CHECKED BY:

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Golder Associates

TEST PIT PROFILE

CLIENT: ESKOM
PROJECT: Medupi Geotechnical investigation
LOCATION: Lephalale, Limpopo
PROJECT NO: 1415881

HOLE No: MTP14
X COORD: 27.51
Y COORD: - 23.74
DATUM: WGS84
ELEVATION:

Scale	Legend	Depth	Description
		0.00	Dry, brown, loose, intact, fine sand. **TOPSOIL**.
		0.20	Dry, brown, dense, intact, fine sand. **TRANSPORTED**.
0.5			
1.0			
		1.20	Dry, brown, dense, homogeneous, cemented sandy gravel excavated as gravel. **TRANSPORTED**.
1.5			
		1.80	End of log

NOTES:
1: No water
2: Side walls stable
3: Sample taken at 1.5m
4: Refusal cemented gravel at 1.8m
5: Medium to hard excavation

CONTRACTOR: Labante 5 (PTY) Ltd
MACHINE: CAT 48.8E TLB
PIT LxB: 2x 0.8 m
FILE REF: ESKOM.GPJ

DATE EXCAVATED: 2015/11/05
DATE PROFILED: 2015/11/05
PROFILED BY: KM/DM
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TEST PIT PROFILE

CLIENT: ESKOM
PROJECT: Medupi Geotechnical investigation
LOCATION: Lephalale, Limpopo
PROJECT NO: 1415881

HOLE No: MTP15
X COORD: 27.52
Y COORD: - 23.74
DATUM: WGS84
ELEVATION:

Scale	Legend	Depth	Description
		0.00	Dry, brown, medium dense, intact, fine sand. **TOPSOIL**.
		0.30	Dry, brown, dense, intact, sand. **TRANSPORTED**.
0.5		0.80	Dry, brown mottled orange, very dense, gravelly sand. **RESIDUAL**.
1.0		1.00	End of log

NOTES:
1: No water
2: Side walls stable
3: Sample taken at 1m (chemical)
4: Refusal on residual material at 1m
5: Soft to medium excavation

CONTRACTOR: Labante 5 (PTY) Ltd
MACHINE: CAT 48.8E TLB
PIT LxB: 2x 0.8 m
FILE REF: ESKOM.GPJ

DATE EXCAVATED: 2015/11/05
DATE PROFILED: 2015/11/05
PROFILED BY: KM/DM
CHECKED BY:

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Waterfall City, Midrand 1685
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TEST PIT PROFILE

CLIENT: ESKOM
PROJECT: Medupi Geotechnical investigation
LOCATION: Lephalale, Limpopo
PROJECT NO: 1415881

HOLE No: MTP16
X COORD: 27.53
Y COORD: - 23.74
DATUM: WGS84
ELEVATION:

Scale	Legend	Depth	Description
		0.00	Dry, brown, medium dense, intact, fine sand. **TOPSOIL**.
		0.40	Dry, brown, very dense, intact, coarse sand. **TRANSPORTED**.
0.5			
1.0			
		1.20	End of log

NOTES:
1: No water
2: Side walls stable
3: Sample taken at 0.4-1.2m
4: Medium to hard excavation
5: Refusal at 1.2m

CONTRACTOR: Labante 5 (PTY) Ltd
MACHINE: CAT 48.8E TLB
PIT LxB: 2x 0.8 m
FILE REF: ESKOM.GPJ

DATE EXCAVATED: 2015/11/05
DATE PROFILED: 2015/11/05
PROFILED BY: KM/DM
CHECKED BY:

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Waterfall City, Midrand 1685
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TEST PIT PROFILE

CLIENT: ESKOM
PROJECT: Medupi Geotechnical investigation
LOCATION: Lephalale, Limpopo
PROJECT NO: 1415881

HOLE No: MTP17
X COORD: 27.51
Y COORD: - 23.73
DATUM: WGS84
ELEVATION:

Scale	Legend	Depth	Description
		0.00	Dry, brown, loose, intact, fine sand. **TOPSOIL**.
0.5		0.50	Dry, brown, dense to very dense, intact, fine sand. **TRANSPORTED**.
1.0		1.00	End of log

NOTES:
1: No water
2: Side walls stable
3: Refusal at 1m
4: 2 samples taken at 1m (FI,FH permeability)
5: Medium to hard excavation

CONTRACTOR: Labante 5 (PTY) Ltd
MACHINE: CAT 48.8E TLB
PIT LxB: 2x 0.8 m
FILE REF: ESKOM.GPJ

DATE EXCAVATED: 2015/11/05
DATE PROFILED: 2015/11/05
PROFILED BY: KM/DM
CHECKED BY:

Golder Associates Africa (PTY) Ltd
Buildinjg 1, Maxwell Office Park
Waterfall City, Midrand 1685
Telephone: +27-11-254-4800
Fax: +27-86-582-1561

Golder Associates

TEST PIT PROFILE

CLIENT: ESKOM
PROJECT: Medupi Geotechnical investigation
LOCATION: Lephalale, Limpopo
PROJECT NO: 1415881

HOLE No: MTP19
X COORD: 27.53
Y COORD: - 23.74
DATUM: WGS84
ELEVATION:

Scale	Legend	Depth	Description
		0.00	Dry, brown, loose to medium dense, intact, fine sand with roots. **RESIDUAL**.
		0.30	Dry, brown, medium dense to dense, intact, fine sand. **TRANSPORTED**.
0.5		0.90	Dry, brown speckled red, dense, homogeneous, gravelly sand. **RESIDUAL**.
1.0		1.20	End of log

NOTES:
1: No water
2: Side walls stable
3: Sample at 0.9-1.2m
4: Easy to medium excavation
5: Refusal at 1.2m

CONTRACTOR: Labante 5 (PTY) Ltd
MACHINE: CAT 48.8E TLB
PIT LxB: 2x 0.8 m
FILE REF: ESKOM.GPJ

DATE EXCAVATED: 2015/11/05
DATE PROFILED: 2015/11/05
PROFILED BY: KM/DM
CHECKED BY:

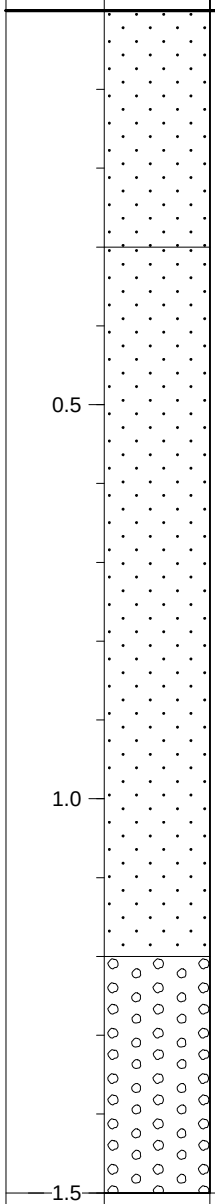
Golder Associates Africa (PTY) Ltd
Buildinjg 1, Maxwell Office Park
Waterfall City, Midrand 1685
Telephone: +27-11-254-4800
Fax: +27-86-582-1561

Golder Associates

TEST PIT PROFILE

CLIENT: ESKOM
PROJECT: Medupi Geotechnical investigation
LOCATION: Lephalale, Limpopo
PROJECT NO: 1415881

HOLE No: MTP20
X COORD: 27.53
Y COORD: - 23.73
DATUM: WGS84
ELEVATION:



Depth	Description
0.00	Dry, brown, medium dense, intact, fine sand. **TOPSOIL**.
0.30	Dry, brown, dense to very dense, intact, coarse sand. **TRANSPORTED**.
1.20	Dry, whittish brown, very dense, homogeneous, calcretised gravel. **TRANSPORTED (PEDOGENIC?)**.
1.50	End of log

NOTES:
1: No water
2: Side walls stable
3: No sample taken
4: Easy to medium excavation
5: Refusal at 1.5m

CONTRACTOR: Labante 5 (PTY) Ltd
MACHINE: CAT 48.8E TLB
PIT LxB: 2x 0.8 m
FILE REF: ESKOM.GPJ

DATE EXCAVATED: 2015/11/05
DATE PROFILED: 2015/11/05
PROFILED BY: KM/DM
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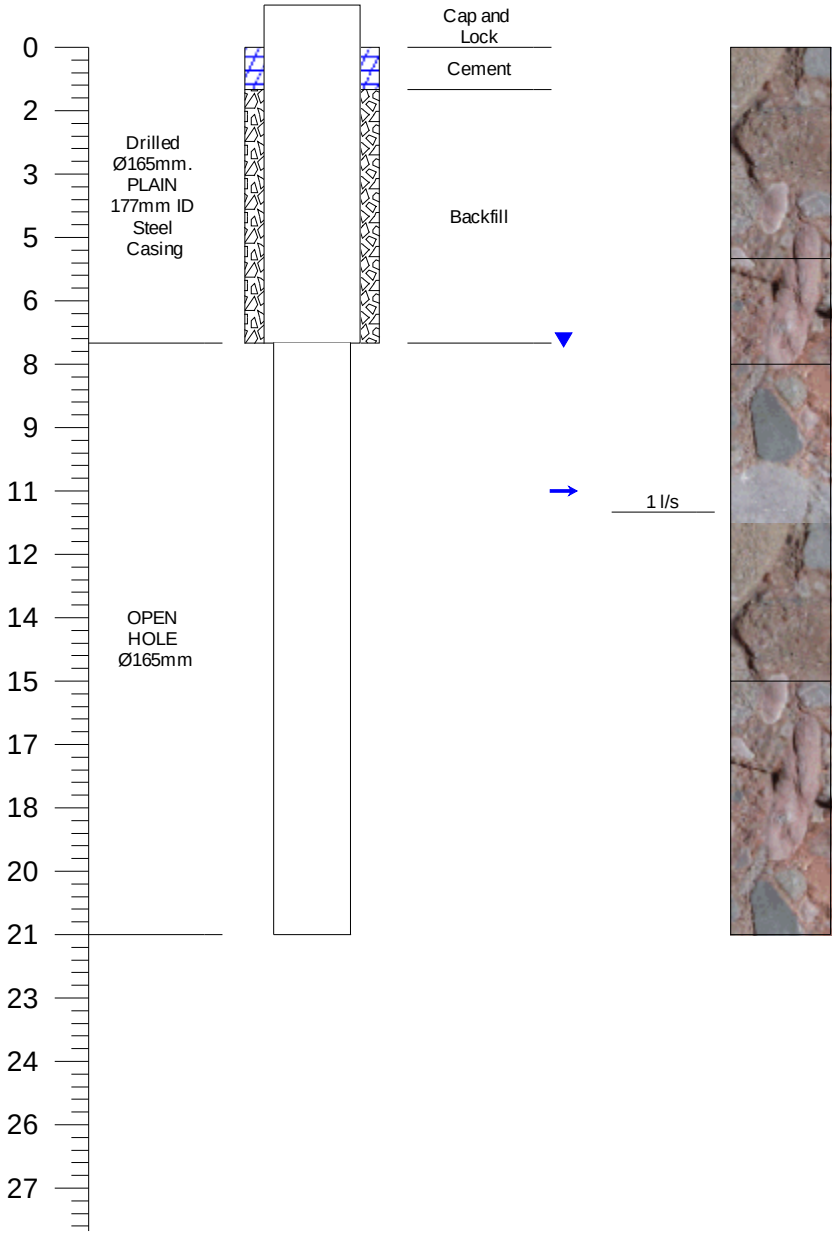
Golder Associates

BOREHOLE LOG

Project: **Medupi Hydrogeological Study**
Location: **Medupi Power Station**
Latitude: **-57148 S**
Longitude: **2622479 E**
Elevation: **900.81 mamsl**

Project No.:**12087**
Borehole Number
GA001

Depth (m)	Well Construction	Water strike(s) and Water level (mbgl)	Lithology	Lithology Description



(0 - 5.0) CONGLOMERATIC QUARTZITE dark red grey, fresh

(5.0 - 7.5) CONGLOMERATIC QUARTZITE pinkish grey banded, moderately fractured

(7.5 - 15.0) CONGLOMERATIC QUARTZITE dark red grey, fresh

(15.0 - 21.0) CONGLOMERATIC QUARTZITE pinkish grey, fresh weathered

Note : soft, MICACEOUS SILTSTONE at 5.5m, 10.5m, 12.5m, 13.5m, 14.5m and 21.5m

Date drilled:	18/02/2009	Drilling diameter:	165 mm
Drilling contractor:	Brewis	Final blow yield:	1 l/s
Hydrogeologist	J. Pretorius	Collar height:	-1.28m

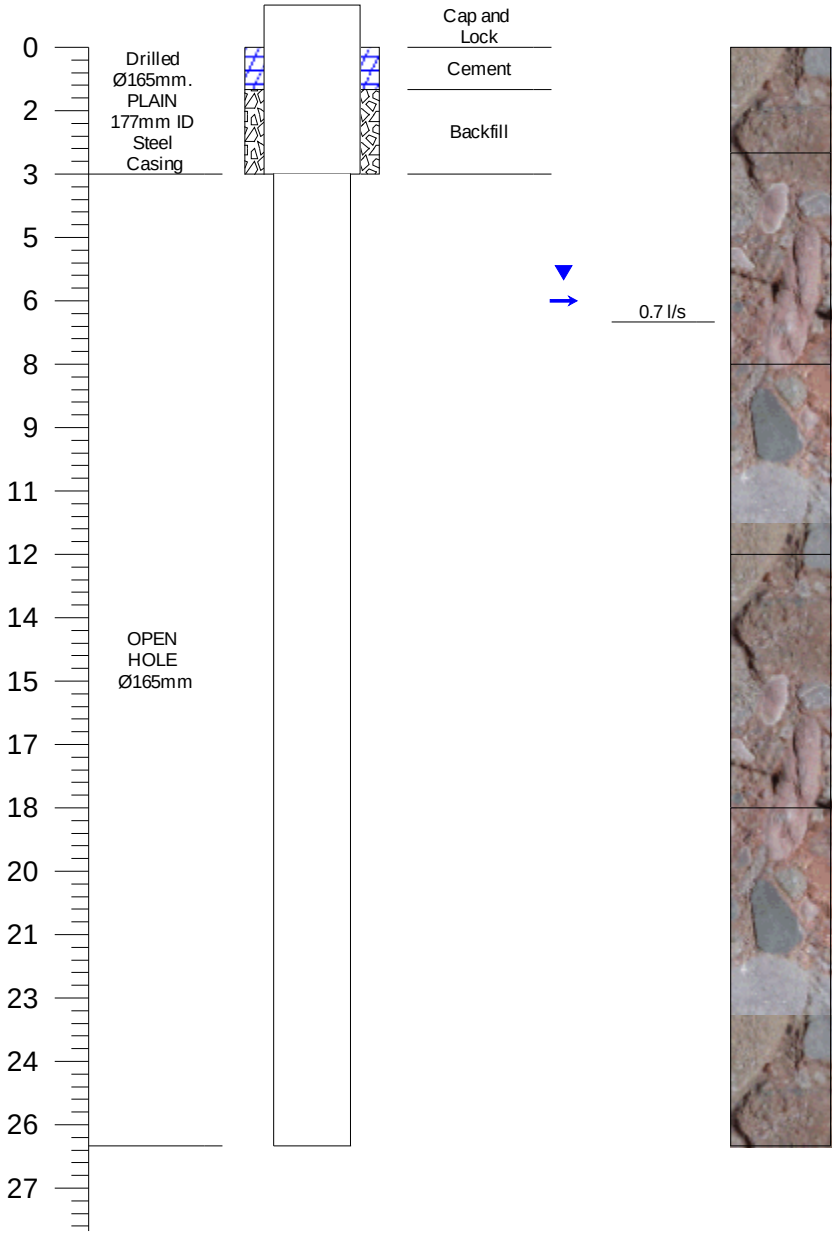
Golder Associates

BOREHOLE LOG

Project: **Medupi Hydrogeological Study**
Location: **Medupi Power Station**
Latitude: **-57183 S**
Longitude: **2622654 E**
Elevation: **901.54 mamsl**

Project No.:**12087**
Borehole Number
GA002

Depth (m)	Well Construction	Water strike(s) and Water level (mbgl)	Lithology	Lithology Description



(0 - 2.5) CONGLOMERATIC QUARTZITE brown grey, moderately weathered

(2.5 - 7.5) CONGLOMERATIC QUARTZITE purple grey, slightly weathered

(7.5 - 12.0) CONGLOMERATIC QUARTZITE dark red grey, fresh

(12.0 - 18.0) CONGLOMERATIC QUARTZITE brown grey, moderately weathered

(18.0 - 26.0) CONGLOMERATIC QUARTZITE dark red grey, fresh

Note : soft, MICACEOUS SILTSTONE at 2.5m, 3.5m, 7.5m, 10m, 12.5m and 14m

Date drilled:	23/02/2009	Drilling diameter:	165 mm
Drilling contractor:	Brewis	Final blow yield:	0.7 l/s
Hydrogeologist	J. Pretorius	Collar height:	-1.34 m

Golder Associates

BOREHOLE LOG

Project: **Medupi Hydrogeological Study**
Location: **Medupi Power Station**
Latitude: **-57307 S**
Longitude: **2622868 E**
Elevation: **902.77 mamsl**

Project No.:**12087**
Borehole Number
GA003

Depth (m)	Well Construction	Water strike(s) and Water level (mbgl)	Lithology	Lithology Description
0	Drilled Ø165mm. PLAIN 177mm ID Steel Casing			(0 - 1.5) FILL MATERIAL
2	Cap and Lock			
3	Cement			(1.5 - 5.5) CONGLOMERATIC QUARTZITE dark red brown, slightly weathered
5	Backfill			
6				(5.5 - 6.0) CONGLOMERATIC QUARTZITE purple grey, slightly fractured and weathered
8				(6.0 - 8.5) CONGLOMERATIC QUARTZITE dark red brown, slightly weathered
9				(8.5 - 12.0) CONGLOMERATIC QUARTZITE dark brown, moderately weathered
11				
12	OPEN HOLE Ø165mm			(12.0 - 13.0) MICACEOUS SILTSTONE blue , soft (1m thick)
14				(13.0 - 15.5) CONGLOMERATIC QUARTZITE dark red brown, slightly weathered
15				
17				15.5 - 17.0) ONGLOMERATIC QUARTZITE pinkish grey, slightly fractured and weathered
18				(17.0 - 21.0) CONGLOMERATIC QUARTZITE dark red brown, fresh
20				
21				Note : soft, MICACEOUS SILTSTONE at 15.5m, 16m, 16.5m and 20m
23				
24				
26				
27				

Date drilled:	23/02/2009	Drilling diameter:	165 mm
Drilling contractor:	Brewis	Final blow yield:	DRY
Hydrogeologist	J. Pretorius	Collar height:	-1.36m

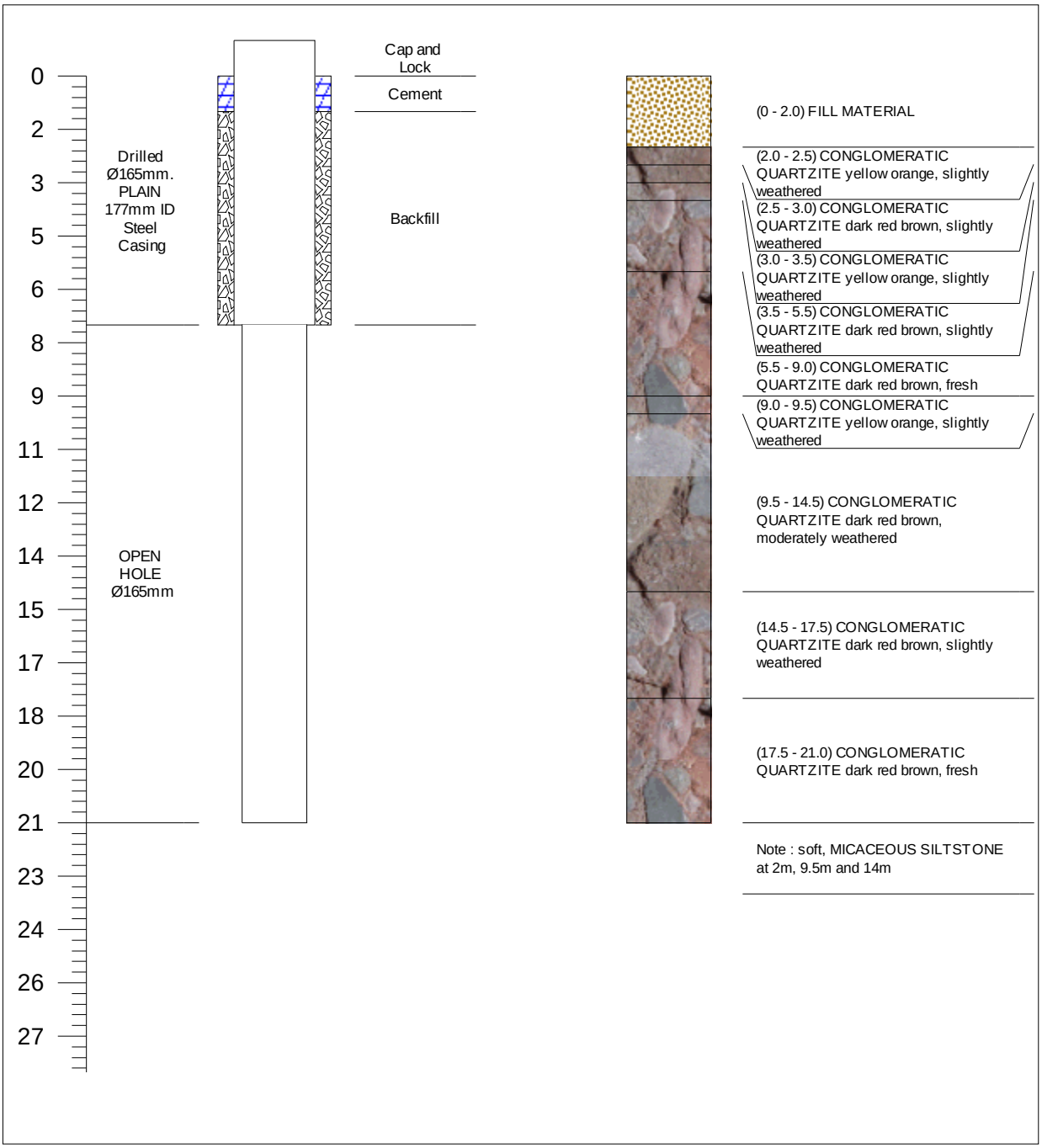
Golder Associates

BOREHOLE LOG

Project: **Medupi Hydrogeological Study**
Location: **Medupi Power Station**
Latitude: **-57410 S**
Longitude: **2623058 E**
Elevation: **902.34 mamsl**

Project No.:**12087**
Borehole Number
GA004

Depth (m)	Well Construction	Water strike(s) and Water level (mbgl)	Lithology	Lithology Description



Date drilled:	17/022009	Drilling diameter:	165 mm
Drilling contractor:	Brewis	Final blow yield:	DRY
Hydrogeologist	J. Pretorius	Collar height:	-0.66m

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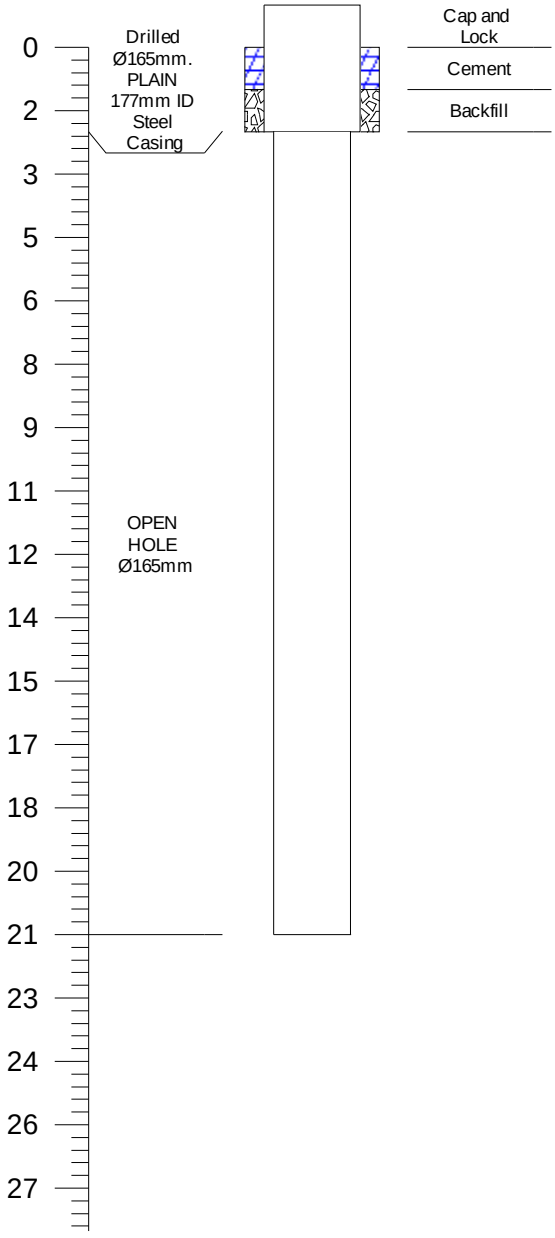
BOREHOLE LOG

Project: **Medupi Hydrogeological Study**
Location: **Medupi Power Station**
Latitude: **-57555 S**
Longitude: **2623117 E**
Elevation: **901.91 mamsl**

Project No.:**12087**
Borehole Number
GA005

Depth (m)	Well Construction	Water strike(s) and Water level (mbgl)	Lithology	Lithology Description



(0 - 1.5) FILL MATERIAL

(1.5 - 3.0) CONGLOMERATIC QUARTZITE brown grey, moderately weathered

(3.0 - 5.0) CONGLOMERATIC QUARTZITE pinkish grey, slightly weathered

(5.0 - 7.0) CONGLOMERATIC QUARTZITE dark red grey, fresh

(7.0 - 12.5) CONGLOMERATIC QUARTZITE brown grey, moderately weathered

(12.5 - 21.0) CONGLOMERATIC QUARTZITE dark red grey, fresh

Note : soft MICACEOUS SILTSTONE at 2.5m, 3.5m and 7.5m

Date drilled:	16/02/2009	Drilling diameter:	165 mm
Drilling contractor:	Brewis	Final blow yield:	DRY
Hydrogeologist	J. Pretorius	Collar height:	-1.37m

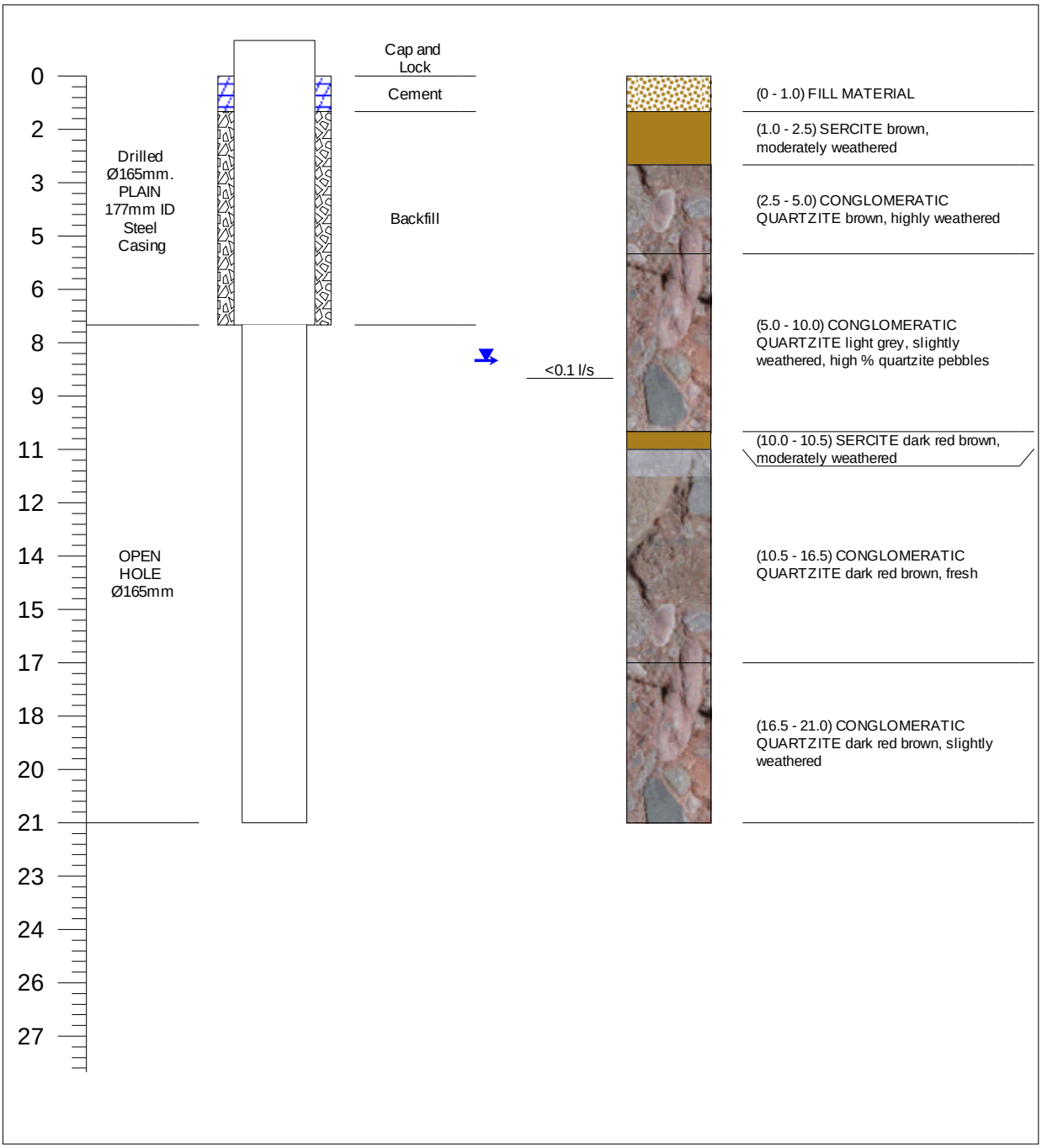
Golder Associates

BOREHOLE LOG

Project: **Medupi Hydrogeological Study**
Location: **Medupi Power Station**
Latitude: **-57380 S**
Longitude: **2622283 E**
Elevation: **900.75 mamsl**

Project No.:**12087**
Borehole Number
GA006

Depth (m)	Well Construction	Water strike(s) and Water level (mbgl)	Lithology	Lithology Description



Date drilled:	21/02/2009	Drilling diameter:	165 mm
Drilling contractor:	Brewis	Final blow yield:	<0.1 l/s
Hydrogeologist	J. Pretorius	Collar height:	-1.45m

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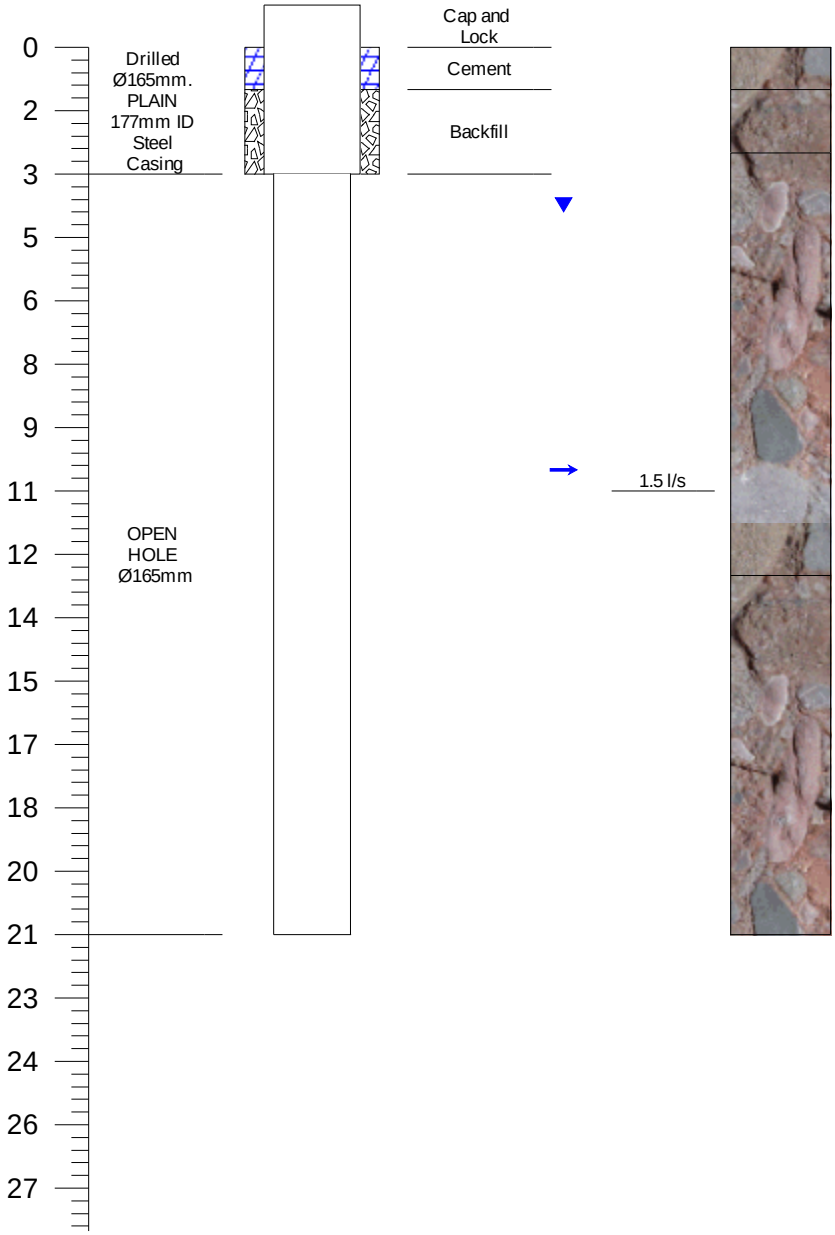
BOREHOLE LOG

Project: **Medupi Hydrogeological Study**
Location: **Medupi Power Station**
Latitude: **-57367 S**
Longitude: **2622416 E**
Elevation: **896.62 mamsl**

Project No.:**12087**
Borehole Number
GA007

Depth (m)	Well Construction	Water strike(s) and Water level (mbgl)	Lithology	Lithology Description



(0 - 1) CONGLOMERATIC QUARTZITE dark grey, fresh

(1 - 2.5) CONGLOMERATIC QUARTZITE brown grey, highly fractured, moderately weathered

(2.5 - 12.5) CONGLOMERATIC QUARTZITE red grey, slightly fractured and weathered

(12.5 - 21.0) CONGLOMERATIC QUARTZITE dark grey, fresh

Note : soft, MICACEOUS SILTSTONE at 7.5m, 12.5m, 14m, 16.5m, 17.5m, 18.5m and 20.5m

Date drilled:	20/02/2009	Drilling diameter:	165 mm
Drilling contractor:	Brewis	Final blow yield:	1.5 l/s
Hydrogeologist	J. Pretorius	Collar height:	-1.47m

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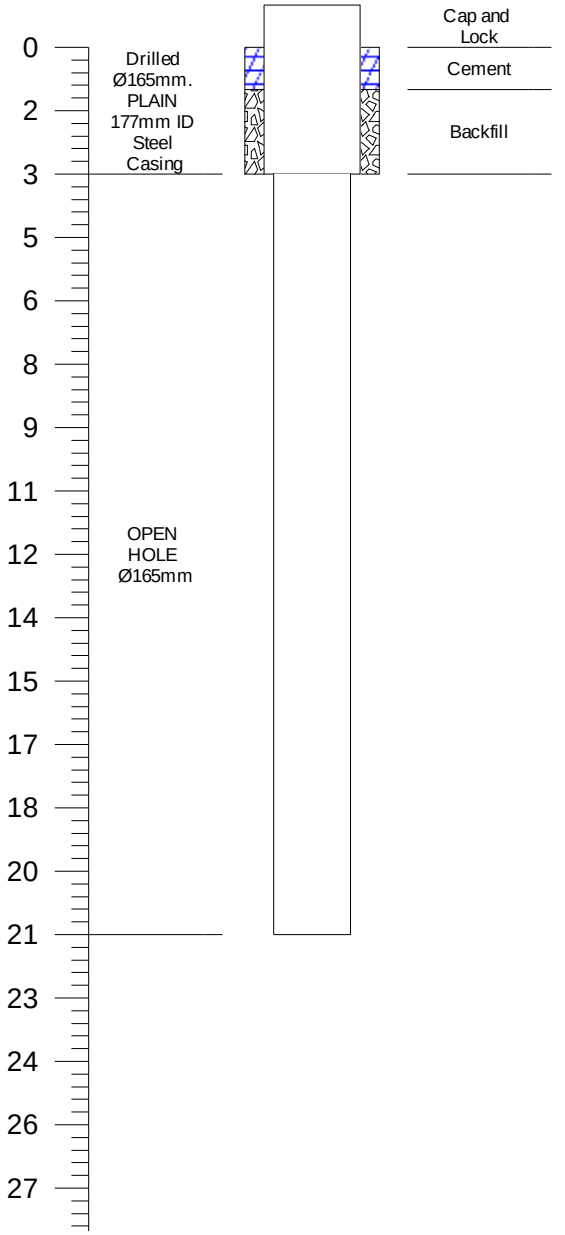
BOREHOLE LOG

Project: **Medupi Hydrogeological Study**
Location: **Medupi Power Station**
Latitude: **-57521 S**
Longitude: **2622418 E**
Elevation: **896.23 mamsl**

Project No.:**12087**
Borehole Number
GA008

Depth (m)	Well Construction	Water strike(s) and Water level (mbgl)	Lithology	Lithology Description



(0 - 1.5) CONGLOMERATIC QUARTZITE dark grey, fresh

(1.5 - 5.5) CONGLOMERATIC QUARTZITE brown grey, slightly fractured weathered

(5.5 - 19.5) CONGLOMERATIC QUARTZITE reddish grey, slightly weathered

(19.5 - 21.0) CONGLOMERATIC QUARTZITE dark grey, fresh

Note : soft, MICACEOUS SILTSTONE at 8.5m, 13.5m, 14m, 17.5m and 20.5m

Date drilled:	20/02/2009	Drilling diameter:	165 mm
Drilling contractor:	Brewis	Final blow yield:	DRY
Hydrogeologist	J. Pretorius	Collar height:	-1.15m

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BOREHOLE LOG

Project: **Medupi Hydrogeological Study**
Location: **Medupi Power Station**
Latitude: **-57356 S**
Longitude: **2622604 E**
Elevation: **895.23 mamsl**

Project No.:**12087**
Borehole Number
GA009

Depth (m)	Well Construction	Water strike(s) and Water level (mbgl)	Lithology	Lithology Description
0	Drilled Ø165mm. PLAIN 177mm ID Steel Casing	Cap and Lock		(0 - 1.0) CONGLOMERATIC QUARTZITE dark grey, fresh
2		Cement		
3		Backfill		(1.0 - 4.0) CONGLOMERATIC QUARTZITE brown grey, highly fractured, moderately weathered
5				
6				
8				
9		1 l/s		(4.0 - 16.0) CONGLOMERATIC QUARTZITE red grey, highly fractured
11				
12	OPEN HOLE Ø165mm			
14				
15				
17				(16.0 - 21.0) CONGLOMERATIC QUARTZITE dark grey, fresh
18				
20				
21				Note : soft, MICACEOUS SILTSTONE at 2.5m, 3.5m, 5.5m, 10.5m, 12.5m and 14.0m
23				
24				
26				
27				

Date drilled:	23/02/2009	Drilling diameter:	165 mm
Drilling contractor:	Brewis	Final blow yield:	1 l/s
Hydrogeologist	J. Pretorius	Collar height:	-1.29m

Golder Associates

BOREHOLE LOG

Project: **Medupi Hydrogeological Study**
Location: **Medupi Power Station**
Latitude: **-57643 S**
Longitude: **2622808 E**
Elevation: **898.13 mamsl**

Project No.:**12087**
Borehole Number
GA010

Depth (m)	Well Construction	Water strike(s) and Water level (mbgl)	Lithology	Lithology Description
0	Drilled Ø165mm. PLAIN 177mm ID Steel Casing			(0 - 1.0) FILL MATERIAL
2	Cap and Lock			(1.0 - 2.5) CONGLOMERATIC QUARTZITE dark grey, fresh
3	Cement			(2.5 - 3.5) CONGLOMERATIC QUARTZITE pinkish grey, fresh
5	Backfill	▼		
6				(3.5 - 10.0) CONGLOMERATIC QUARTZITE dark grey, slightly fractured to fresh
8				
9				
11				
12	OPEN HOLE Ø165mm			(10.0 - 17.5) CONGLOMERATIC QUARTZITE dark red brown, fresh
14				
15				
17				
18				(17.5 - 19.0) CONGLOMERATIC QUARTZITE pinkish grey, slightly weathered to fresh
20				(19.0 - 21.0) CONGLOMERATIC QUARTZITE pinkish grey, slightly fractured and weathered
21				Note : soft, MICACEOUS SILTSTONE at 7.5m, 11.5m and 18.0m
23				
24				
26				
27				

Date drilled:	17/02/2009	Drilling diameter:	165 mm
Drilling contractor:	Brewis	Final blow yield:	DRY
Hydrogeologist	J. Pretorius	Collar height:	-1.23m

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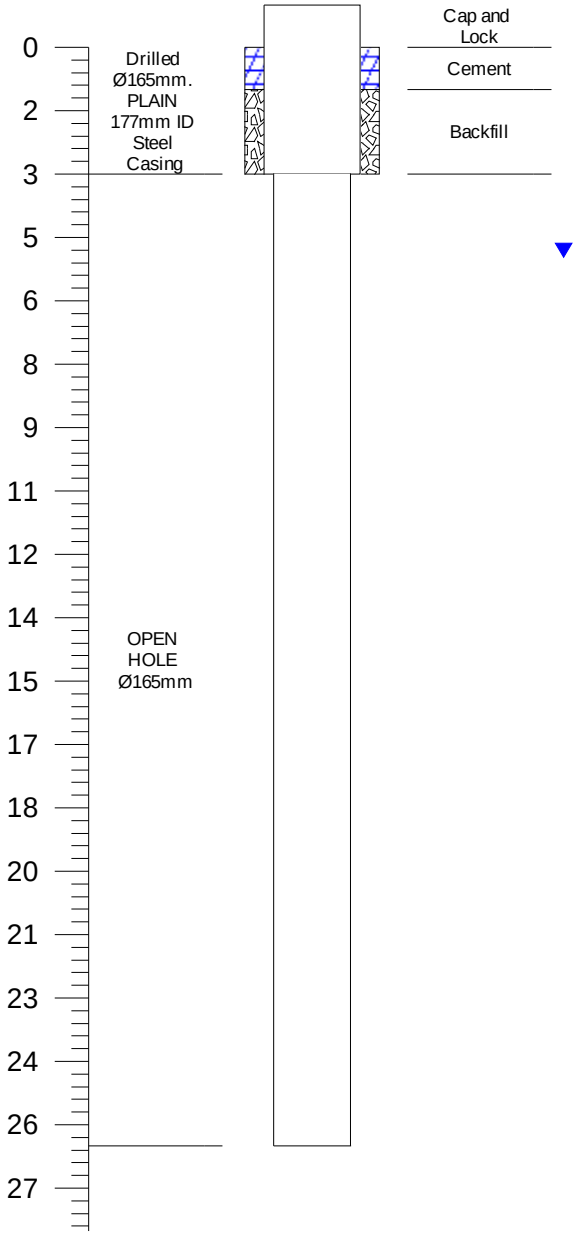
BOREHOLE LOG

Project: **Medupi Hydrogeological Study**
Location: **Medupi Power Station**
Latitude: **-57769 S**
Longitude: **2623026 E**
Elevation: **899 mamsl**

Project No.:**12087**
Borehole Number
GA011

Depth (m)	Well Construction	Water strike(s) and Water level (mbgl)	Lithology	Lithology Description



(0 - 1.0) FILL MATERIAL

(1.0 - 2.0) CONGLOMERATIC QUARTZITE pinkish grey, fresh

(2.0 - 3.5) CONGLOMERATIC QUARTZITE pinkish grey, slightly fractured

(3.5 - 6.0) CONGLOMERATIC QUARTZITE pinkish grey fresh

(6.0 - 7.0) CONGLOMERATIC QUARTZITE yellow orange, slightly fractured and weathered

(7.0 - 8.5) CONGLOMERATIC QUARTZITE pinkish grey, fresh

(8.5 - 11.5) CONGLOMERATIC QUARTZITE pinkish grey, slightly fractured and weathered

(11.5 -20.5) CONGLOMERATIC QUARTZITE dark grey, slightly fractured

(20.5 -22.5) CONGLOMERATIC QUARTZITE yellow orange, fresh

(22.5 - 26.0) CONGLOMERATIC QUARTZITE dark red brown, fresh

Note : soft, MICACEOUS SILTSTONE at 6.5m, 7.5m, 11.5m and 20.5m

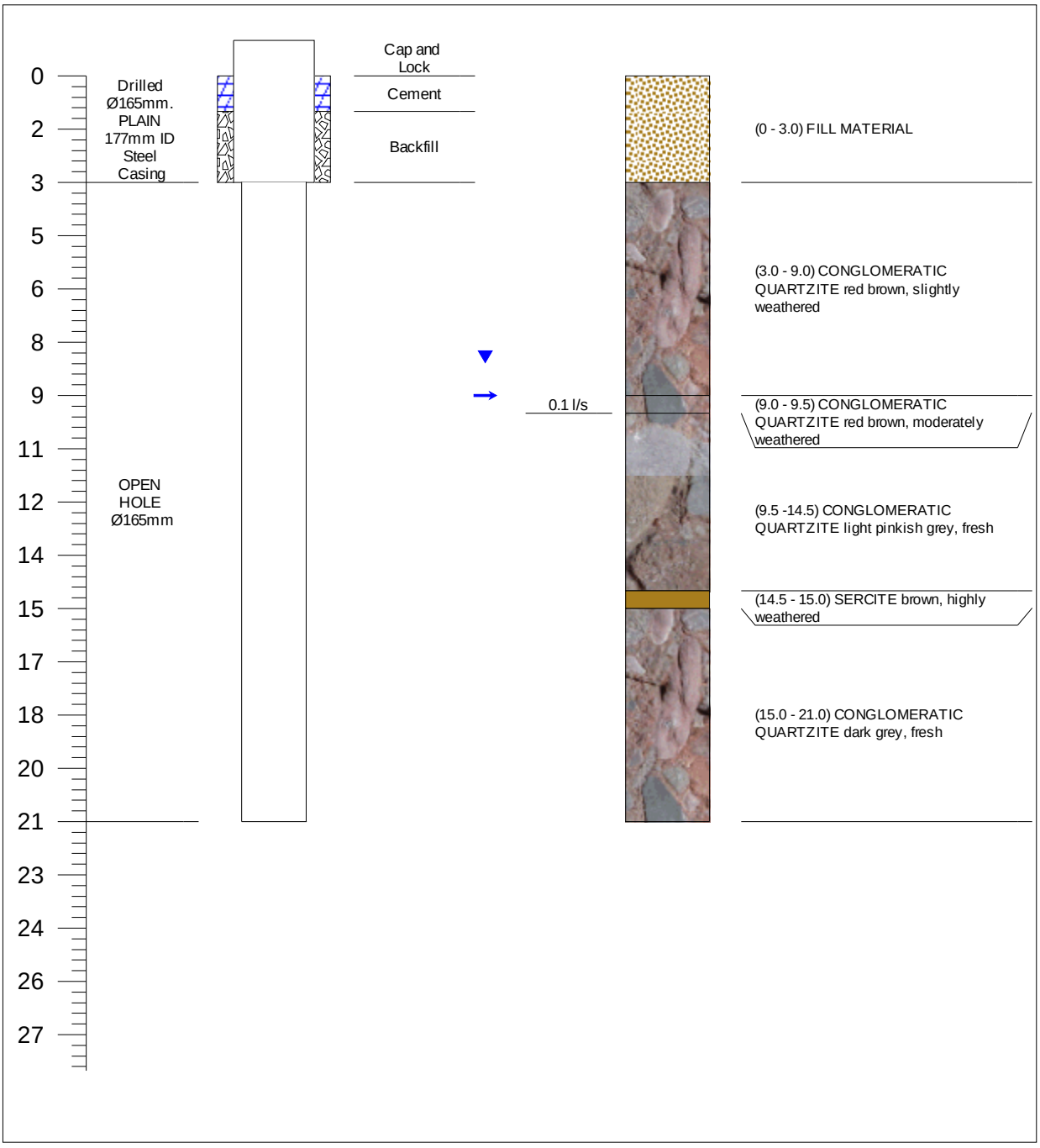
Date drilled:	18/02/2009	Drilling diameter:	165 mm
Drilling contractor:	Brewis	Final blow yield:	0.1l/s
Hydrogeologist	J. Pretorius	Collar height:	-1.25m

Golder Associates

BOREHOLE LOG

Project: **Medupi Hydrogeological Study**
Location: **Medupi Power Station**
Latitude: **-57545 S**
Longitude: **2622271 E**
Elevation: **900.15 mamsl**

Project No.:**12087**
Borehole Number
GA012



Date drilled:	20/02/2009	Drilling diameter:	165 mm
Drilling contractor:	Brewis	Final blow yield:	0.1 l/s
Hydrogeologist	J. Pretorius	Collar height:	-1.19m

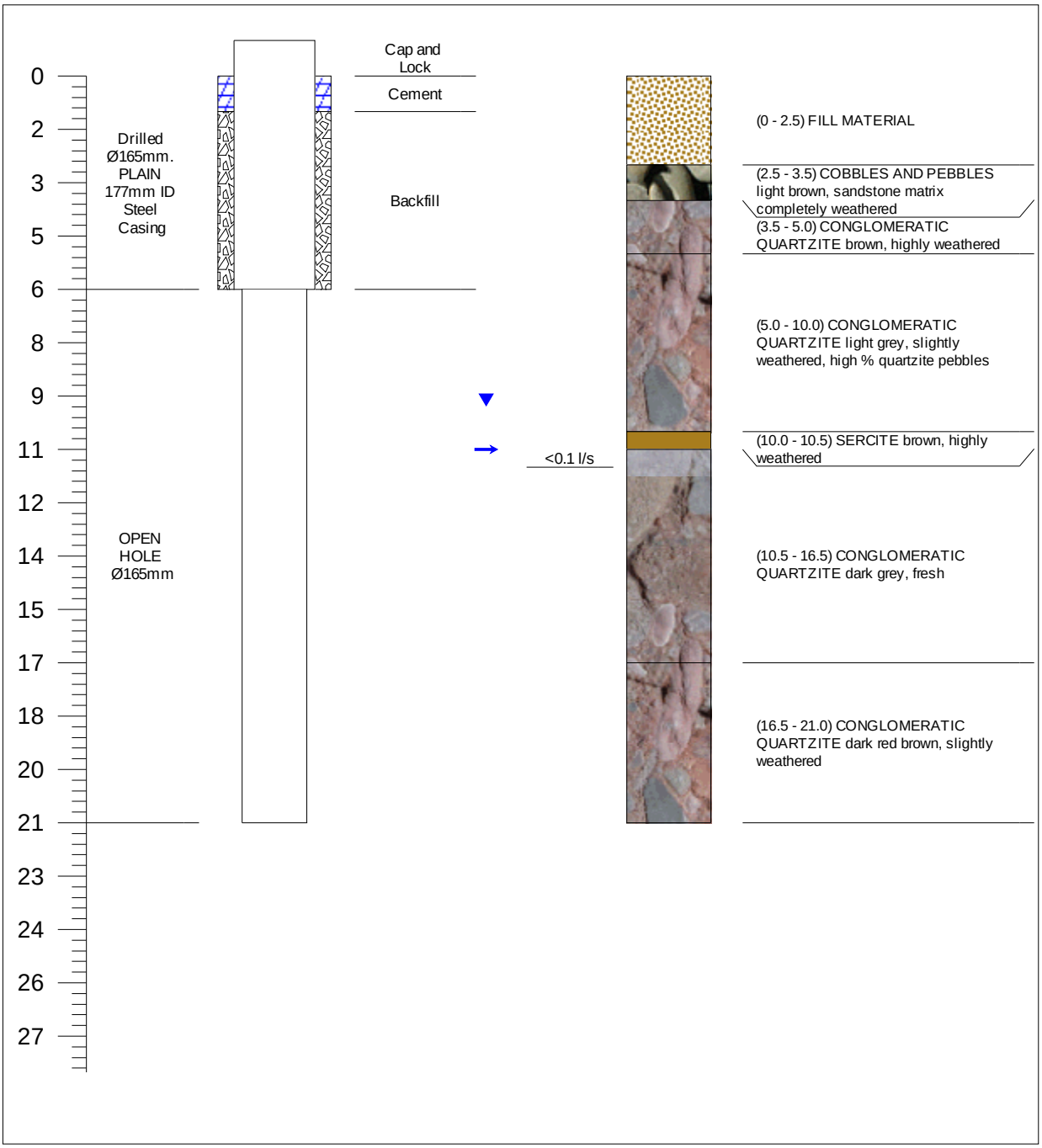
Golder Associates

BOREHOLE LOG

Project: **Medupi Hydrogeological Study**
Location: **Medupi Power Station**
Latitude: **-57659 S**
Longitude: **2622448 E**
Elevation: **901.6 mamsl**

Project No.:**12087**
Borehole Number
GA014

Depth (m)	Well Construction	Water strike(s) and Water level (mbgl)	Lithology	Lithology Description



Date drilled:	23/02/2009	Drilling diameter:	165 mm
Drilling contractor:	Brewis	Final blow yield:	<0.1 l/s
Hydrogeologist	J. Pretorius	Collar height:	-1.36 m

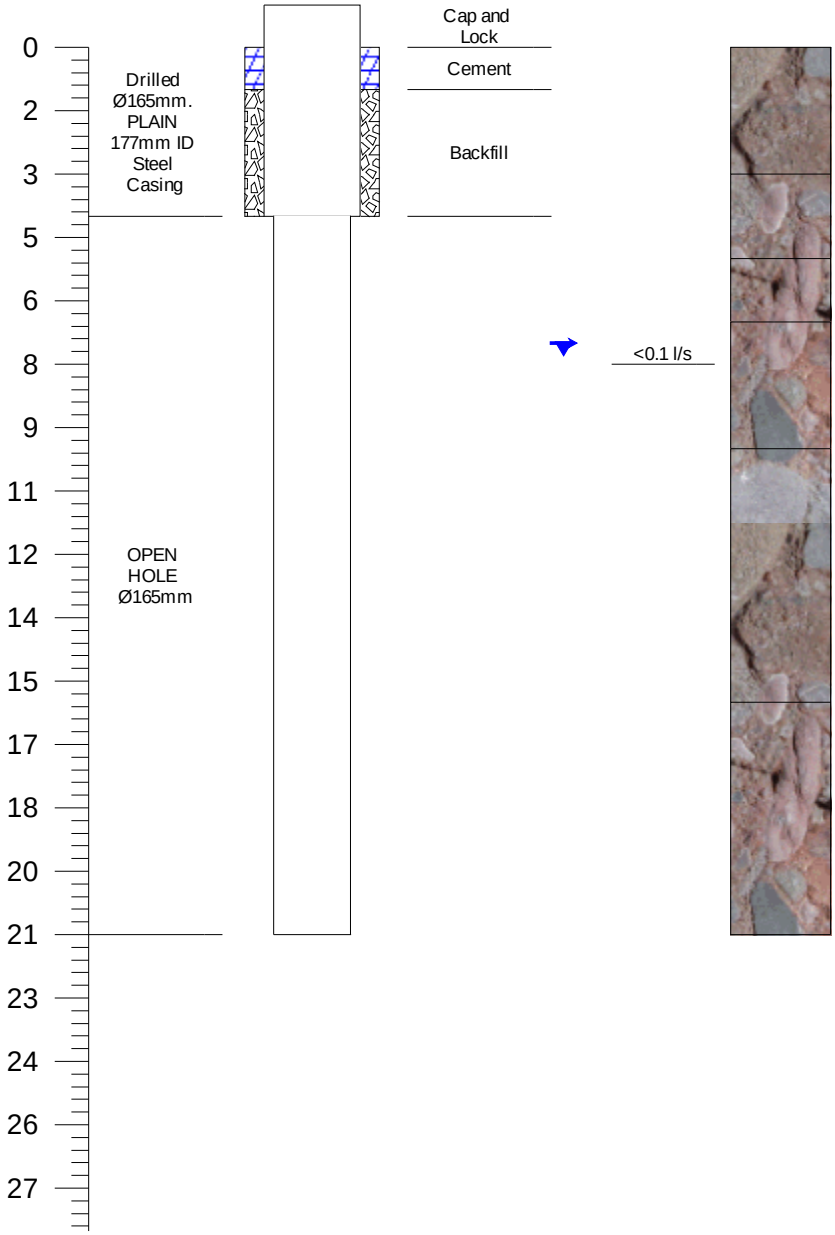
Golder Associates

BOREHOLE LOG

Project: **Medupi Hydrogeological Study**
Location: **Medupi Power Station**
Latitude: **-57644 S**
Longitude: **2622547 E**
Elevation: **899.25 mamsl**

Project No.:**12087**
Borehole Number
GA015

Depth (m)	Well Construction	Water strike(s) and Water level (mbgl)	Lithology	Lithology Description



(0 - 3.0) CONGLOMERATE (COBBLE) light brown, sandstone matrix completely weathered

(3.0 - 5.0) CONGLOMERATE (PEBBLE) light brown, sandstone matrix completely weathered

(5.0 - 6.5) CONGLOMERATIC QUARTZITE yellow orange, slightly weathered

(6.5 - 9.5) CONGLOMERATIC QUARTZITE dark brown, slightly weathered

(9.5 - 15.5) CONGLOMERATIC QUARTZITE dark red brown, sligtly weathered/green SHALE at 15.0m (<5 cm)

(15.5 - 21.0) CONCLOMERATIC QUARTZITE dark brown, slightly weathered

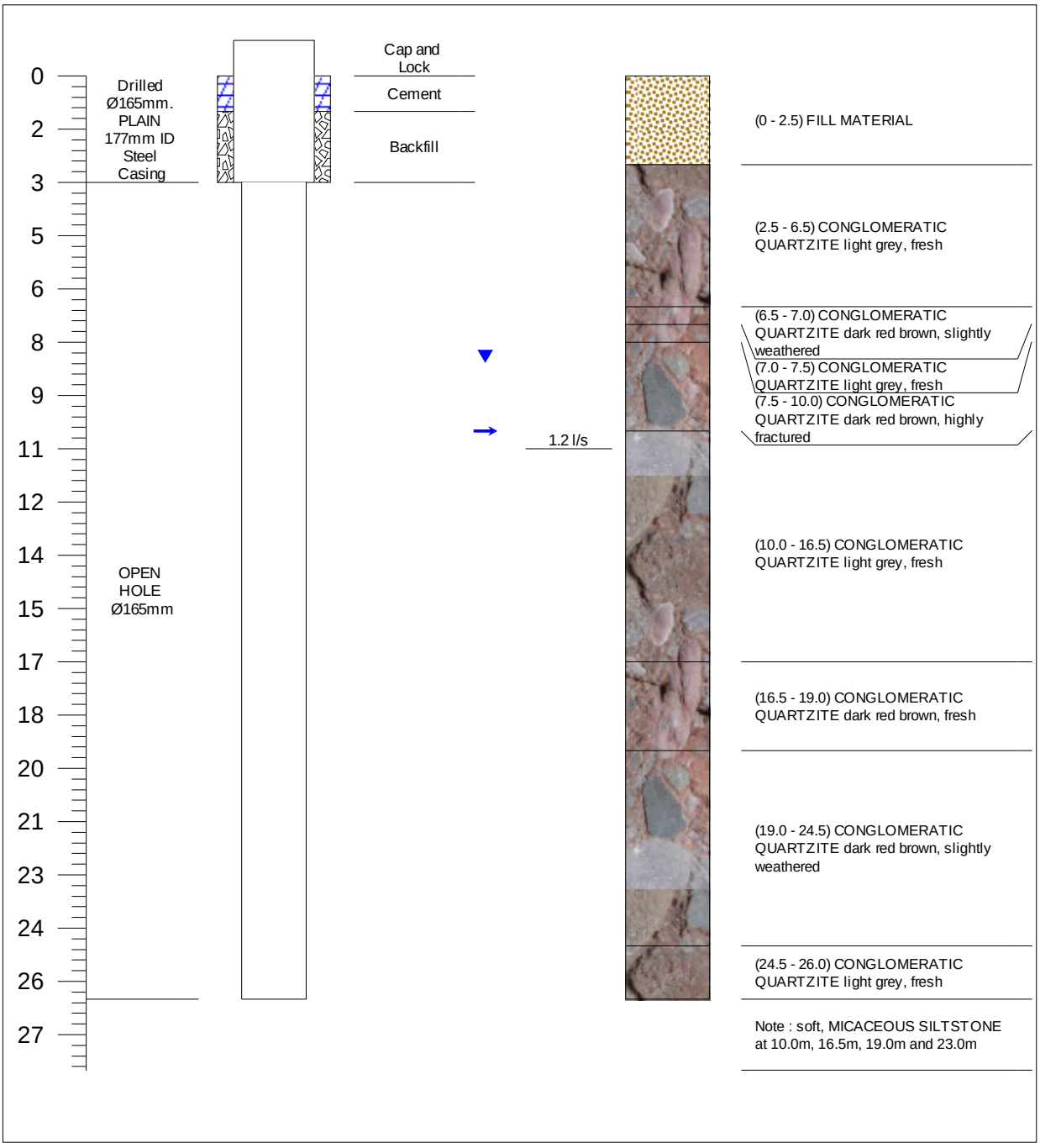
Date drilled:	20/02/2009	Drilling diameter:	165 mm
Drilling contractor:	Brewis	Final blow yield:	0.1l/s
Hydrogeologist	J. Pretorius	Collar height:	-1.38m

Golder Associates

BOREHOLE LOG

Project: **Medupi Hydrogeological Study**
Location: **Medupi Power Station**
Latitude: **-57786 S**
Longitude: **2622683 E**
Elevation: **901.38 mamsl**

Project No.:**12087**
Borehole Number
GA016



Date drilled:	17/02/2009	Drilling diameter:	165 mm
Drilling contractor:	Brewis	Final blow yield:	1.2 l/s
Hydrogeologist	J. Pretorius	Collar height:	-1.22m

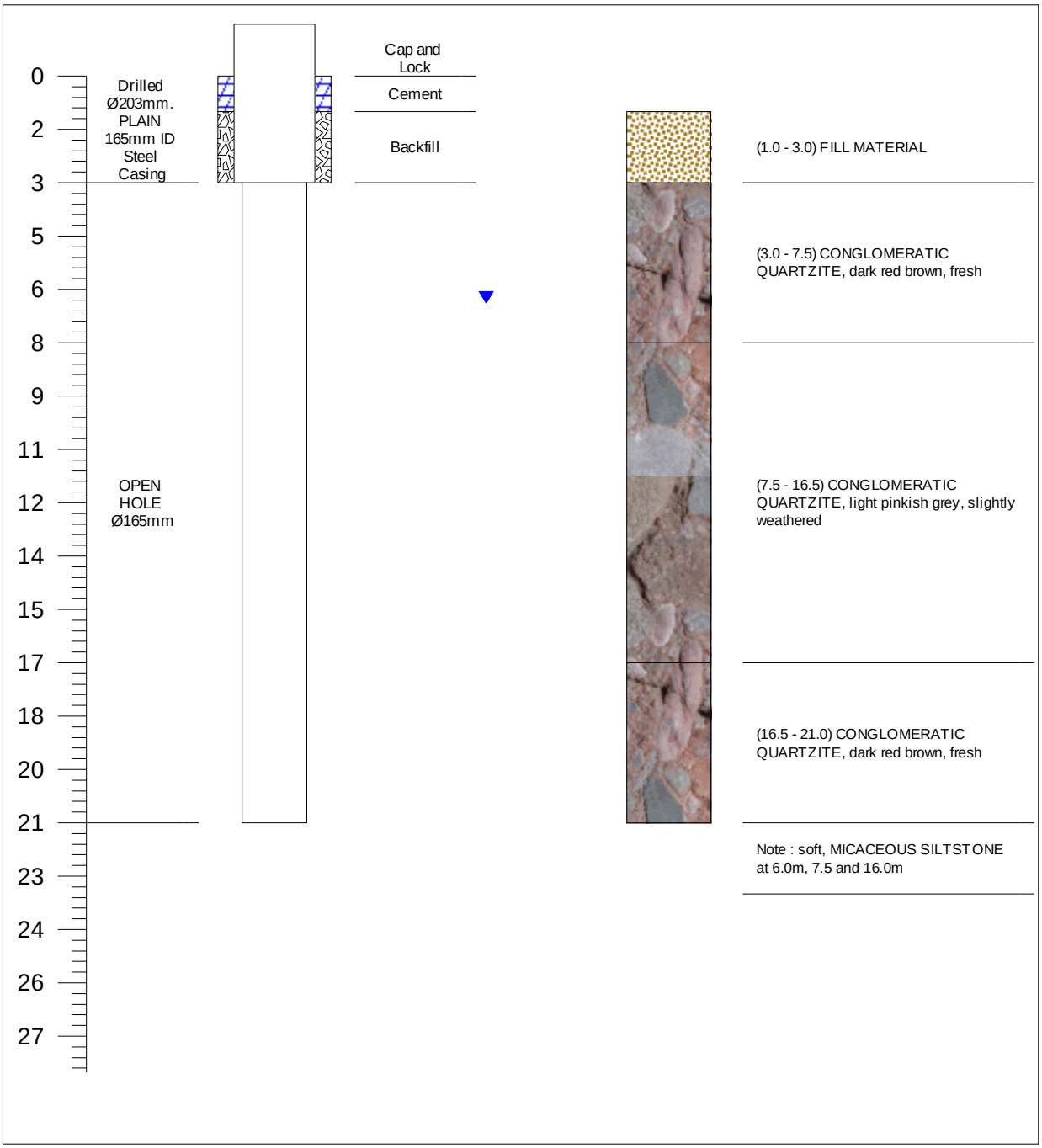
Golder Associates

BOREHOLE LOG

Project: **Medupi Hydrogeological Study**
Location: **Medupi Power Station**
Latitude: **-57899 S**
Longitude: **2622866 E**
Elevation: **900.68 mamsl**

Project No.:**12087**
Borehole Number
GA017

Depth (m)	Well Construction	Water strike(s) and Water level (mbgl)	Lithology	Lithology Description



Date drilled:	17/02/2009	Drilling diameter:	165 mm
Drilling contractor:	Brewis	Final blow yield:	DRY
Hydrogeologist	J. Pretorius	Collar height:	-1.45m

Golder Associates

BOREHOLE LOG

Project: **Medupi Hydrogeological Study**
Location: **Medupi Power Station**
Latitude: **-56948 S**
Longitude: **2622332 E**
Elevation: **902.11 mamsl**

Project No.:**12087**
Borehole Number
GA018

Depth (m)	Well Construction	Water strike(s) and Water level (mbgl)	Lithology	Lithology Description
0	Drilled Ø165mm. PLAIN 177mm ID Steel Casing			(0 - 1.5) FILL MATERIAL
2	Cap and Lock			(1.5 - 4.0) PEBBLES residual conglomeratic quartzite with matrix completely weathered
3	Cement			
5	Backfill			(4.0 - 6.0) CONGLOMERATIC QUARTZITE yellow orange, matrix highly weathered
6				(6.0 - 8.0) CONGLOMERATIC QUARTZITE yellow orange, moderately weathered
8				
9				(8.0 - 12.5) CONGLOMERATIC QUARTZITE yellow orange, slightly weathered
11				
12	OPEN HOLE Ø165mm			(12.5 - 13.5) CONGLOMERATIC QUARTZITE dark red brown, fresh
14				
15				(13.5 - 19.0) CONGLOMERATIC QUARTZITE dark red brown, slightly weathered
17				
18				
20				(19.0 - 21.0) CONGLOMERATIC QUARTZITE yellow orange, slightly weathered
21				
23				
24				
26				
27				

Date drilled:	23/02/2009	Drilling diameter:	165 mm
Drilling contractor:	Brewis	Final blow yield:	DRY
Hydrogeologist	J. Pretorius	Collar height:	-1.2 m

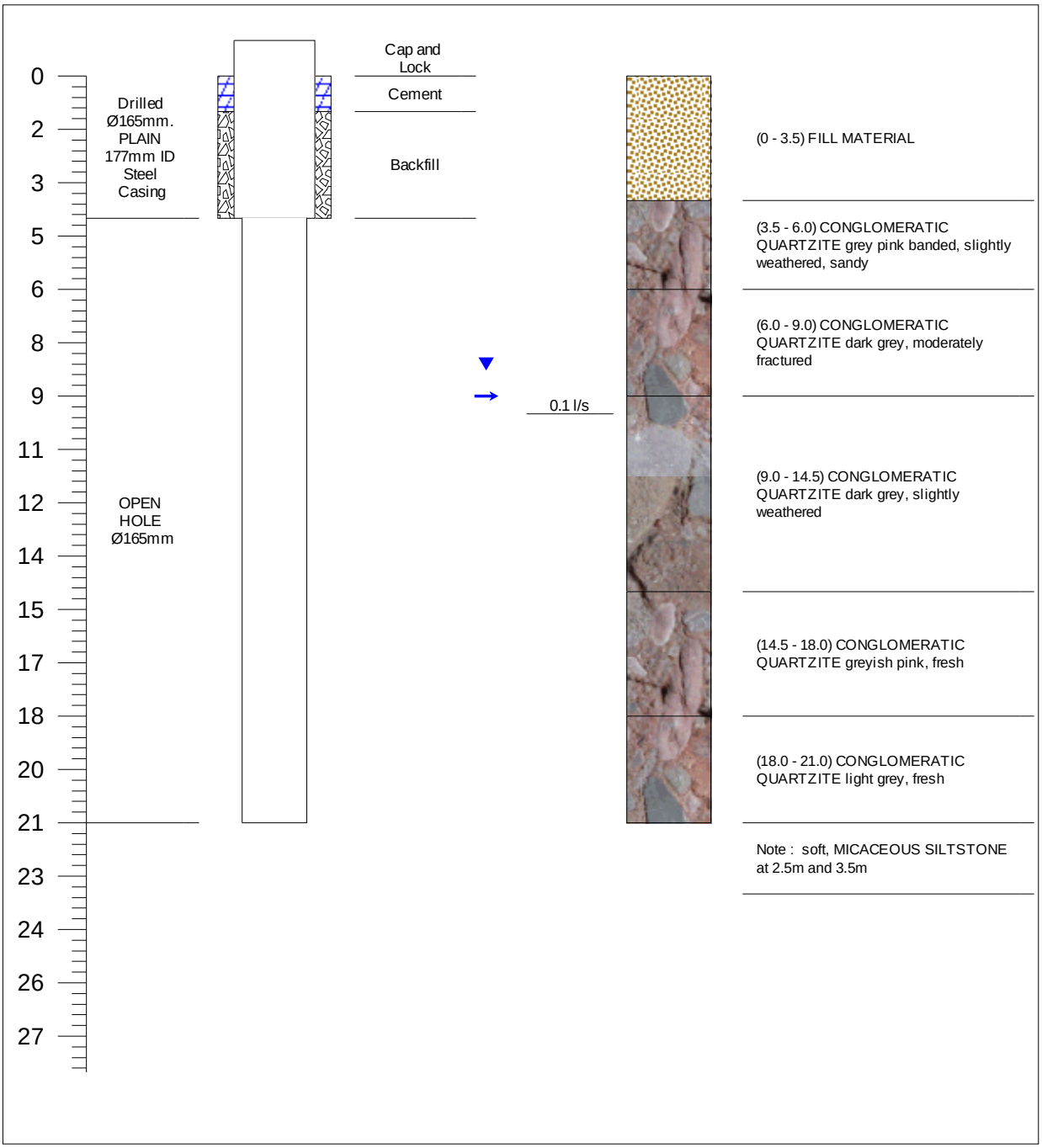
Golder Associates

BOREHOLE LOG

Project: **Medupi Hydrogeological Study**
Location: **Medupi Power Station**
Latitude: **-56960 S**
Longitude: **2622601 E**
Elevation: **903.92 mamsl**

Project No.:**12087**
Borehole Number
GA019

Depth (m)	Well Construction	Water strike(s) and Water level (mbgl)	Lithology	Lithology Description



Date drilled:	19/02/2009	Drilling diameter:	165 mm
Drilling contractor:	Brewis	Final blow yield:	0.1 l/s
Hydrogeologist	J. Pretorius	Collar height:	-0.74m

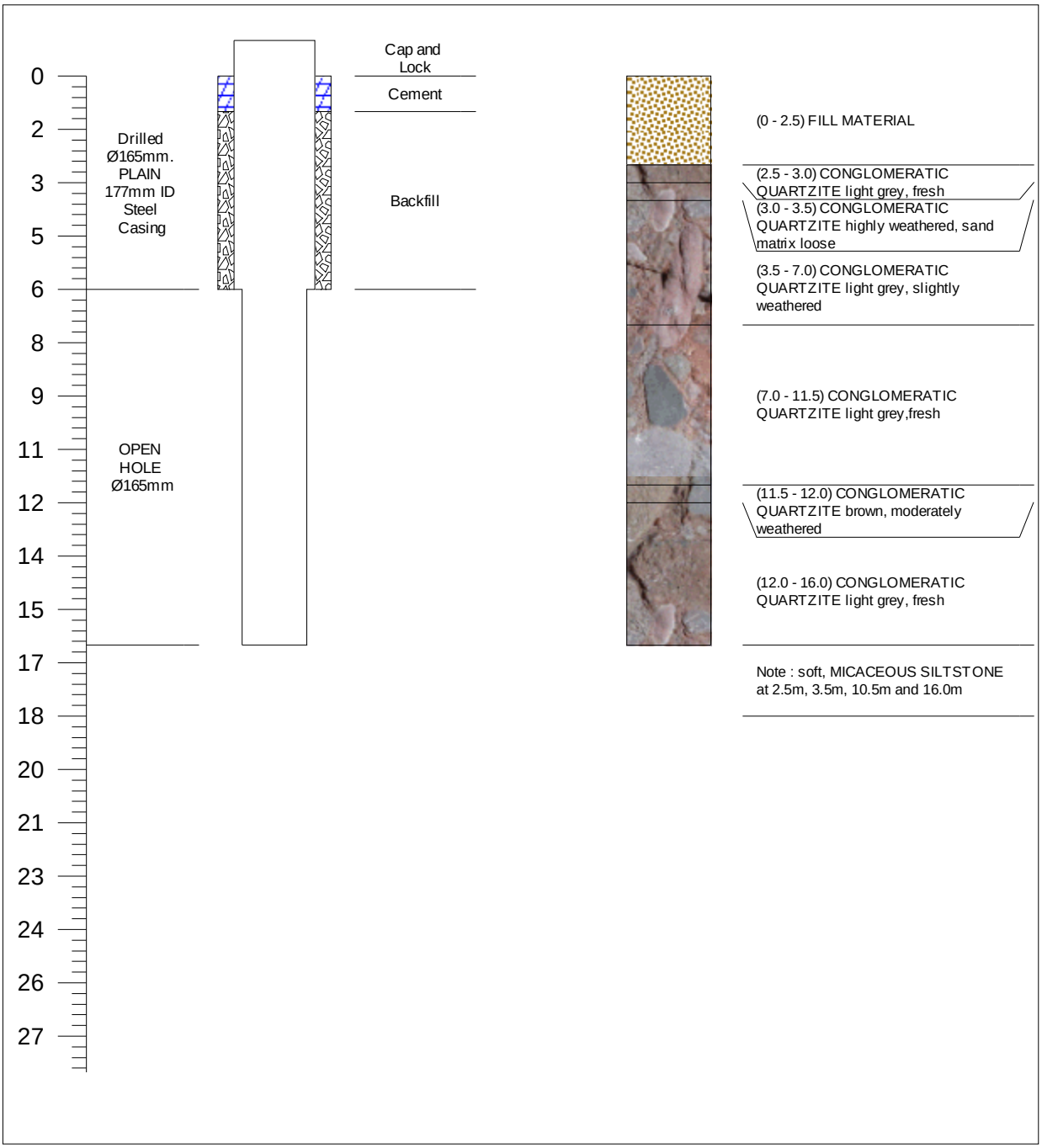
Golder Associates

BOREHOLE LOG

Project: **Medupi Hydrogeological Study**
Location: **Medupi Power Station**
Latitude: **-57203 S**
Longitude: **2623036 E**
Elevation: **904.66 mamsl**

Project No.:**12087**
Borehole Number
GA020D

Depth (m)	Well Construction	Water strike(s) and Water level (mbgl)	Lithology	Lithology Description



Date drilled:	16/02/2009	Drilling diameter:	165 mm
Drilling contractor:	Brewis	Final blow yield:	DRY
Hydrogeologist	J. Pretorius	Collar height:	-1.13m

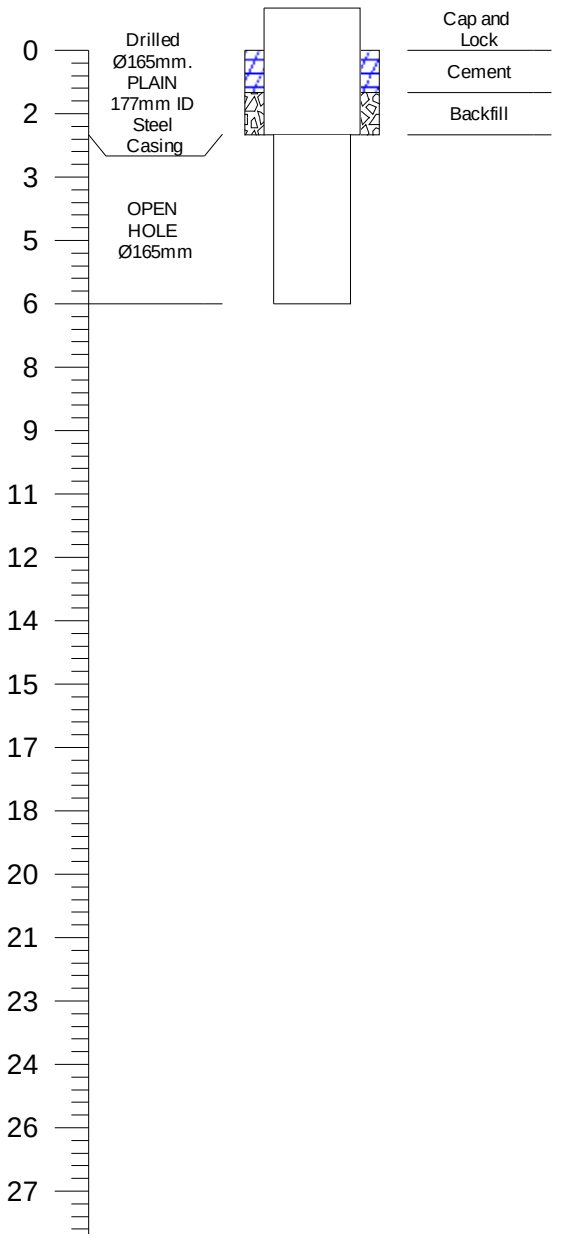
Golder Associates

BOREHOLE LOG

Project: **Medupi Hydrogeological Study**
Location: **Medupi Power Station**
Latitude: **-57203 S**
Longitude: **2623036 E**
Elevation: **904.66 mamsl**

Project No.:**12087**
Borehole Number
GA020S

Depth (m)	Well Construction	Water strike(s) and Water level (mbgl)	Lithology	Lithology Description



(0 - 2.5) FILL MATERIAL

(2.5 - 3.0) CONGLOMERATIC QUARTZITE light grey, fresh

(3.0 - 3.5) CONGLOMERATIC QUARTZITE highly weathered, sand matrix loose

(3.5 - 4.0) CONGLOMERATIC QUARTZITE light grey, slightly weathered

(4.0 - 4.5) CONGLOMERATIC QUARTZITE brown, highly weathered

(4.5 - 6.0) CONGLOMERATIC QUARTZITE light grey, fresh

Note : soft, MICACEOUS SILTSTONE at 2.5m and 3.5m

Date drilled:	16/02/2009	Drilling diameter:	165 mm
Drilling contractor:	Brewis	Final blow yield:	DRY
Hydrogeologist	J. Pretorius	Collar height:	-1.37m

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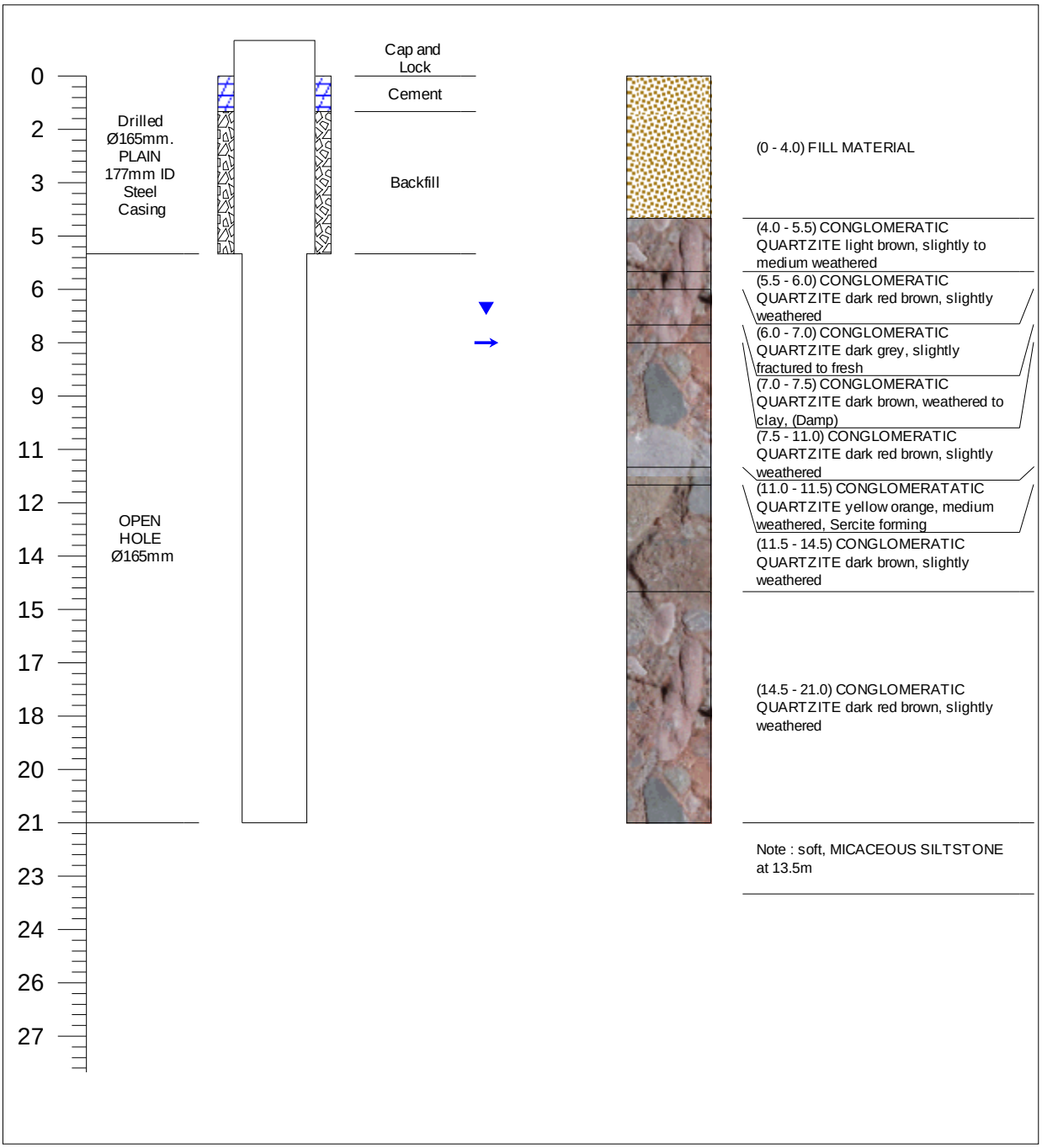
BOREHOLE LOG

Project: **Medupi Hydrogeological Study**
Location: **Medupi Power Station**
Latitude: **-57366 S**
Longitude: **2623259 E**
Elevation: **903.2 mamsl**

Project No.:**12087**
Borehole Number
GA021

Depth (m)	Well Construction	Water strike(s) and Water level (mbgl)	Lithology	Lithology Description



Date drilled:	19/02/2009	Drilling diameter:	165 mm
Drilling contractor:	Brewis	Final blow yield:	0.1l/s
Hydrogeologist	J. Pretorius	Collar height:	-1.27m

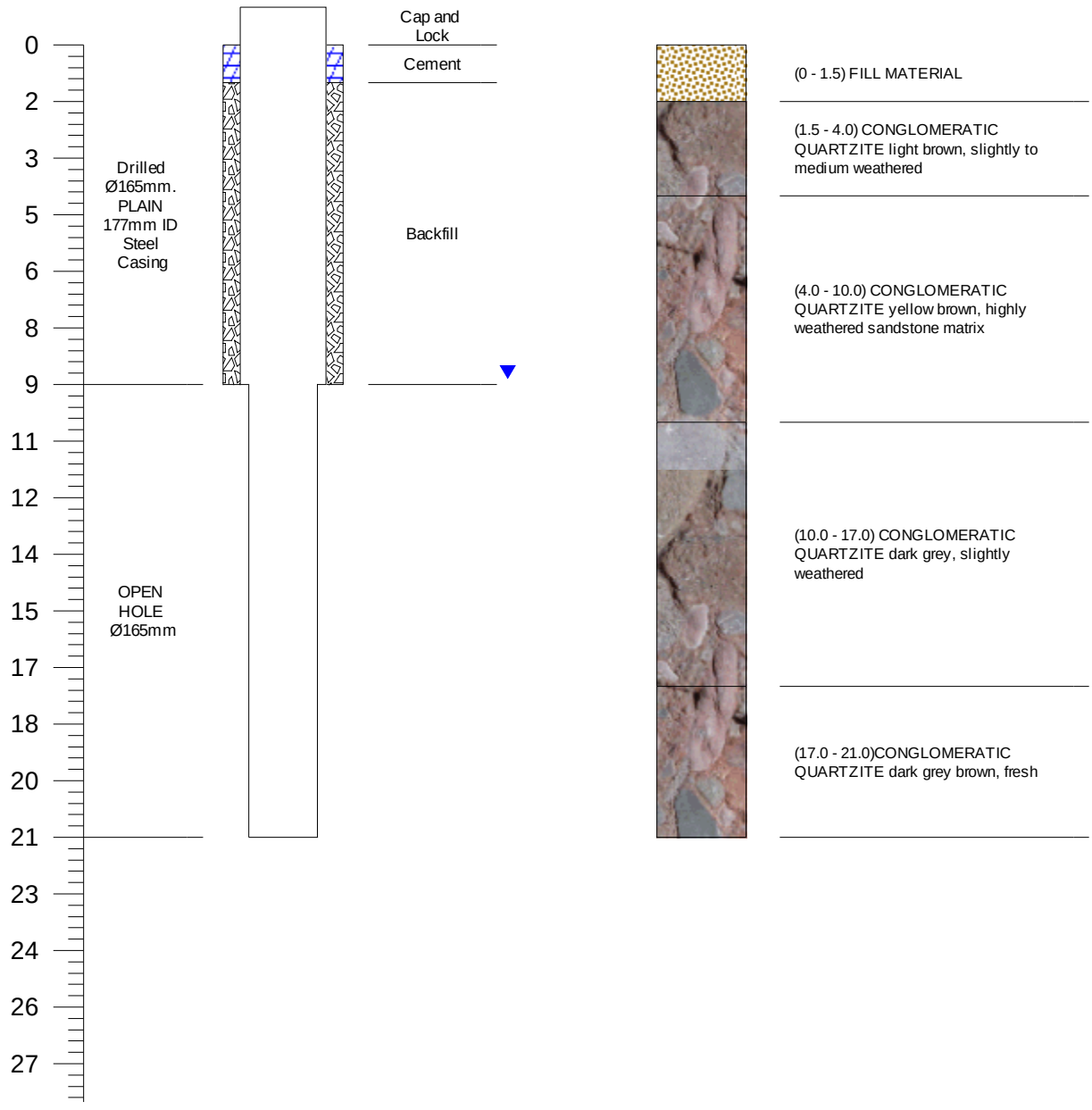
Golder Associates

BOREHOLE LOG

Project: **Medupi Hydrogeological Study**
Location: **Medupi Power Station**
Latitude: **-57783 S**
Longitude: **2622222 E**
Elevation: **899.33 mamsl**

Project No.:**12087**
Borehole Number
GA022

Depth (m)	Well Construction	Water strike(s) and Water level (mbgl)	Lithology	Lithology Description



Date drilled:	18/02/2009	Drilling diameter:	165 mm
Drilling contractor:	Brewis	Final blow yield:	DRY
Hydrogeologist	J. Pretorius	Collar height:	-1.46m

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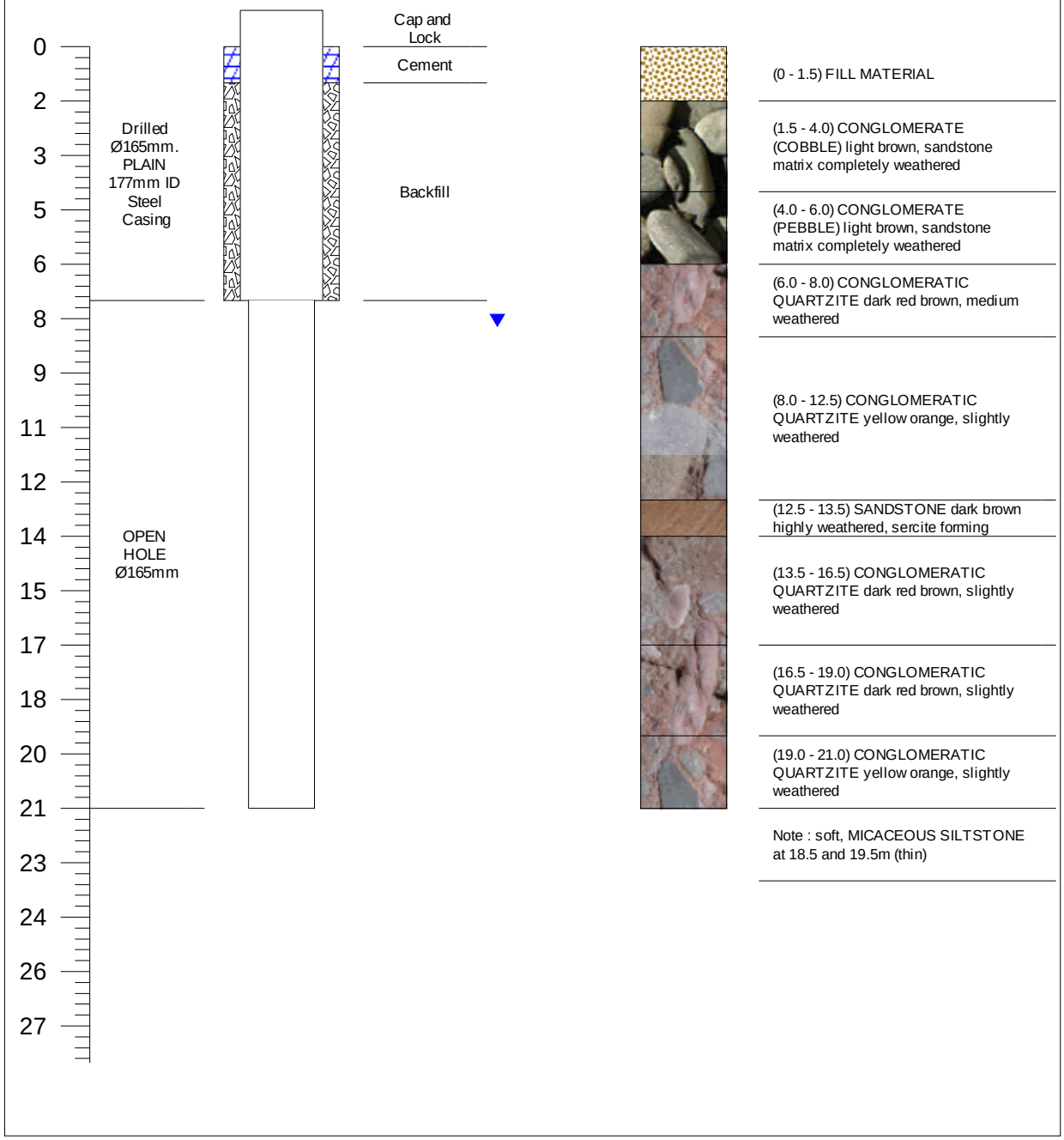
BOREHOLE LOG

Project: **Medupi Hydrogeological Study**
Location: **Medupi Power Station**
Latitude: **-57846 S**
Longitude: **2622415 E**
Elevation: **900.36 mamsl**

Project No.:**12087**
Borehole Number
GA023



Date drilled:	20/02/2009	Drilling diameter:	165 mm
Drilling contractor:	Brewis	Final blow yield:	0.1l/s
Hydrogeologist	J. Pretorius	Collar height:	-1.2 m

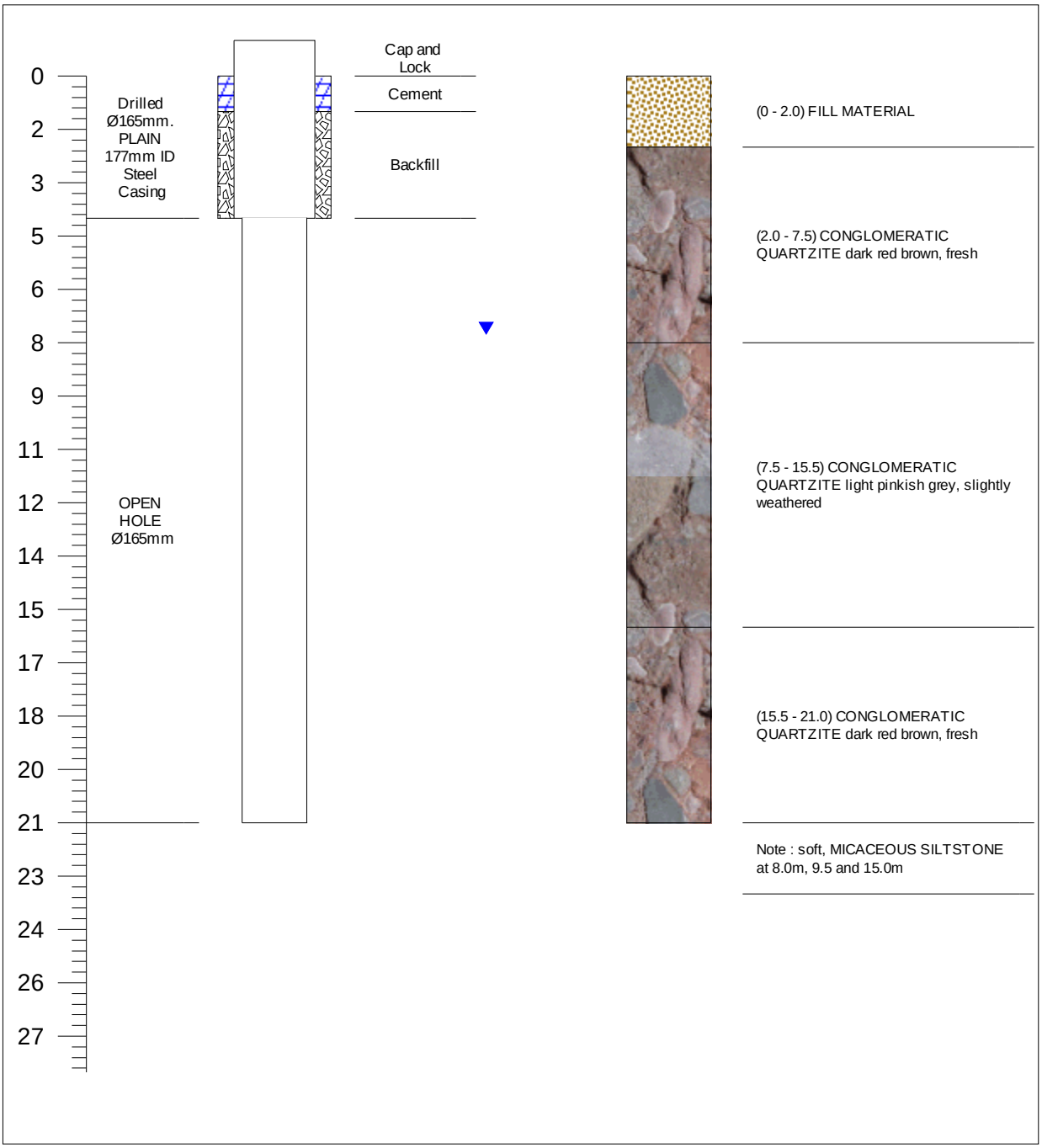
Golder Associates

BOREHOLE LOG

Project: **Medupi Hydrogeological Study**
Location: **Medupi Power Station**
Latitude: **-58010 S**
Longitude: **2622649 E**
Elevation: **899.24 mamsl**

Project No.:**12087**
Borehole Number
GA024

Depth (m)	Well Construction	Water strike(s) and Water level (mbgl)	Lithology	Lithology Description



Date drilled:	19/02/2009	Drilling diameter:	165 mm
Drilling contractor:	Brewis	Final blow yield:	DRY
Hydrogeologist	J. Pretorius	Collar height:	-0.85m

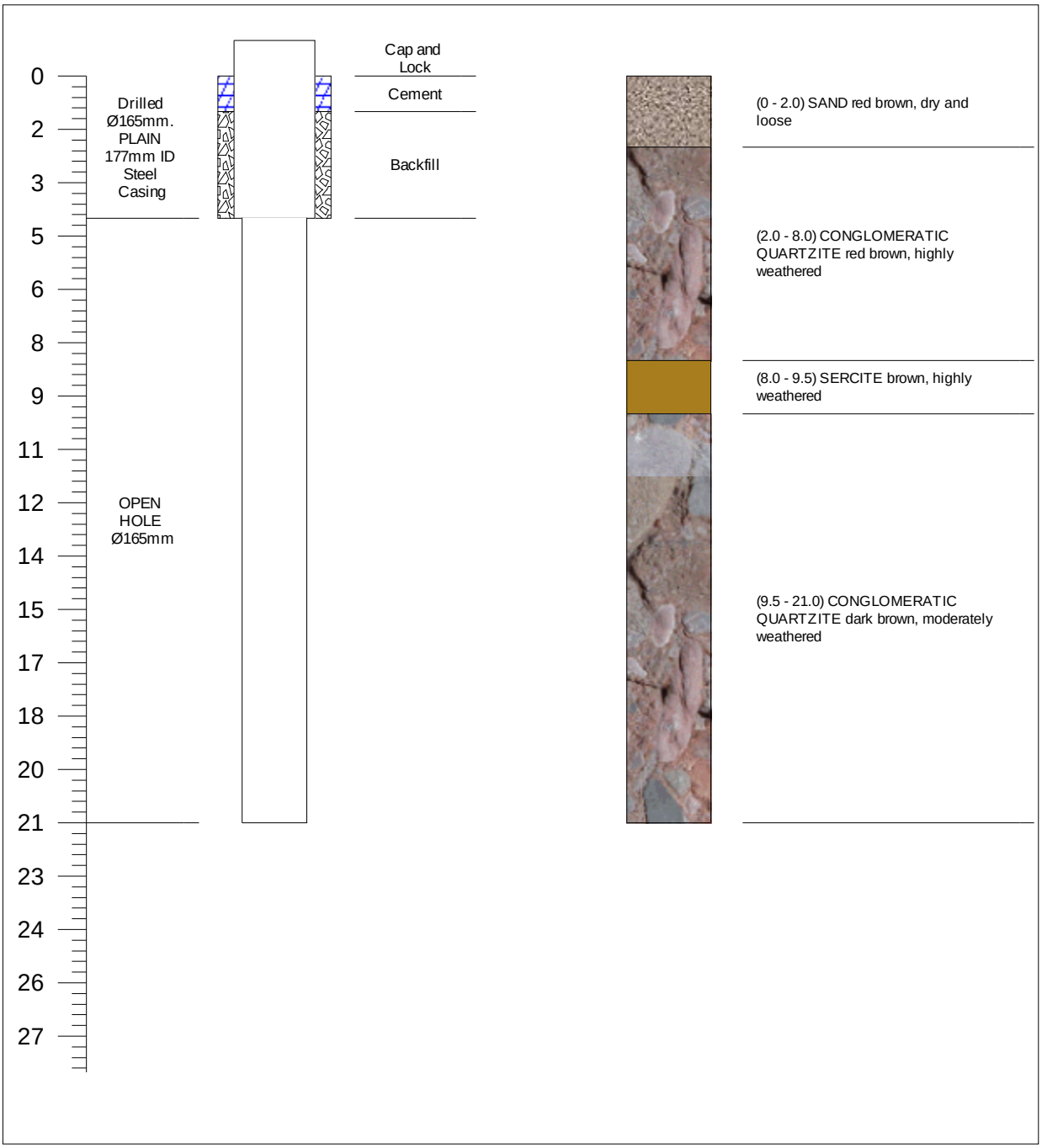
Golder Associates

BOREHOLE LOG

Project: **Medupi Hydrogeological Study**
Location: **Medupi Power Station**
Latitude: **-56296 S**
Longitude: **2622495 E**
Elevation: **902.39 mamsl**

Project No.:**12087**
Borehole Number
GA025

Depth (m)	Well Construction	Water strike(s) and Water level (mbgl)	Lithology	Lithology Description



Date drilled:	24/02/2009	Drilling diameter:	165 mm
Drilling contractor:	Brewis	Final blow yield:	DRY
Hydrogeologist	J. Pretorius	Collar height:	-1.16m

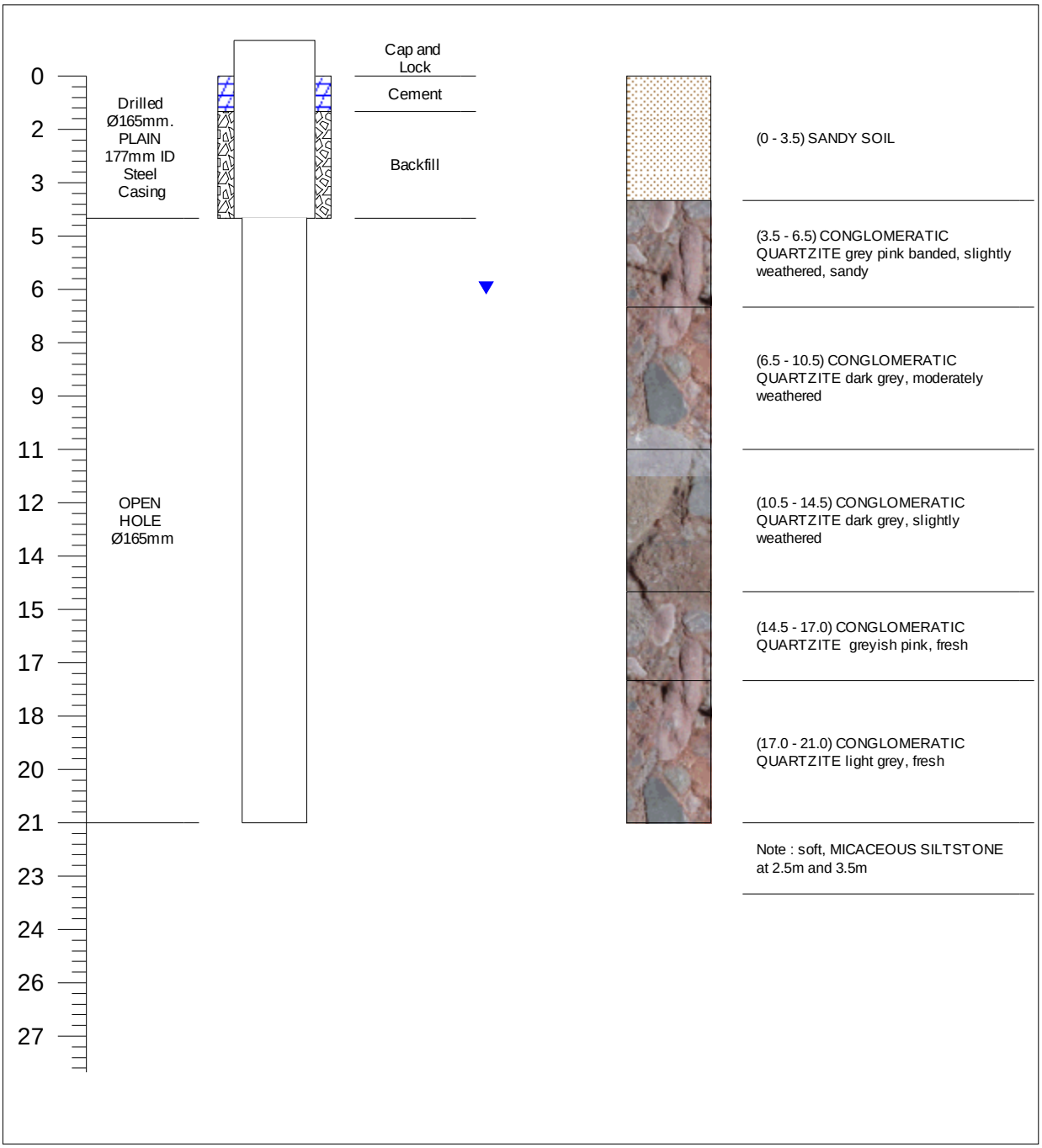
Golder Associates

BOREHOLE LOG

Project: **Medupi Hydrogeological Study**
Location: **Medupi Power Station**
Latitude: **-56213 S**
Longitude: **2623131 E**
Elevation: **902.04 mamsl**

Project No.:**12087**
Borehole Number
GA026

Depth (m)	Well Construction	Water strike(s) and Water level (mbgl)	Lithology	Lithology Description



Date drilled:	24/02/2009	Drilling diameter:	165 mm
Drilling contractor:	Brewis	Final blow yield:	DRY
Hydrogeologist	J. Pretorius	Collar height:	-1.5 m

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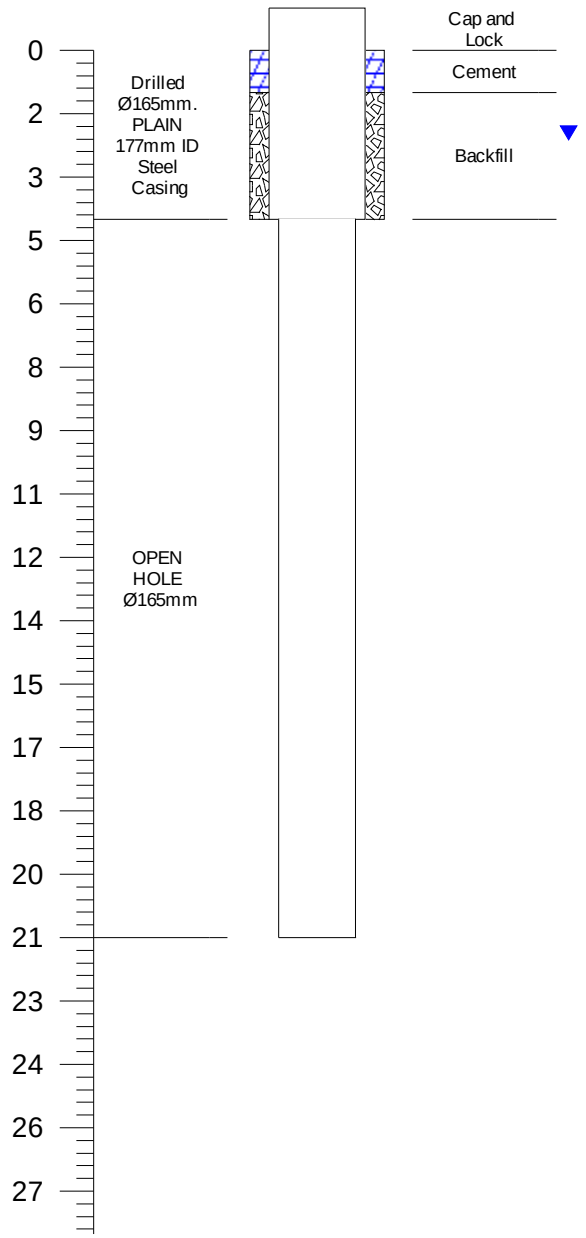
BOREHOLE LOG

Project: **Medupi Hydrogeological Study**
Location: **Medupi Power Station**
Latitude: **-56892 S**
Longitude: **2623224 E**
Elevation: **898.82 mamsl**

Project No.:**12087**
Borehole Number
GA027

Depth (m)	Well Construction	Water strike(s) and Water level (mbgl)	Lithology	Lithology Description



(0 - 1.5) SANDY SOIL

(1.5 - 9.5) CONGLOMERATIC QUARTZITE grey pink banded, slightly weathered

(9.5 - 10.5) CONGLOMERATIC QUARTZITE dark grey, moderately fractured

(10.5 - 16.5) CONGLOMERATIC QUARTZITE dark grey, slightly weathered

(16.5 - 21.0) CONGLOMERATIC QUARTZITE greyish pink, fresh

Note : soft, MICACEOUS SILTSTONE at 8.5m and 13.5m

Date drilled:	24/02/2009	Drilling diameter:	165 mm
Drilling contractor:	Brewis	Final blow yield:	DRY
Hydrogeologist	J. Pretorius	Collar height:	-1.12m

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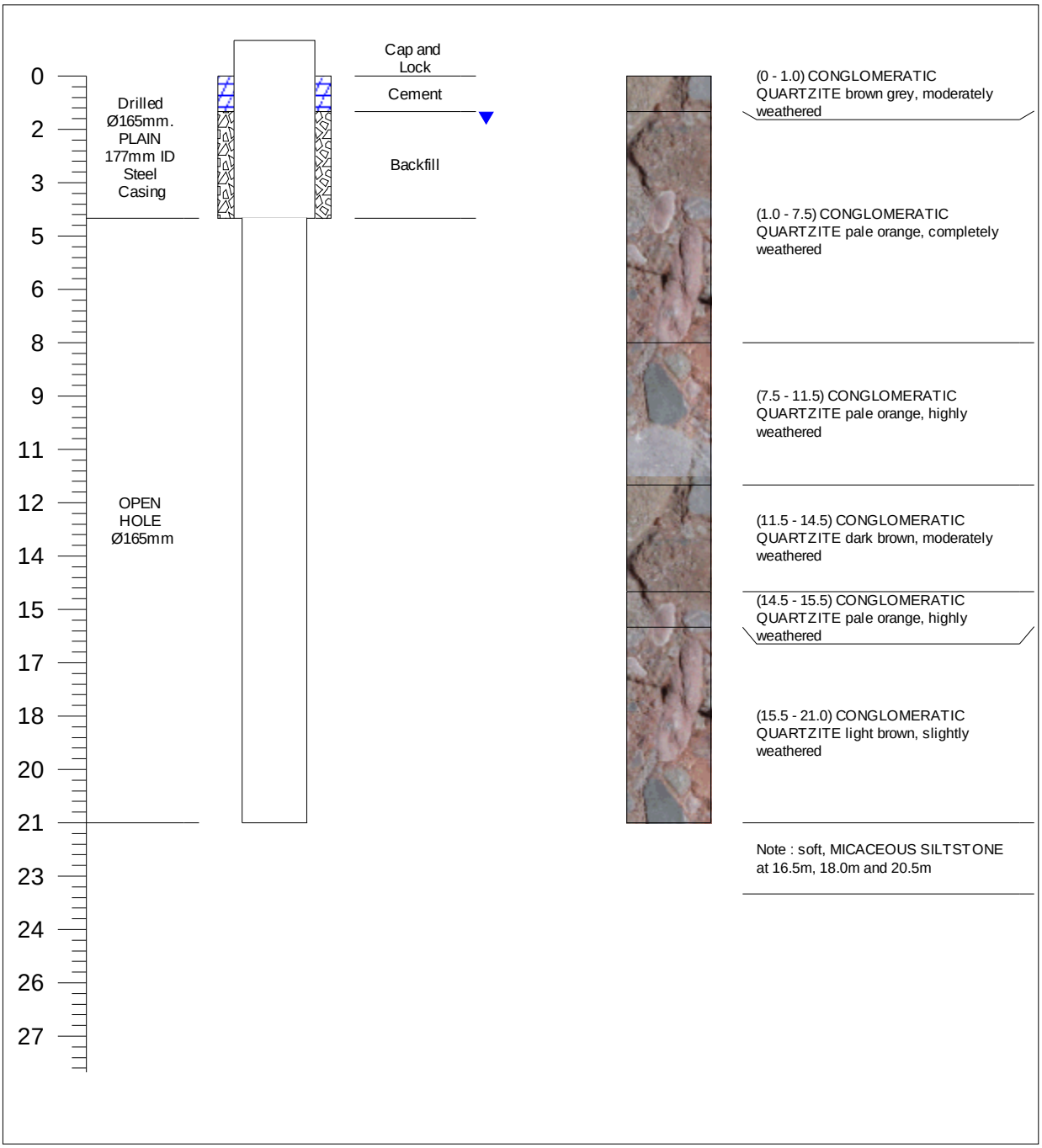
BOREHOLE LOG

Project: **Medupi Hydrogeological Study**
Location: **Medupi Power Station**
Latitude: **-57475 S**
Longitude: **2623619 E**
Elevation: **894.18 mamsl**

Project No.:**12087**
Borehole Number
GA029

Depth (m)	Well Construction	Water strike(s) and Water level (mbgl)	Lithology	Lithology Description



Date drilled:	25/02/2009	Drilling diameter:	165 mm
Drilling contractor:	Brewis	Final blow yield:	DRY
Hydrogeologist	J. Pretorius	Collar height:	-1.23m

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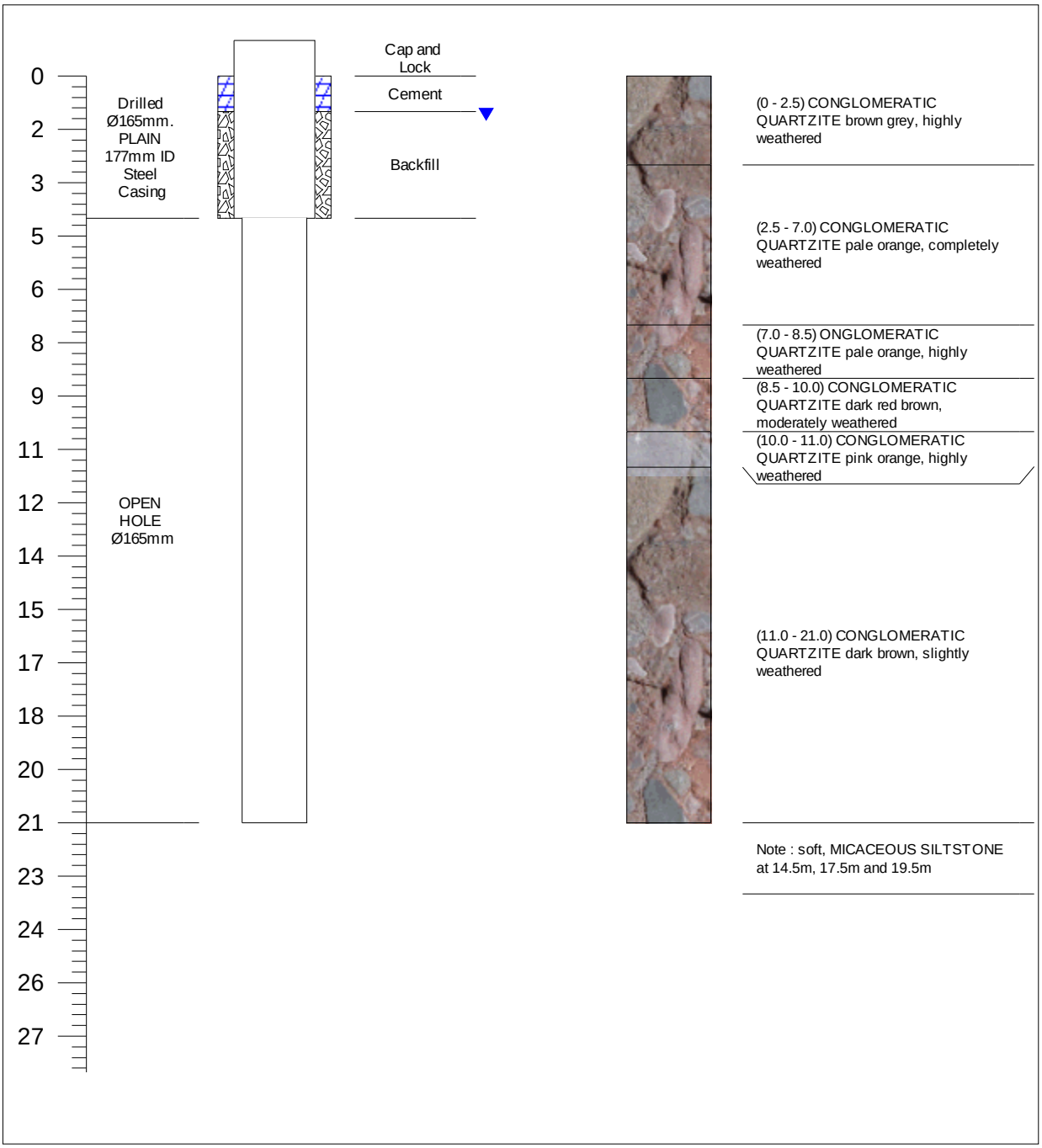
BOREHOLE LOG

Project: **Medupi Hydrogeological Study**
Location: **Medupi Power Station**
Latitude: **-57970 S**
Longitude: **2623325 E**
Elevation: **893.62 mamsl**

Project No.:**12087**
Borehole Number
GA030

Depth (m)	Well Construction	Water strike(s) and Water level (mbgl)	Lithology	Lithology Description



Date drilled:	25/02/2009	Drilling diameter:	165 mm
Drilling contractor:	Brewis	Final blow yield:	DRY
Hydrogeologist	J. Pretorius	Collar height:	-1.1 m

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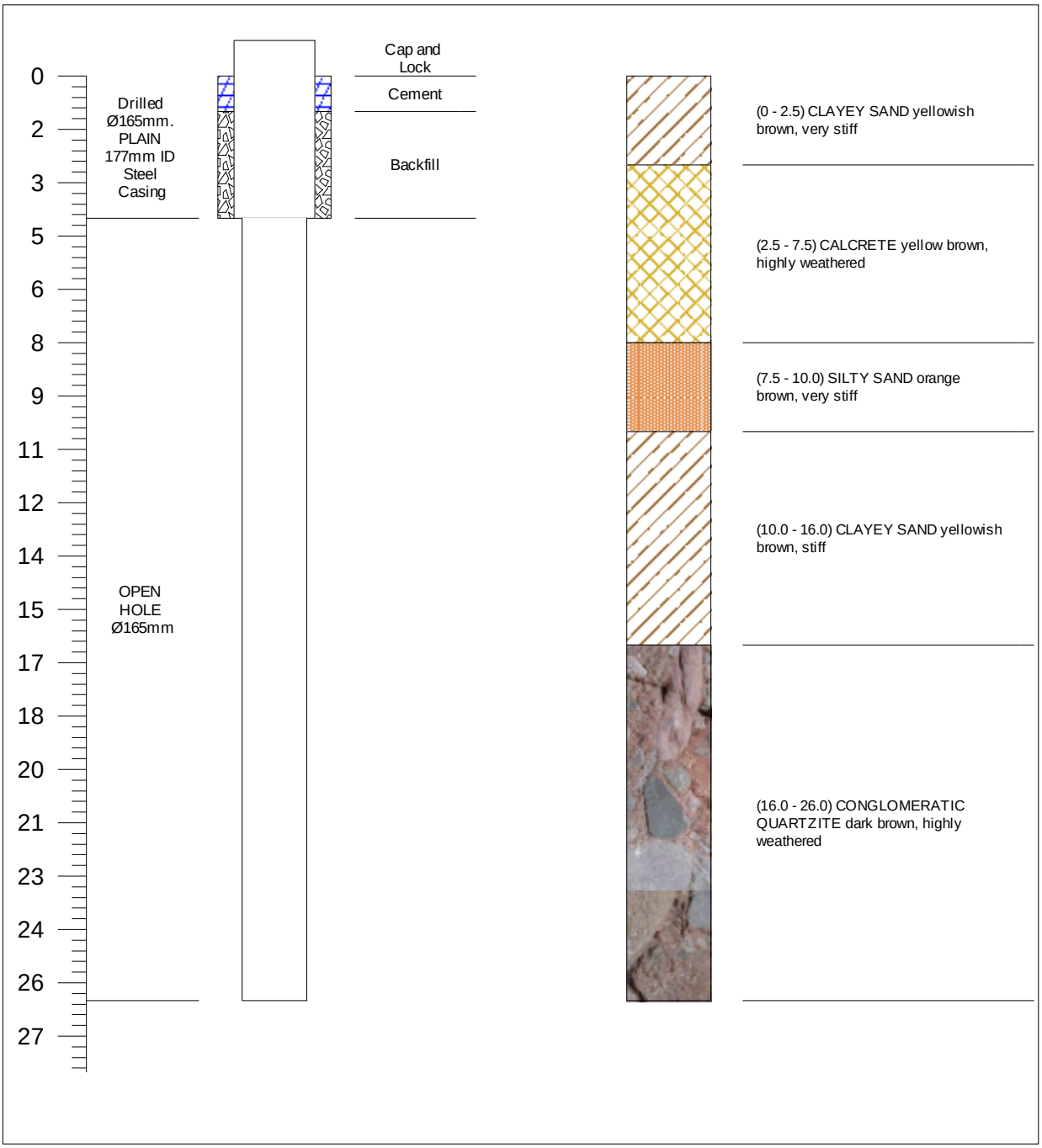
BOREHOLE LOG

Project: **Medupi Hydrogeological Study**
Location: **Medupi Power Station**
Latitude: **-56643 S**
Longitude: **2621984 E**
Elevation: **898.67 mamsl**

Project No.:**12087**
Borehole Number
GA031

Depth (m)	Well Construction	Water strike(s) and Water level (mbgl)	Lithology	Lithology Description



Date drilled:	24/02/2009	Drilling diameter:	165 mm
Drilling contractor:	Brewis	Final blow yield:	DRY
Hydrogeologist	J. Pretorius	Collar height:	-1.26m

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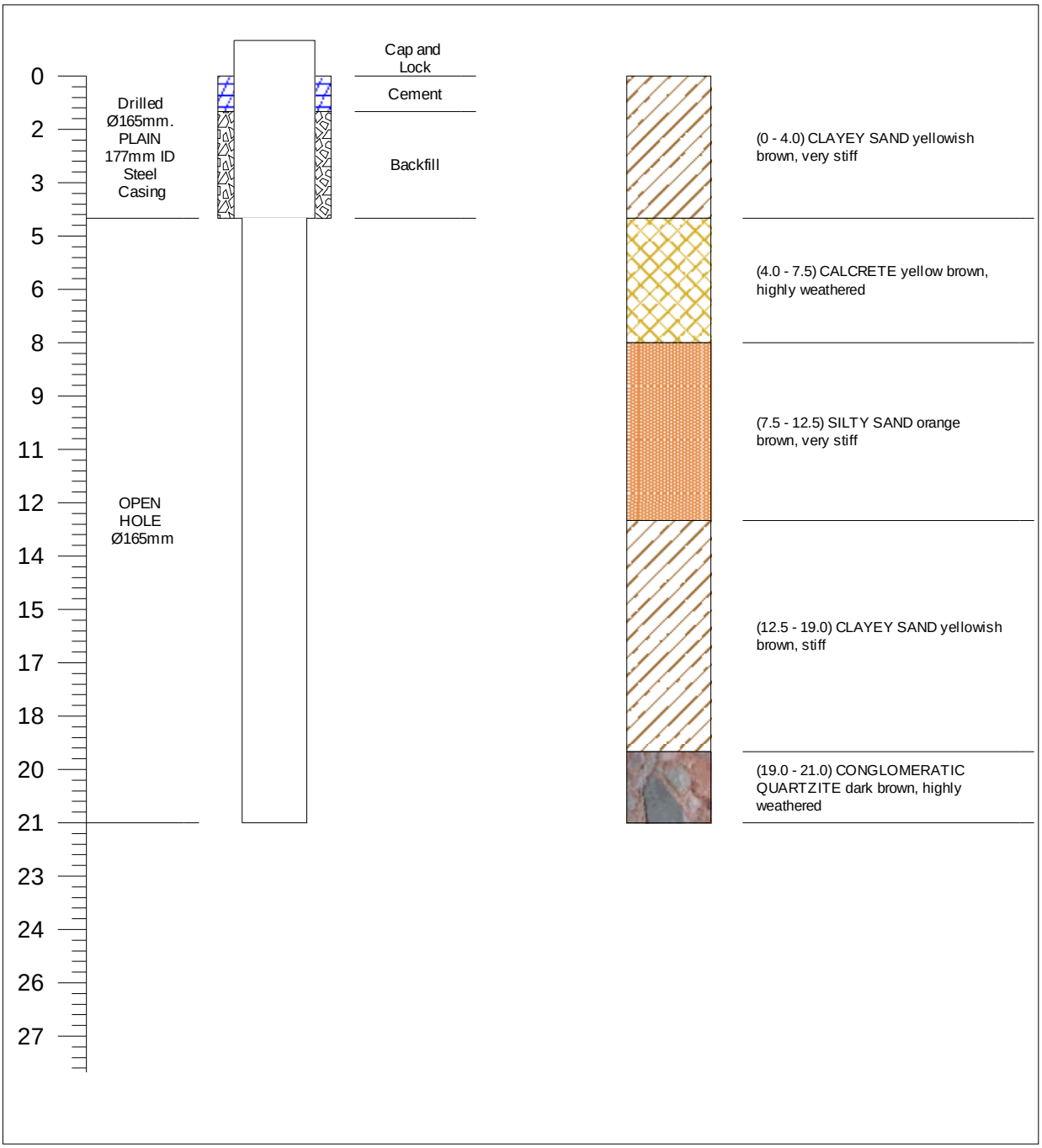
BOREHOLE LOG

Project: **Medupi Hydrogeological Study**
Location: **Medupi Power Station**
Latitude: **-57430 S**
Longitude: **2621610 E**
Elevation: **895.09 mamsl**

Project No.:**12087**
Borehole Number
GA032

Depth (m)	Well Construction	Water strike(s) and Water level (mbgl)	Lithology	Lithology Description



Date drilled:	24/02/2009	Drilling diameter:	165 mm
Drilling contractor:	Brewis	Final blow yield:	DRY
Hydrogeologist	J. Pretorius	Collar height:	-1.2 m

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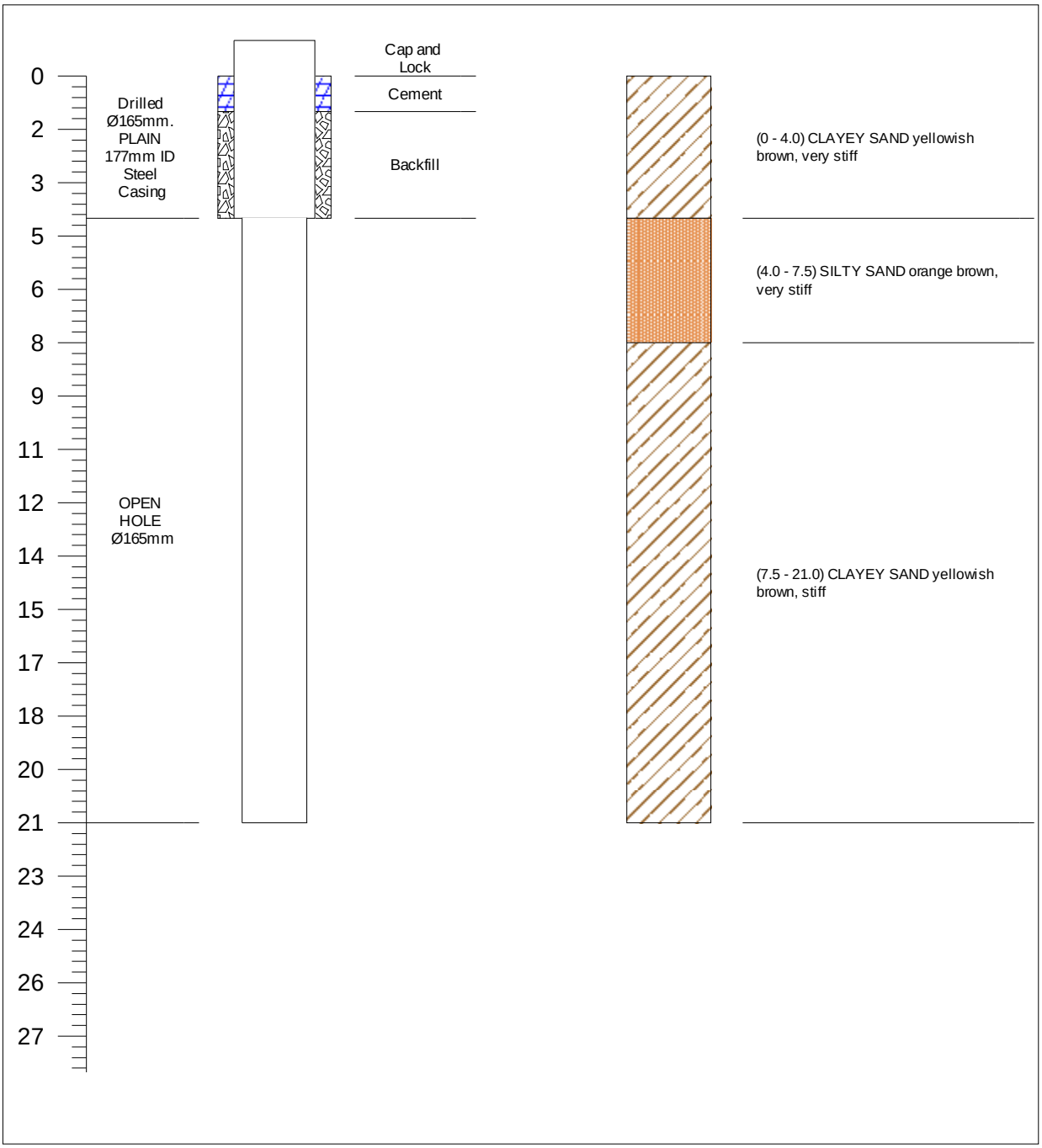
BOREHOLE LOG

Project: **Medupi Hydrogeological Study**
Location: **Medupi Power Station**
Latitude: **-57802 S**
Longitude: **2621821 E**
Elevation: **894.36 mamsl**

Project No.:**12087**
Borehole Number
GA033

Depth (m)	Well Construction	Water strike(s) and Water level (mbgl)	Lithology	Lithology Description



Date drilled:	23/02/2009	Drilling diameter:	165 mm
Drilling contractor:	Brewis	Final blow yield:	DRY
Hydrogeologist	J. Pretorius	Collar height:	-1.27m

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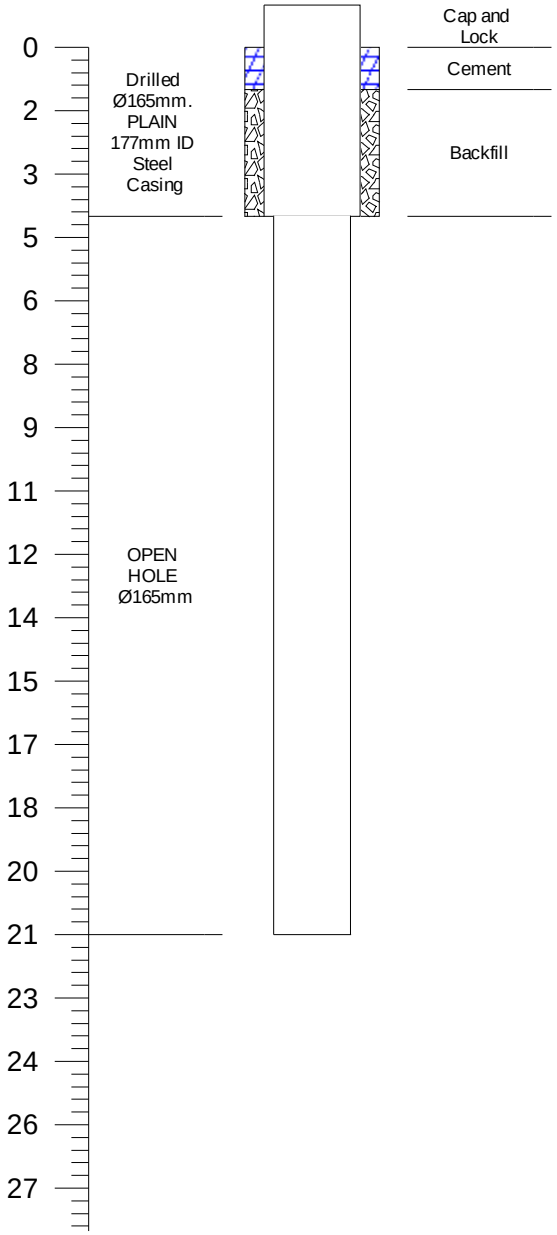
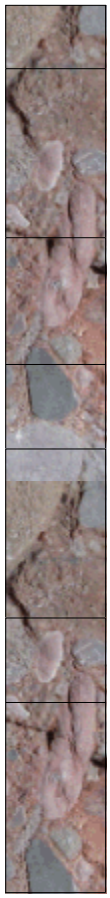
BOREHOLE LOG

Project: **Medupi Hydrogeological Study**
Location: **Medupi Power Station**
Latitude: **-58217 S**
Longitude: **2622071 E**
Elevation: **899 mamsl**

Project No.:**12087**
Borehole Number
GA034

Depth (m)	Well Construction	Water strike(s) and Water level (mbgl)	Lithology	Lithology Description





(0 - 1.5) CONGLOMERATIC QUARTZITE dark brown, clay in weathering

(1.5 - 5.5) CONGLOMERATIC QUARTZITE yellow brown, highly weathered

(5.5 - 8.5) CONGLOMERATIC QUARTZITE grey brown, medium weathered

(8.5 - 10.5) CONGLOMERATIC QUARTZITE light grey, slightly weathered

(10.5 - 14.5) CONGLOMERATIC QUARTZITE dark red brown, fresh

(14.5 - 16.5) CONGLOMERATIC QUARTZITE purple grey, fresh

(16.5 - 21.0) CONGLOMERATIC QUARTZITE purple grey, medium weathered

Note : soft, MICACEOUS SILTSTONE at 2.5m, 4.0m, 5.5m, 7.5, 13.0, 14.5 and 19.5m

Date drilled:	19/02/2009	Drilling diameter:	165 mm
Drilling contractor:	Brewis	Final blow yield:	DRY
Hydrogeologist	J. Pretorius	Collar height:	-1.25m

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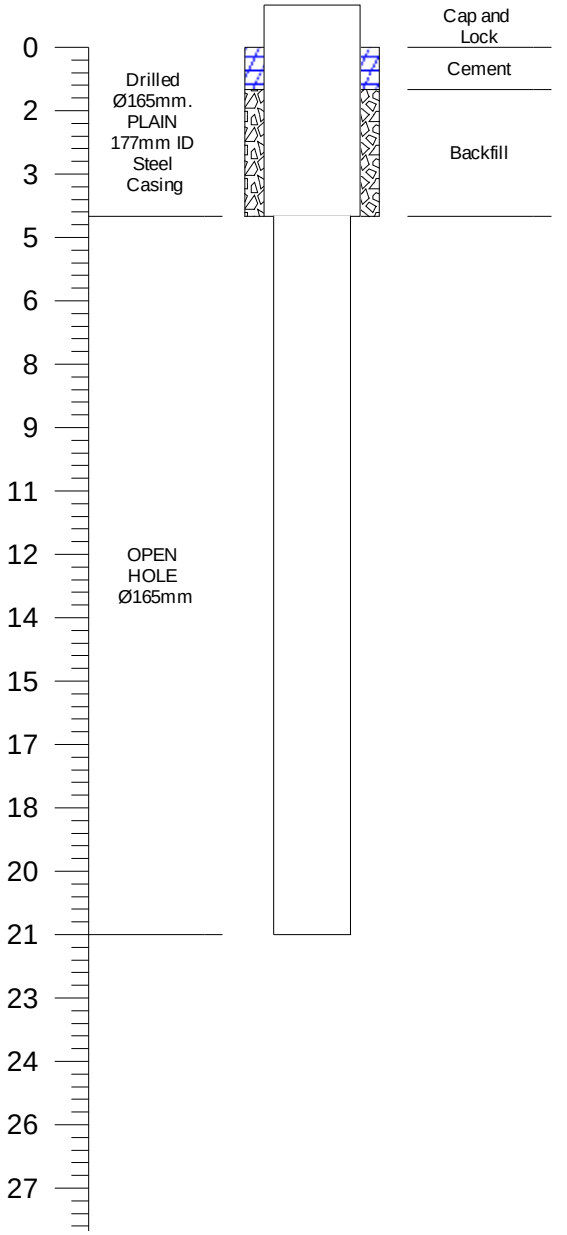
BOREHOLE LOG

Project: **Medupi Hydrogeological Study**
Location: **Medupi Power Station**
Latitude: **-58291 S**
Longitude: **2622492 E**
Elevation: **902 mamsl**

Project No.:**12087**
Borehole Number
GA035

Depth (m)	Well Construction	Water strike(s) and Water level (mbgl)	Lithology	Lithology Description



(0 - 2.0) CONGLOMERATIC QUARTZITE dark brown, clay in weathering

(2.0 - 6.0) CONGLOMERATIC QUARTZITE yellow brown, highly weathered

(6.0 - 10.5) CONGLOMERATIC QUARTZITE grey brown, medium weathered

(10.5 - 13.5) CONGLOMERATIC QUARTZITE light grey, slightly weathered

(13.5 - 17.0) CONGLOMERATIC QUARTZITE dark red brown, fresh

(17.0 - 21.0) CONGLOMERATIC QUARTZITE purple grey, fresh

Date drilled:	19/02/2009	Drilling diameter:	165 mm
Drilling contractor:	Brewis	Final blow yield:	DRY
Hydrogeologist	J. Pretorius	Collar height:	-1.18m

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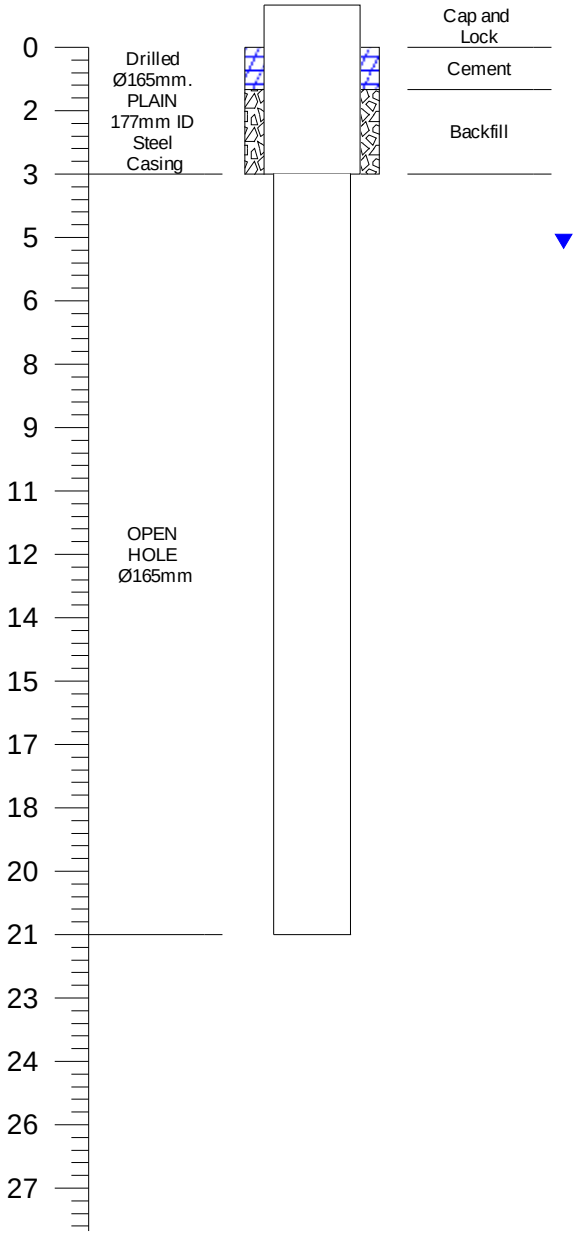
BOREHOLE LOG

Project: **Medupi Hydrogeological Study**
Location: **Medupi Power Station**
Latitude: **-58372 S**
Longitude: **2622964 E**
Elevation: **899 mamsl**

Project No.:**12087**
Borehole Number
GA036

Depth (m)	Well Construction	Water strike(s) and Water level (mbgl)	Lithology	Lithology Description



(0 - 0.5) PEBBLES residual conglomeratic quartzite with matrix completely weathered

(0.5 - 2.5) CONGLOMERATIC QUARTZITE light brown, completely weathered to sand

(2.5 - 4.5) CONGLOMERATIC QUARTZITE pale orange, highly weathered

(4.5 - 6.5) CONGLOMERATIC QUARTZITE light grey, medium weathered

(6.5 - 13.0)CONGLOMERATIC QUARTZITE dark red brown, fresh

(13.0 - 14.5) CONGLOMERATIC QUARTZITE dark red brown, medium weathered

(14.5 - 21.0) CONGLOMERATIC QUARTZITE dark red brown, slightly weathered

Date drilled:	24/02/2009	Drilling diameter:	165 mm
Drilling contractor:	Brewis	Final blow yield:	0.1l/s
Hydrogeologist	J. Pretorius	Collar height:	-1.2 m

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Geotechnical & Geological Consultants

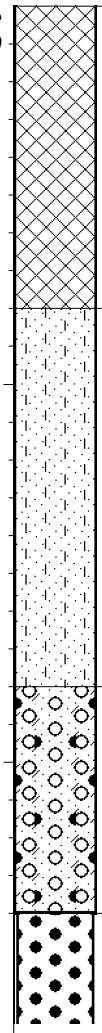
HOLE No: TP23
Sheet 1 of 1

MEDUPI POWER STATION
RAIL YARD

JOB: RG014169

GEOTECHNICAL INVESTIGATION

Scale 1:20



0.00 Grey, angular, fine to coarse gravel size and minor boulder size, medium hard to hard rock QUARTZITE, densely packed in silty SAND. **FILL**.

0.80 Slightly moist, orange brown, medium dense, pinholed, silty SAND. **HILLWASH.**

1.80 Slightly moist, grey brown mottled red and black, matrix supported fine to coarse subrounded quartz GRAVEL and FERRICRETE NODULES in a matrix of clayey SAND. **FERRUGINISED PEBBLE MARKER**.

2.40 EOH: Refusal on HARDPAN FERRICRETE.

NOTES

1) Termination: Refusal on well hardpan ferricrete.

2) Water: No groundwater or seepage encountered.

3) Profiled: In-situ.

4) Stability: Sidewalls stable short term - **HILLWASH** potential unstable.

5) Sample: No Sample

6) Photos: Nr. 1235

CONTRACTOR : Labonte 5
MACHINE : CAT 428D
DRILLED BY : Sonty
PROFILED BY : I Deale

INCLINATION : Vertical
DIAM : 0,7m
DATE :
DATE : 10 November 2014

COORDINATE SYSTEM : WGS84 (Lo 27)
X-COORD : 56085
Y-COORD : -2623674

HOLE No: TP23

TYPE SET BY : EM
SETUP FILE : ROCKLAND.SET

DATE : 09/12/2014 10:46
TEXT : C\WP51\PROFILES\ROC057.TXT

D079 E Mouton

dotPLOT 7016 PBpH7

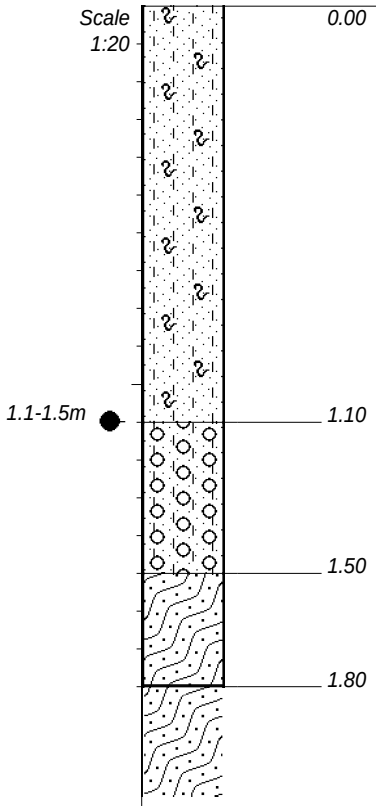
Rockland Geoscience (Pty) Ltd
Geotechnical & Geological Consultants

HOLE No: TP07
Sheet 1 of 1

JOB: RG014169

MEDUPI POWER STATION
RAIL YARD

GEOTECHNICAL INVESTIGATION



0.00	Slightly moist, yellow brown, medium dense, pinholed, silty SAND. **HILLWASH**. Abundant roots.
1.10	Dry, brown, dense, matrix supported, fine to coarse subrounded quartz GRAVEL in a matrix of slightly moist, silty sand. **PEBBLE MARKER**.
1.50	Pink yellow and grey, highly weathered, closely jointed, very soft rock QUARTZITE.
1.80	EOH: Refusal on medium hard rock QUARTZITE.

NOTES

1) Termination: Refusal on medium hard rock quartzite.

2) Water: No groundwater or seepage encountered

3) Profiled: In-situ.

4) Stability: Sidewalls unstable stable 0-1.1m.

5) Sample: Disturbed sample 0-1.1m and 1.1-1.5m.

6) Sample: Undisturbed sample 0-1.1m.

7) Photos: None

CONTRACTOR : Labonte 5
MACHINE : CAT 428D
DRILLED BY : Sonty
PROFILED BY : I Deale

INCLINATION : VERTICAL
DIAM : 0,7m
DATE :
DATE : 28 October 2014

COORDINATE SYSTEM : WGS84 (Lo 27)
X-COORD : 56075
Y-COORD : -2623725

HOLE No: TP07

TYPE SET BY : EM
SETUP FILE : ROCKLAND.SET

DATE : 09/12/2014 10:45
TEXT : C\WP51\PROFILES\ROC057.TXT

D079 E Mouton

dotPLOT 7016 PBpH7

As a global, employee-owned organisation with over 50 years of experience, Golder Associates is driven by our purpose to engineer earth's development while preserving earth's integrity. We deliver solutions that help our clients achieve their sustainable development goals by providing a wide range of independent consulting, design and construction services in our specialist areas of earth, environment and energy.

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Golder Associates

Project No: ZC.MFG.S.14.10.040

ESKOM - MEDUPI POWER STATION

FGD RETROFIT PROJECT

Baseline &

AND EIA

SPECIALIST SOILS & LAND CAPABILITY STUDIES

Compiled For

REPORT V1.2

February 2018

Sustaining the Environment

Our Ref: ZC.MFG.S.14.10.040
Your Ref: 12949-04-Let-001

Stonecap Trading 14 (Pty) Ltd

07th February 2018

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Halfway House

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Gauteng

South Africa

Attention: Mr. Mathys Vosloo

Dear Mr Vosloo,

Re: ESKOM MEDUPI POWER STATION – FGD RETROFIT PROJECT

BASELINE SOIL INVESTIGATION AND ENVIRONMENTAL IMPACT ASSESSMENT

Attached please find the baseline assessment and specialist opinion regarding the impact of the proposed retrofit that is being considered by Eskom on the area considered for the Flue Gas Desulphurisation Facility (FGD) needed as part of the support infrastructure to reduce SO_2 emissions at the Eskom Medupi Power Station.

This report details the results of the reconnaissance field assessment undertaken for the soils and land capability for the area of concern, and considers the impacts that the proposed development will have on the soils and ecosystem services.

Should you have any queries in this regard, please do not hesitate to contact us.

Yours sincerely,

Earth Science Solutions (Pty) Ltd

Ian Jones - B.Sc. (Geol), Pr.Sci.Nat 400040/08, EAPASA Certified

Director

DOCUMENT ISSUE STATUS

Report Name	**Eskom Medupi Power Station – FlueFlue Gas Desulphurisation Retrofit Project**			
Report Number	**ZC.MFG.S.14.10.040**			
Report Status	**Baseline Studies and Environmental Impact Assessment**			
Carried Out By	**Earth Science Solutions (Pty) Ltd**			
Commissioned By	**Zitholele Consulting**			
Copyright	**Earth Science Solutions (Pty) Ltd.**			
Title	**Name**	**Capacity**	**Signature**	**Date**
Author	Ian Jones	Director ESS (Pty) Ltd		07th February 2018
Project Director	Mathys Vosloo	Project Leader		
Technical Review				

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Executive Summary

The Eskom Medupi Power Station is being commissioned as part of the national power supply needed by South Africa and the region.

As part of any power generation system that involves coal combustion, a amounts of waste/by-products (e.g. ash, gases, polluted effluents) are generated, all of which need to be managed.

The project is in the process of developing and installing a Flue Gas Desulphurisation (FGD) plant, as an air quality abatement technology. Part of the waste stream that will be generated by this plant is a by-product (gypsum) process. It is proposed that the gypsum be disposed with ash, at the ash disposal facilities since they classify as the same waste type, Type 3. Sludge and salts will be stored on site temporarily, approximately for five (5) years, and disposed at an authorised hazard waste disposal facility.

The specialist soils and land capability studies are part of the larger environmental assessment and assimilation of scientific input needed for the selection of a suitable site and the consideration of the sustainability of the proposed development in terms of the impacts.

The assessment of alternative disposal sites has subsequently been removed from the scope of the EIA application for the construction of the FGD infrastructure, rail yard and associated infrastructure. The three sites and combinations of sites vary in soil characteristics from highly sensitive wet based materials to moderately deep well drained materials with a moderate to good grazing land potential rating for all but the very shallow steep areas and wet based sensitive sites. These sites also vary somewhat in their geomorphological characteristics. The topography and climate are consistent across the area with flat to undulating landforms and arid to semi-arid climate. Only Site 3 (subsequently eliminated from the assessment) returned steep and rocky terrain.

The alternative assessment has been considered in terms of the present/pre development site utilisation potential and rated in terms of the land capability (based on the soils and geomorphology of the site) and the socio economics and ecosystem services of the sites. As such the outcomes do not place a significant weighting on the utilisation of the soil in terms of rehabilitation and workability. These aspects have been considered as part of the overall sustainability of the project and included in the impact assessment rating.

After lengthy consideration and debate, the South-eastern extent of Site 13 was tabled as the most suitable and environmentally sustainable option. The impact assessment has been undertaken on the area as described in the 12949-46 Rep-008 Bridging Document dated Nov 2017 Rev 0, which relate to the FGD infrastructure footprint within the MPS, and the proposed area associated with the construction of the rail yard and offloading and handling facilities.

The mapping and interpretation of this assessment has been undertaken in terms of the South African environmental legislation and the best practise guidelines as specified in terms of the international norms and best practise as a minimum requirement (IFC Principles)

A comprehensive reconnaissance study of the site was undertaken by a qualified earth scientist as part of the soils and land capability specialist study of the areas (Sites 2, 3, 12 and 13), while the impact assessment and consideration of site management recommendations (soil utilisation plan) has been assessed for the relevant portion of Site 13 and the Medupi Power Station footprint.

The major findings revealed:

- Differences in the geomorphology of the sites (Topography, attitude and ground roughness);
- Differences in soil depth across the sites as well as within the different sites;
- Differences in the texture of the soils (clay content and sand grain size);
- Differences in extent and functionality of the wet based soils across the areas of concern;
- Subtle but significant differences in soil structure (apedel to weak crumby structures);
- Significant differences in the land use and social impact on areas surveyed;

The soils are highly influenced by the parent materials from which they are derived (fine to medium grained sediments for the most part) and by the subtle but variable topography that results in a net positive erosive environment. The attitude of the underlying lithologies (generally flat lying/horizontal) and the negative water balance (evaporation is higher than rainfall) has also had an influence on the weathering processes at work and the pedogenetic mechanisms (soil forming) that contribute to the soil forms mapped.

There are soils with varying degrees of structure, from apedel and single grained silty and sandy loams to sandy clay loams, and those with slightly stronger structure (crumby to slight blocky) associated with the more clay rich soils found as colluvial accumulations in the lower slope and alluvial flood plains. These soils are significantly more clay rich and stronger in structure (pedocutanic to prismacutanic structures with clays typically in excess of 45%) than the in-situ derived soils.

The hydromorphic soils are also highly variable in character, with lower mid-slope transitional form soils and midslope seeps comprising sandy clay with loamy sub-soils and sandy topsoil, to small but significant areas with shallow wetness and structured wetland soil forms that are characterised by pale sandy clay topsoil's, poor organic carbon and well developed hydromorphic characteristics. These soils exhibit stronger than average structure.

In addition to the earth science component, it is also important to note that the present land use also varies, from areas that have already been disturbed by the Power Generation Facility to areas that support commercial livestock herds on low intensity natural grazing, and sites of undisturbed natural Bushveld (Limpopo Sweet Bushveld) that are managed for commercial wildlife hunting and associated activities (Lodges etc.).

These aspects have been taken into account in terms of the ecosystem services that are derived from the land when considering the alternatives.

Based on the reconnaissance soil, land use and land capability assessments carried out on the alternatives (Sites 2, 12 and 13), the site considered for further development is Site 13.

Of consequence to the findings of the specialist soils and land capability for Site 13 are the following:

- The area of concern has already been disturbed by the Medupi Power Generation construction and its associated support infrastructure;
- There are no commercial farming activities;
- There is no subsistence farming on the area;
- The land capability is considered to be of a disturbed nature;
- The majority of the area of concern comprises soils that are moderately shallow (500mm to 800mm);
- The soils are moderately easily worked and stored, albeit that erosion is an issue to be considered and managed.

GLOSSARY OF TERMS

Alluvium: Refers to detrital deposits resulting from the operation of modern streams and rivers.

Base status: A qualitative expression of base saturation. See base saturation percentage.

Black turf: Soils included by this lay-term are the more structured and darker soils such as the Bonheim, Rensburg, Arcadia, Milkwood, Mayo, Sterkspruit, and Swartland soil forms.

Buffer capacity: The ability of soil to resist an induced change in pH.

Calcareous: Containing calcium carbonate (calcrete).

Catena: A sequence of soils of similar age, derived from similar parent material, and occurring under similar macroclimatic conditions, but having different characteristics due to variation in relief and drainage.

Clast: An individual constituent, grain or fragment of a sediment or sedimentary rock produced by the physical disintegration of a larger rock mass.

Cohesion: The molecular force of attraction between similar substances. The capacity of sticking together. The cohesion of soil is that part of its shear strength which does not depend upon inter-particle friction. Attraction within a soil structural unit or through the whole soil in apedel soils.

Concretion: A nodule made up of concentric accretions.

Crumb: A soft, porous more or less rounded ped from one to five millimetres in diameter. See structure, soil.

Cutan: Cutans occur on the surfaces of peds or individual particles (sand grains, stones). They consist of material which is usually finer than, and that has an organisation different to the material that makes up the surface on which they occur. They originate through deposition, diffusion or stress. Synonymous with clayskin, clay film, argillan.

Desert Plain: The undulating topography outside of the major river valleys that is impacted by low rainfall (<25cm) and strong winds.

Denitrification: The biochemical reduction of nitrate or nitrite to gaseous nitrogen, either as molecular nitrogen or as an oxide of nitrogen.

Erosion: The group of processes whereby soil or rock material is loosened or dissolved and removed from any part of the earth's surface.

Fertilizer: An organic or inorganic material, natural or synthetic, which can supply one or more of the nutrient elements essential for the growth and reproduction of plants.

Fine sand: (1) A soil separate consisting of particles 0,25-0,1mm in diameter. (2) A soil texture class (see texture) with fine sand plus very fine sand (i.e. 0,25-0,05mm in diameter) more than 60% of the sand fraction.

Fine textured soils: Soils with a texture of sandy clay, silty clay or clay.

Hardpan: A massive material enriched with and strongly cemented by sesquioxides, chiefly iron oxides (known as ferricrete, diagnostic hard plinthite, ironpan, ngubane, ouklip, laterite hardpan), silica (silcrete, dorbank) or lime (diagnostic hardpan carbonate-horizon, calcrete). Ortstein hardpans are cemented by iron oxides and organic matter.

Land capability: The ability of land to meet the needs of one or more uses under defined conditions of management.

Land type: (1) A class of land with specified characteristics. (2) In South Africa it has been used as a map unit denoting land, mapable at 1:250,000 scale, over which there is a marked uniformity of climate, terrain form and soil pattern.

Land use: The use to which land is put.

Mottling: A mottled or variegated pattern of colours is common in many soil horizons. It may be the result of various processes *inter alia* hydromorphy, illuviation, biological activity, and rock weathering in freely drained conditions (i.e. saprolite). It is described by noting (i) the colour of the matrix and colour or colours of the principal mottles, and (ii) the pattern of the mottling.

The latter is given in terms of abundance (few, common 2 to 20% of the exposed surface, or many), size (fine, medium 5 to 15mm in diameter along the greatest dimension, or coarse), contrast (faint, distinct or prominent), form (circular, elongated-vesicular, or streaky) and the nature of the boundaries of the mottles (sharp, clear or diffuse); of these, abundance, size and contrast are the most important.

Nodule: Bodies of various shapes, sizes and colour that have been hardened to a greater or lesser extent by chemical compounds such as lime, sesquioxides, animal excreta and silica. These may be described in terms of kind (durinodes, gypsum, insect casts, ortstein, iron, manganese, lime, lime-silica, plinthite, salts), abundance (few, less than 20% by volume percentage; common, 20 – 50%; many, more than 50%), hardness (soft, hard meaning barely crushable between thumb and forefinger, indurated) and size (threadlike, fine, medium 2 – 5mm in diameter, coarse).

Overburden: A material which overlies another material difference in a specified respect, but mainly referred to in this document as materials overlying weathered rock.

Ped: Individual natural soil aggregate (e.g. block, prism) as contrasted with a clod produced by artificial disturbance.

Pedocutanic, diagnostic B-horizon: The concept embraces B-horizons that have become enriched in clay, presumably by illuviation (an important pedogenic process which involves downward movement of fine materials by, and deposition from, water to give rise to cutanic character) and that have developed moderate or strong blocky structure. In the case of a red pedocutanic B-horizon, the transition to the overlying A-horizon is clear or abrupt.

Pedology: The branch of soil science that treats soils as natural phenomena, including their

morphological, physical, chemical, mineralogical and biological properties, their genesis, their classification and their geographical distribution.

Slickensides: In soils, these are polished or grooved surfaces within the soil resulting from part of the soil mass sliding against adjacent material along a plane which defines the extent of the slickensides. They occur in clayey materials with a high smectite content.

Sodic soil: Soil with a low soluble salt content and a high exchangeable sodium percentage (usually EST > 15).

Swelling clay: Clay minerals such as the smectites that exhibit interlayer swelling when wetted, or clayey soils which, on account of the presence of swelling clay minerals, swell when wetted and shrink with cracking when dried. The latter are also known as heaving soils.

Texture, soil: The relative proportions of the various size separates in the soil as described by the classes of soil texture shown in the soil texture chart (see diagram on next page). The pure sand, sand, loamy sand, sandy loam and sandy clay loam classes are further subdivided according to the relative percentages of the coarse, medium and fine sand subseparates.

Vertic, diagnostic A-horizon: A-horizons that have both, a high clay content and a predominance of smectitic clay minerals possess the capacity to shrink and swell markedly in response to moisture changes. Such expansive materials have a characteristic appearance: structure is strongly developed, ped faces are shiny, and consistence is highly plastic when moist and sticky when wet.

1. INTRODUCTION AND TERMS OF REFERENCE

Eskom Holdings SOC Limited (Eskom) obtained an Environmental Authorisation (EA) in 2006 for construction and operation of the Medupi Power Station. According to the EA granted, the Medupi Power Station must "*install, commission and operate any required SO_2 abatement measures to ensure compliance with the applicable emission or ambient air quality standards published in terms of the National Environmental Management: Air Quality Act NEMAQA (Act No 39 of 2004)*".

In order to address the requirements prescribed by the EA, Eskom embarked on a programme to retrofit a Flue Gas Desulphurisation (FGD) system at each of the Units as part of its operations.
The Medupi FGD Retrofit Project is aimed at installation of FGD systems to the six (6) x 800 megawatt coal fired steam electric generating units. The Scoping Report (dated June 2015) described the need for and types of facilities that are necessary for the installation and operation of the Flue Gas Desulphurisation system.

The proposed activities associated with the installation and operation of the FGD system and associated infrastructure would trigger a number of listed activities, waste management activities and water uses in terms of the National Environmental Management Act, No 107 of 1998 (NEMA) and EIA regulations or 2014, as amended, as well as the National Environmental Management: Waste Act, No 59 of 2008 (NEMWA) and National Water Act, No. 36 of 1998 (NWA), respectively.

Zitholele Consulting was appointed to undertake the integrated Environmental Impact Assessment (EIA) process for the proposed Medupi Power Station FGD retrofit project. This process was initiated early in 2014 and the Final Scoping Report was accepted by the Department of Environmental Affairs (DEA) at the end of July 2015.
Since acceptance of the FSR, the project and EIA process experienced some delays as the project unfolded resulting in the need to adapt the EIA process in order for Eskom to meet its commitment to remain compliant to the NEMAQA. A Bridging Document was subsequently circulated to inform all registered Interested and Affected Parties (IAPs), key stakeholders and authorities of the proposed changes in October 2016.

The scope of work assessed in this DEIR includes assessment of the following activities and infrastructure:

- Construction and operation of a rail yard/siding to transport Limestone from a source defined point via the existing rail network to the Medupi Power Station and proposed rail yard / siding. The rail yard infrastructure will include storage of Flue (diesel) in above ground tanks and 15m deep excavation for tippler building infrastructure;
- Construction and operation of limestone storage area, preparation area, handling and transport via truck and conveyor to the FGD system located near the generation units of the Medupi Power Station;
- The construction and operation of the wet FGD system that will reduce the SO_2 content in the flue gas emitted;
- Construction and operation of associated infrastructure required for operation of the FGD system and required services to ensure optimal functioning of the wet FGD system. The associated FGD infrastructure include a facility for storage of Flue (diesel), installation of stormwater infrastructure and conservancy tanks for sewage;
- The handling, treatment and conveyance of gypsum and effluent from the gypsum dewatering plant. Disposal of gypsum on the existing ADF is not included in the current EIA application and will be addressed in the ADF WML amendment application.

- Pipeline for the transportation of waste water from the gypsum dewatering plant and its treatment at the WWTP that will be located close to the FGD infrastructure within the Medupi Power Station;
- Construction and operation of the WWTP;
- Management, handling, transport and storage of salts and sludge generated through the waste water treatment process at a temporary waste storage facility. In terms of the EIA process impacts related to the management of salts and sludge will be considered in the EIR. However, licencing of the storage activity and requirements relating to the waste storage facility will be assessed in the WML registration application process.
- The transportation of salts and sludge via trucks from the temporary waste storage facility to a final Waste Disposal Facility to be contracted by Eskom for the first 5 years of operation of the FGD system. Long term disposal of salts and sludge will be addressed though a separate independent EIA process to be commissioned by Eskom in future.
- Disposal of gypsum together with ash on the existing licenced ash disposal facility (ADF), with resulting increase in height of the ADF from 60m to 72m.

As part of the original scoping and assessment of alternatives for the DFGD site Earth Science Solutions (Pty) Ltd undertook a comprehensive reconnaissance site assessment of a number of potential sites identified by the client. The alternative assessment was then utilised by the lead consultants as part of the optimisation process and impact sustainability study.

As part of the environmental assessment, the soils, and land capability were investigated and the baseline conditions to the areas of concern were considered in better understanding the existing conditions and the potential impact of the developments being proposed. These studies were undertaken in conjunction with an investigation of the pre development (existing) land use.

Earth Science Solutions (PTY) Ltd was commissioned to carry out a comprehensive reconnaissance soil and land capability assessment of the development.

The studies considered the soils in terms of their physical and chemical properties, while other geomorphological aspects were also mapped as part of determining the land capability of the study area. To this end, the local climate, ground roughness, topographic features such as altitude, attitude and slope were recorded, in addition to the pre development land use which was noted as part of better understanding the eco system services of the area.

The soil wetness and its relative wetland status was also assessed as one of the more important soil features that might have a bearing on the site selection, with the semi-arid to arid climate and relative position of the study area within the Limpopo valley, features that are important to the overall biodiversity and sensitivity of the area within the ecological cycle.

Additional input and comment from the hydrologists and ecologists was also considered in rating the site sensitivity, with additional inputs from the ecological team needed in the interpretation and classification of the “wetland” status.

This document should be read in conjunction with the ecological, hydrological and biodiversity studies as these will help to better define the wetland status and natural connections that control the life cycle of the area.

This report has been structured so as to satisfy the requirements of the National Environmental Management Act (NEMA) as well as the other related laws and guidelines required in terms of the

Department of Agriculture, Water Affairs, etc., while the Performance Standards used by the World Bank in terms of the IFC Guidelines have been taken as best practice principles.

Using these guidelines and policy norms, the initial project was undertaken to answer the questions asked in terms of the site selection alternatives.

Aspects considered in the site investigation included:

- The current status of the soils (characterise and classify);
- Current level of soil disturbance;
- Agricultural potential/land capability;
- Assessment of occurrence and spatial distribution of the wet based soils, and
- The mapping of the present land use

To this end, a number of in-field site parameters were noted

These included:

- Soil character, inclusive of average soil depth, structure and wetness;
- Existing impacts due to present land use (disturbed).

Historically, the land has been utilised for wildlife game farming with some low intensity commercial grazing, while more recently the site has been developed as part of the power generation plant and its associated support infrastructure.

With the ever-increasing competition for land, it has become imperative that the full scientific facts for any new development site are known, and the effects/impacts on the land to be used by any other proposed enterprise be evaluated prior to the new activity being implemented.

during the initial site selection process the site assessment of a new alternative ADF site for disposal of wastes from year 21 – 50 have been removed from the scope of the EIA application and will be undertaken as a separate and independent environmental authorisation process

The already disturbed nature of this area being considered for the FGD, and the fact that the site has already been authorised for industrial use reduces the potential impact on the overall area.

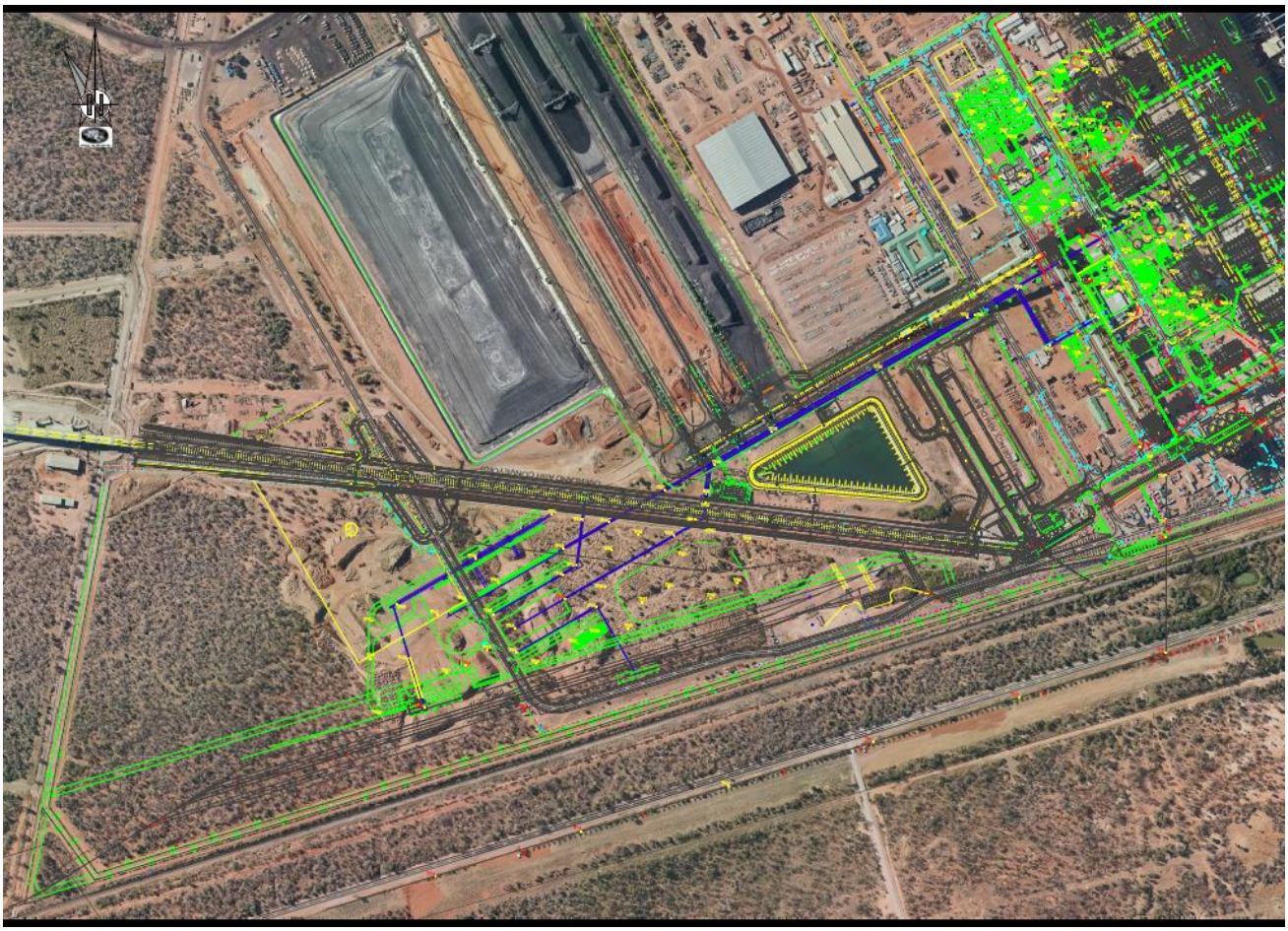


Figure 1.4 – Proposed development area for the rail yard and FGD infrastructure

2. DESCRIPTION OF THE PRE-CONSTRUCTION ENVIRONMENT

2.4 SOILS

2.4.1 Data Collection

In better understanding the potential impacts to the site delineated, all existing information and any Environmental Impact Statements relating to the area in general was used as input to the baseline of information for the planned Waste Disposal Facility (receive ash from the power station coal combustion process as well as gypsum from the FGD process and salts and sludge from the Waste Water Treatment Plant).

In addition, the 1:250 000 and 1:50 000 scale topocadastral maps, the Land Type Mapping, and the LiDAR Imagery was also used to better define and map the baseline conditions for the site.

The field inspection undertaken involved the characterisation and classification of the broad soils for the site, while an assessment of the geomorphological character of the area was important in assessing and rating the capability of the land.

The present land use was noted as part of the field study, and mapped using the aerial imagery available.

The soils were characterised and classified according to the Taxonomic Classification System and the soil forms were noted/recorded wherever a profile was examined, and the general soil groupings or major soil forms were mapped to ArcGIS.

The existing geomorphological information (Topocadastral maps and Land Type mapping) was captured and assimilated as part of the baseline information, and combined with the soil mapping as the basis for the land capability rating.

2.4.2 Description

Background information was obtained from the geological exploration conducted in the area (coal mining) and from the geotechnical mapping undertaken for the Matimba and Medupi projects. This information was of significance and useful to the soils study.

Information mapped included the depth of soil or saprolite to the calcrete interface, while the depths to weathered rock and the depth of the static water level associated with the fractured rock aquifer have all be used in better understanding the earth science of the site and their influence on the pedogenisis in the study areas.

These geomorphological characteristics are further influenced by the negative water balance and semi-arid climate, with the effects of evaporites and the development of calcrete and ferricrete/laterites being highlighted as aspects of importance to the ecological status and conditions that influence the land capability.

The major attributes of the groupings of soil include (Refer to Figure 2.4.2), the soil depth, structure and texture. These variables have been used to construct a soils map of the dominant soils units. These have been defined as:

- Shallow (<400mm) sandy to silty loam (salm/silm);
- Moderate to shallow (400mm to 600mm) sandy loam (salm);
- Moderate to deep (500mm to 750mm) sandy loam and sandy clay loams (sacllm);

- Wet based soils with a variety of depths and clay composition.

In line with the Taxonomic classification used, the major or dominant soil forms mapper include those of the orthic phase Hutton, Clovelly, Glenrosa and Mispah forms with sub dominant soils of the Tukulu, Valsrivier and Shortlands Form, while the major hydromorphic forms mapped include the Glencoe, Dresden, Avalon, Pinedene, Bloemdal and Westleigh forms.

The semi-arid climate and negative water balance combined with the horizontal attitude of the sedimentary host lithologies that characterise the Karoo sediments in the area have aided in the development of evaporites within the vadose zone. These include calcrete, and in places ferricrete or laterite (Ouklip) formation as a feature of some of the soil profile.

The presence of a hard pan calcrete and in places ferricrete and plinthic horizons is considered of importance to the soil moisture regime and in many cases is the reason for wet features within the soil profile (barrier layer). This moisture is important to the biodiversity, the presence of pans and water features within the landscape, and the success or failure of the wetland systems in the extreme. These soils classify as highly sensitive where they occur within the top 500mm of the soil profile.

In addition to the geomorphological aspects mentioned above, soil texture and structure also played a role in the soil classification and the resultant sensitivity of the materials mapped. The fine to medium grained nature of the top soils, the relatively low clay contents (<12%) and the generally low organic carbon renders the majority of the top soils highly sensitive to erosion.

This is only tempered by the relative flatness of the topography for all but a few areas, with a resultant moderate to low erosion index for most of the site if not well protected. Once the cover is disturbed or removed, the potential for erosion is increased.

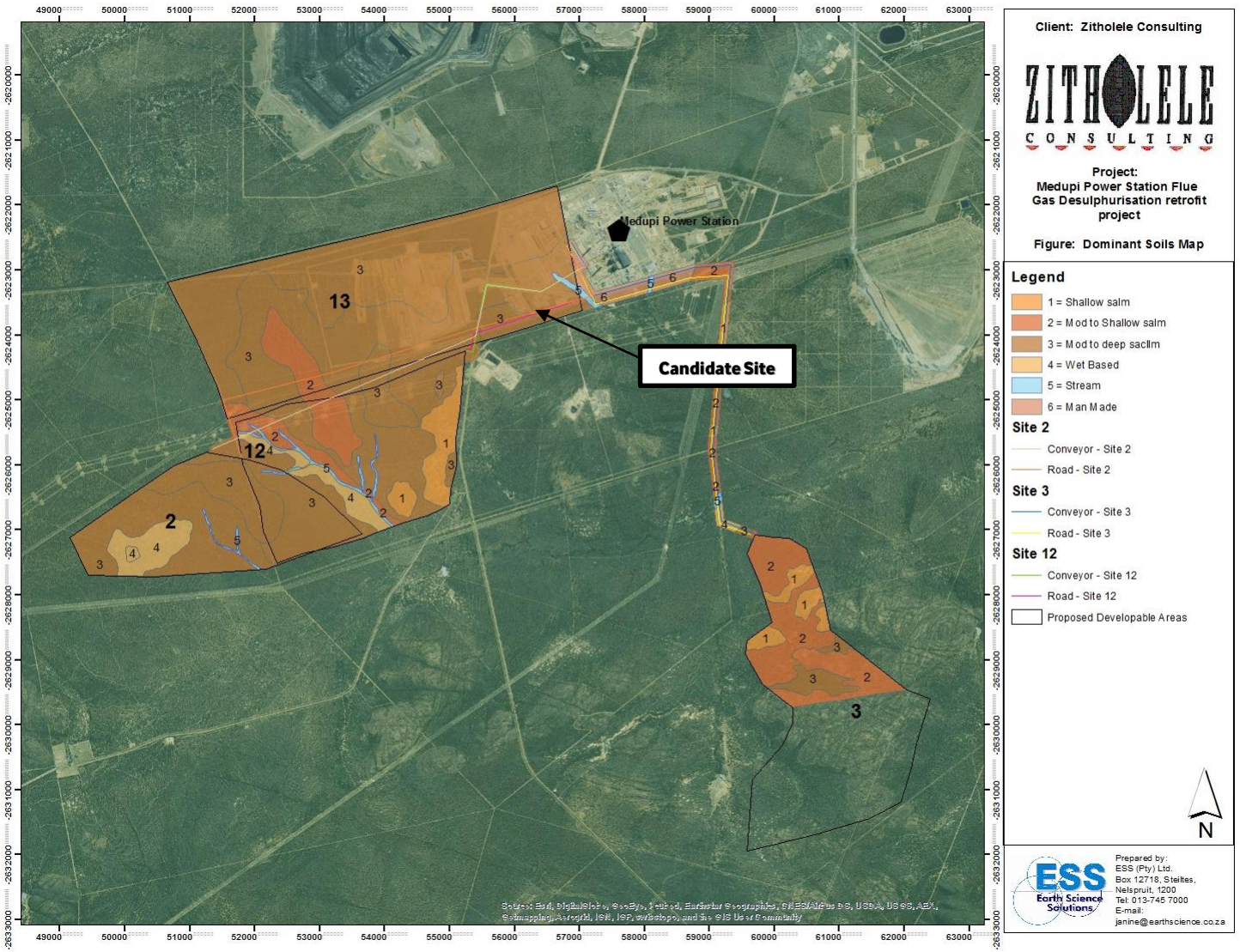


Figure 2.4.2 – Dominant Soils Map

The shallower soils comprise for the most part fine to medium grained sandy topsoils on lithocutanic subsoil (Glenrosa) or sandy loams on a hard rock base (Mispah). These soils are limited with, the majority of the area comprising deeper sandy loams and silty clay loams (800mm to 1.200mm) of the Hutton and Clovelly soil form.

The shallower soils and wet based materials are considered to be more sensitive/vulnerable in terms of their biophysical and ecological functionality and although limited in extent on the area of concern, their presence downslope of the site is noted...

Hydromorphic soils are often associated with wetlands or the transition to the wetlands, are generally found associated with either perched seep zones were the soils have been restricted within a concave land form, or in association with the moist grasslands and valley bottoms.

Overall, the effective rooting depths (utilisable soil - to top of mottled horizon) vary from 500mm to over 800mm, the area of concern (Refer to Figure 2.4.2) returning relatively much deeper and slightly more productive (better nutrient status, depth and water holding capabilities) land capability ratings than many of the other sites surveyed.

2.4.4 Characteristics of different Soil Groups

2.4.4.1 The Clay Rich Soils

In general the soils with the higher clay content are associated with the colluvial derived/transported materials, and are most often found associated with the lower lying streams and river deposits, albeit that the geology and underlying lithologies also influence the soil pedogenisis, with the more basic lithologies producing soils with more structure and heavier clay percentages.

These soils are not common on the area of concern.

2.4.4.2 Shallow soils

Although limited in extent, the sensitivity of the shallower soils is of importance. In the area of study, these soils are almost always founded directly on a hard rock interface, with little to no saprolite at the base of the “B” horizon and are considered of a poor to very poor land capability rating.

Removal of the vegetative cover and/or disturbance of the top soils will increase the erosion index to high.

2.4.4.3 Light Textured Soils

The light textured soils include the majority of the orthic form soils, as well as some of the deeper hydromorphic soil Forms.

The majority of these Forms are characterised by an orthic “A” horizon overlying a red or red-brown apedel (poorly structured) B, with indications of mottling within the lower “B” horizons in the case of the hydromorphic soils.

Depths to the “C” horizon or the plinthic layer vary from less than 500mm on the shallow forms to over 800mm on the deep colluvial soils. The soils generally show a very thin saprolitic horizon, with the sub soils founded directly on hard bedrock.

The sensitivity of these soils is highly variable and depended on the depth and relative texture (clay content) of the materials. However, on average, and for the dry soils that are greater than 700mm deep, these soils are of the least sensitive, are generally more easily worked on and with, and can be stored with relative ease and re-used at closure for rehabilitation.

The majority of the site considered for the development comprises soils with these ccharacteristics.

2.4.5 Soil Erodibility (E.I.)

The erosion indices for the dominant soil forms on the study sites classify as moderate to high. This is largely ascribed to the low, or at best moderate clay content of the "A" horizons, and the low organic carbon content. These factors are tempered somewhat by the relative flatness of the terrain for all but a few areas, and the generally well conserved vegetative cover (all but the shallow soils and over utilised valley bottoms). It should be noted however, that the vulnerability of the subsoil's to erosion once the vegetative cover and topsoil layer have been disturbed or removed is markedly higher than for undisturbed soils. Good management of these soils for erosion and compaction will be essential.

2.5 PRE-DEVELOPMENT LAND CAPABILITY

2.5.1 Data Collection

The land capability of the study areas was classified according to the Canadian Land Inventory and Chamber of Mines Guidelines (1991). The criteria for this classification are set out in Table 2.5.1. The criteria are based on dryland cropping, on an average cropping regime and average climatic conditions for the region.

Table 2.5.1 Criteria for Pre-Mining Land Capability (Chamber of Mines 1991)

Criteria for Wetland

- Land with organic soils or supporting hygrophilous vegetation where soil and vegetation processes are water dependant.

Criteria for Arable land

- Land, which does not qualify as a wetland.
- The soil is readily permeable to a depth of 750 mm.
- The soil has a pH value of between 4.0 and 8.4.
- The soil has a low salinity and SAR
- The soil has less than 10% (by volume) rocks or pedocrete fragments larger than 100 mm in the upper 750 mm.
- Has a slope (in %) and erodibility factor (K) such that their product is <2.0
- Occurs under a climate of crop yields that are at least equal to the current national average for these crops.

Criteria for Grazing land

- Land, which does not qualify as wetland or arable land.
- Has soil, or soil-like material, permeable to roots of native plants, that is more than 250 mm thick and contains less than 50 % by volume of rocks or pedocrete fragments larger than 100 mm.
- Supports, or is capable of supporting, a stand of native or introduced grass species, or other forage plants utilisable by domesticated livestock or game animals on a commercial basis.

Criteria for Wilderness land

- Land, which does not qualify as wetland, arable land or grazing land.

The “land capability classification” as described above was used in conjunction with the soil units identified during the pedological survey and the overall geomorphology of the area.

The present day land use has been described from observations made during the site visit, and inspection of the satellite imagery supplied.

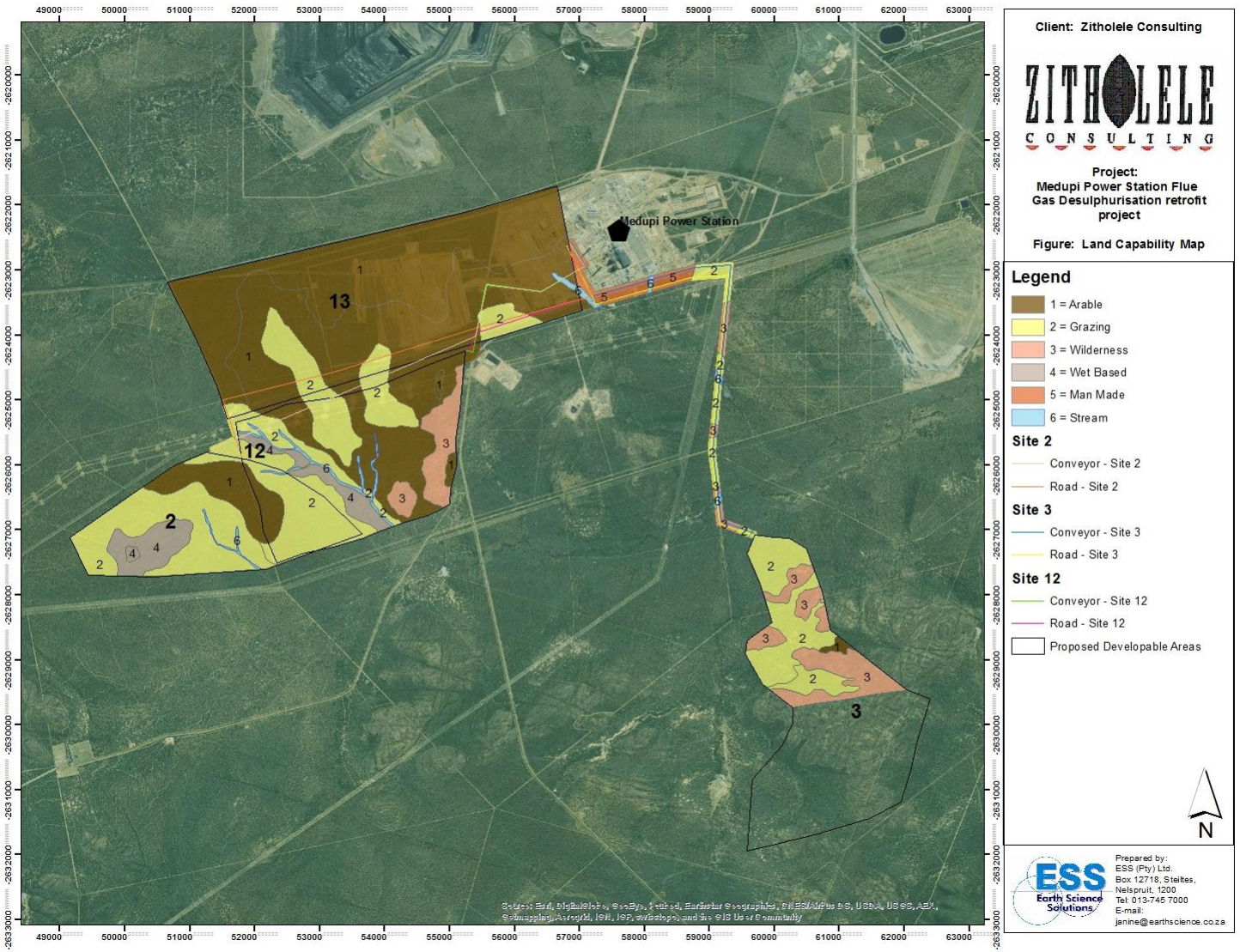


Figure 2.5 – Land Capability Plan

2.6 Baseline Results

The field data and additional input from the client, land owners and associate consultants was used as the basis for the alternatives assessment. Sustainability and the concept of "No Net Loss" was considered in conjunction with the legal requirements both locally as well as internationally.

The ability of the earth scientist to assist the development and planners in obtaining the best alternative for a development is not just the outcomes of the specific speciality, but is often found in the understanding of the interrelationship between the various disciplines. A straight association is not always a true reflection of the sensitivity of a resource to impact, and might require that a weighting is attached to the particular aspect being considered.

However, this is best left to the EAP as he/she has the cross section of the specialist information at hand, and so a straight (un-weighted) comparison of the alternatives has been used for this assessment.

With changes to the activities and design criteria for the proposed retrofit to the power station, an area within the already disturbed footprint of Site 13 was considered the best option and position for any development due to its already disturbed nature. .

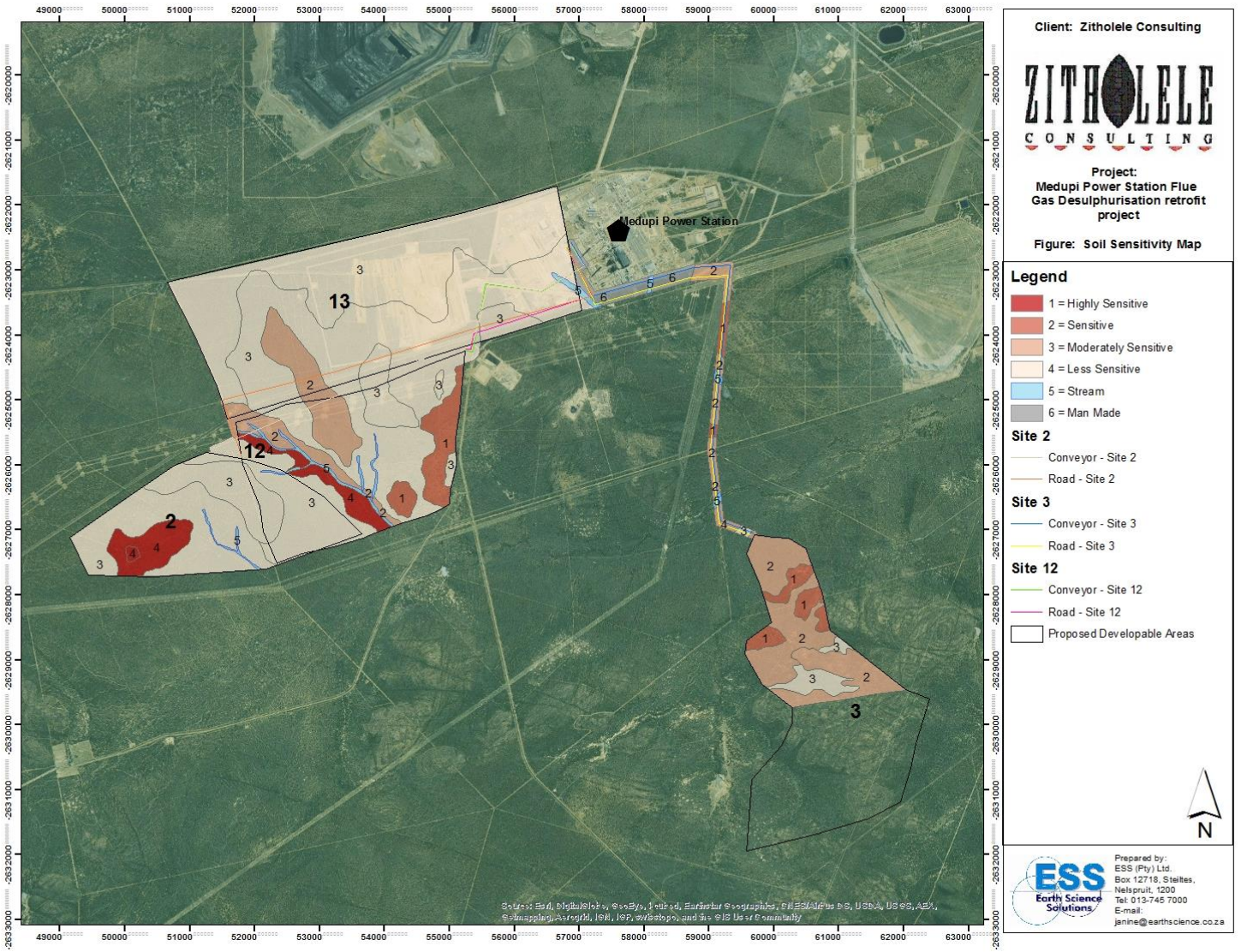


Figure 2.6 – Site Sensitivity Map

3 Impact Assessment

3.1 General

The infrastructure planned for the waste disposal facility will include (Refer to Design Reports) some large and heavy structures and relatively deep excavations. These will entail the removal of significant quantities of soil, and possibly the complete removal of soil and soft overburden in places were the foundations for the larger structures are to be excavated.

The conveyer route and maintenance/access roadways will required less engineering as the size and weight of implements and machinery will be relatively smaller/less, albeit that they will still require strong foundations with well-engineered sub-base for all plinth footings etc.

These soils will all be sterilized and lost from the system for the life of the operation and possibly beyond.

A number of site specific baseline (existing environment) conditions are of special significance and need mention here if the relative impacts of the activities being planned are to be understood.

Of significance are:

- FGD retrofit infrastructure to be constructed and operated within the Medupi Power Station footprint;
- Temporary storage of FGD WWTP solid waste (salts and sludge) at a hazardous waste storage facility within the Medupi Power Station footprint, to be removed by an accredited service provider to an approved waste disposal facility;
- Temporary trucking of salts and sludge from the FGD WWTP to a designated hazardous waste facility for disposal.
- Construction of a pollution control facility receiving dirty water runoff from the limestone holding area (licencing in terms of the NWA);
- Construction of infrastructure for the loading and offloading of gypsum and limestone at the proposed railway siding for the possible transport of limestone and gypsum to and from the power station, respectively.

These activities will have a bearing on the ratings being assigned to the overall impact significance, the loss of soil and land capability having a localised negative impact that is of significance to the ecological functionality of the area.

However, it is also important to note that the pre-development conditions or status quo for the area of concern is one of disturbed industrial. For the most part the site comprises land that has been cleared or disturbed to some degree by the power station development.

The concerns and probable impacts that could affect the soils and associated land capability are confined to:

- The loss of the soil resource due the **change in land use** and the removal of the resource from the existing system (Sterilization). These are generally associated with the construction of the facilities and the use of the footprint area for the development of industrial activities. These activities will result in the complete loss of the soil resource for the life of the project. The management of waste could potentially sterilize the soils permanently, if not removed/striped, stored and well managed;

- The loss of the soil resource due to **erosion** (wind and water) of unprotected materials due to the removal of vegetative cover and/or topsoil;
- The loss of the utilization potential of the soil and land capability due to **compaction** of areas adjacent to the constructed facilities by vehicle and construction activities;
- Loss of the resource due to **removal** of materials for use in other activities (dam wall construction, development of berms and the storage of the soils in stockpiles);
- The **contamination** of the resource due to spillage of raw materials and reagents (Gypsum, limestone etc.) that are transported to the site;
- The **contamination** of stored or in-situ materials due to dust or dirty water from the project area and transport routes;
- The loss of the soil utilization potential due to the **disturbance** of the soils and potential loss of nutrient stores through leaching and de-nitrification of the stored or disturbed materials.

3.2 Impact Assessment

3.2.1 Construction Phase

Issue - Loss of utilisable resource (sterilization and erosion), compaction and contamination or salinisation.

The construction phase will require:

- The stripping of all utilisable soil (Top 250mm to 700mm depending on activity);
- The preparation (levelling and compaction) of lay-down areas, foundations and pad footprint areas for stockpiling of utilisable soil removed from the footprint to the development area, Return Water Dams (RWD) and Soil Stockpiles,
- The stormwater management system (Dams, Water Reservoir etc.), and the foundations for the support infrastructure;
- The clearing, stripping and stockpiling from the construction of all access and conveyencing routes, electrical servitudes and water reticulation (pipelines and overhead power lines) etc.;
- The use of heavy machinery over unprotected soils;
- The creation of dust and loss of materials to wind and water erosion, and
- The possible contamination of the soils by dirty water, chemicals and hydrocarbons spills (dust and dirty water runoff);

Impact Risk

The loss of the utilization of the soil resource will negatively impact the land use practice. These activities are perceived to be of great economic benefit to the local economy and land owners and contribute to the ecosystem services.

The proposed retrofit project will, if un-managed and without mitigation have a **definite,** MODERATE to HIGH negative significance, that will affect the *development site and its immediate* surroundings for the medium to long term (life of the project and possibly beyond), and is *going to occur*.

The planned construction activities will result in:

- The loss of soil material and its ecosystem services as a result of its disturbance;
- Contamination by hydrocarbon and reagent chemical spills if not well managed
- Compaction of working/laydown areas and storage facility footprint an
- The potential for erosion (wind and water – dust and suspended solids) over unprotected areas;

These impacts will:

- Have a moderate negative intensity potential ranking based on the moderately confined nature of the infrastructure and the already disturbed nature of the area of concern;
- Continue throughout the construction phase and into the operational phase;
- Have a permanent but reversible (can be broken down and rehabilitated), and
- Be confined to the site only - localised.

However, with management, the loss, degree of contamination, compaction and erosion of this resource can be mitigated and reduced to a level that is more acceptable.

The reduction in the risk rating of the impact can be achieved by:

- Limiting the area of impact to as small a footprint as possible, inclusive of the resource (soils) stockpiles and the length of servitudes, access and haulage ways and conveyencing systems;
- Construction of the facility and associated infrastructure over the less sensitive soil groups (reduce impact over wetlands and soils sensitive to erosion and/or compaction);
- The development and inclusion of soil management as part of the general housekeeping operations, and the independent auditing of this management;
- Concurrent rehabilitation of all affected sites that are not required for the operation;
- The rehabilitation of temporary structures and footprint areas used during the pre-construction/feasibility investigation (geotechnical pits, trenching etc.);
- Effective soil stripping during the less windy months when the soils are less susceptible to erosion;
- Effective cladding of any berms and all soil stockpiles with vegetation or large rock fragments, and the minimising of the height of storage facilities to 15m and soil berms to 1,5m wherever possible;
- Restriction of vehicle movement over unprotected or sensitive areas, this will reduce compaction;

Residual Impact

The above management procedures will **probably** reduce the negative significance rating and resultant risk impact to a MODERATE or LOW. Based on the historical activities (disturbed nature of the site) these actions are *very likely to occur.*

3.2.2 Operational Phase

Issue Loss of utilisable resource (Sterilisation and erosion), compaction, de-nutrification and contamination or salinisation.

The operation of the planned FGD Facilities and support infrastructure/activities will see the impact of the transportation of materials into and out of the waste site, the potential for spillage and contamination of the in-situ and stockpiled materials, contamination due to dirty water run-off and/or contaminated dust deposition/dispersion, the de-nutrification of the stockpiled soils due to excessive through flow and the leaching out of nutrients and metals due to rain water on unconsolidated and poorly protected soils. The potential for compaction of the in-situ materials by uncontrolled vehicle movement and the loss to the environment down-wind and downstream of soil by wind and water erosion over un-protected ground is also likely if the activities are not well managed.

Un-managed soil stockpiles and soil that is left uncovered or unprotected will be lost to wind and water erosion, will lose the all-important, albeit moderately poor nutrient content and organic carbon stores (fertility), and will be prone to compaction.

A positive impact will be the rehabilitation of the temporary infrastructure used during the start-up and construction phase.

Impact Significance

In the un-managed scenario these activities will **probably** result in a MODERATE to HIGH negative significance that will affect the *development footprint and adjacent* sites for the medium to long term. These effects are *very* likely to occur.

The impacts on the soils during the operational phase can be mitigated with well initiated management procedures.

These should include:

- Minimisation of the area that can potentially be impacted (eroded, compacted, sterilised or de-nutrified);
- Timeous replacement of the soils so as to minimise/reduce the area of affect and disturbance;
- Effective soil cover and adequate protection from wind (dust) and dirty water contamination – vegetate and/or rock cladding;
- Regular servicing of all vehicles in well-constructed and bunded areas;
- Regular cleaning and maintenance of all haulage ways, conveyencing routes and service ways, drains and storm water control facilities;
- Containment and management of spillage;
- Soil replacement and the preparation of a seed bed to facilitate and accelerate the re-vegetation program and to limit potential erosion on all areas that become available for rehabilitation (temporary servitudes), and
- Soil amelioration (rehabilitated and stockpiled) to enhance the growth capability of the soils and sustain the soils ability to retain oxygen and nutrients, thus sustaining vegetative material during the storage stage.

It will be necessary as part of the development plan to maintain the integrity of the stored soils so that they are available for rehabilitation at decommissioning and closure. If the soil quantities and qualities (utilisable soils) are managed well throughout the operational phase, rehabilitation costs will be reduced and natural attenuation will more easily and readily take effect. This will result in a more sustainable "End Land Use" being achieved.

Residual Impact

In the *long term* (Life of the operation and beyond) and if implemented correctly, the above mitigation measures will **probably** reduce the negative impact on the utilisable soil reserves to a significance rating of MODERATE LOW in the medium term, and is *very likely* to occur.

However, if the soils are not retained/stored and managed, and a workable management plan is not implemented the residual impact will definitely incur additional costs and result in the impacting of secondary areas (Borrow Pits etc.) in order to obtain cover materials etc.

3.2.3 Decommissioning & Closure Phase

Issue: Net loss of soil volumes and utilisation potential due to change in material status (Physical and Chemical) and loss of nutrient base.

The impacts on the soil resource during the decommissioning and closure phase have both a positive and a negative effect, with:

- The loss of the soils original nutrient status during storag and the reduction in the already very low organic carbon by leaching of the soils while in storage;
- Erosion and de-oxygenation of materials while stockpiled;
- Compaction and dust contamination due to vehicle movement and wind impacts on the soil while rehabilitating the area;
- Erosion of soils during slope stabilisation and re-vegetation of disturbed areas;
- Contamination of replaced soils by use of dirty water for plant watering and dust suppression;
- Hydrocarbon or chemical spillage from contractor and supply vehicles.
- Positive impacts of reduction in areas of disturbance and return of soil utilization potential, uncovering of areas of storage and rehabilitation of compacted materials.

Impact Significance

The impact will **probably** remain the net loss of the soil resource if no intervention or mitigating strategy is implemented. The intensity potential will remain MODERATE and negative for the medium to short term for all of the activities if there is no active management (rehabilitation and intervention) in the decommissioning phase, and closure will not be possible. The impacts will be confined to the *development* area and its *adjacent* buffer, and is *likely* to happen.

This will result in an irreversible impact that is continuous.

However, with interventions and well planned management, there will be a MODERATE to HIGH positive intensity potential as the soils are replaced and fertilisation of the soils is implemented after removal of the infrastructure.

Ongoing rehabilitation during the operational and decommissioning phases will bring about a net long-term positive impact on the soils, albeit that the land capability will likely be reduced to grazing status.

The intensity potential of the initial activities during rehabilitation and closure will be moderate and negative due to the necessity for vehicle movement while removing the demolished infrastructure and rehabilitating the operational footprints. Dust will **potentially** be generated and soil will **probably** be contaminated, compacted and eroded to differing extents depending on the degree of management implemented.

The positive impacts of rehabilitation on the area are the reduction in the footprint of disturbance, the amelioration of the affected soils and oxygenation of the growing medium, the stabilizing of slopes and the revegetation of disturbed areas.

Residual Impacts

On closure of the operation the *long-term* negative impact on the soils will be reduced from a significance ranking of MODERATE to LOW if the management plan set out in the Environmental Management Plan is effectively implemented. These impacts will be confined to the development site and its adjacent environments, and is *very likely* to occur.

4. ENVIRONMENTAL MANAGEMENT PLAN

4.1 General

In accordance with the IFC Performance Principles and the concept of sustainability, it is incumbent on any developer to not only assess and understand the possible impacts that a development might cause, but to also propose and table management measures that will aid in minimising and were possible mitigate the effects.

The management of the natural resources (soils and land capability) have been assessed on a phase basis in keeping with the impact assessment (EIA) philosophy, while the Environmental Management Plan (EMP) has been designed as a working plan and utilization guide for soil and land management.

The plan is based on the site specifics of soil and geomorphology (topography, altitude, attitude, climate and ground roughness) and the activities proposed.

The plan gives recommendations on the stripping and handling of the soils throughout the life of the development along with recommendations for the utilization of the soils for rehabilitation at closure.

It has been assumed that all infrastructure will be removed and that the areas that were affected will be returned to as close as possible their pre-construction state.

The concept of stripping and storage of all “Utilisable” soil is recommended as a minimum requirement and as part of the overall Soil Utilization Philosophy.

In terms of the “Minimum Requirements”, **usable or utilisable soil** is defined here as all soil above an agreed subterranean cut-off depth defined by the project soil scientist, and will vary for different forms of soil encountered in a project area and the type of project being considered. It does not differentiate between topsoil (orthic horizon) and other subsoil horizons necessarily.

4.2 Construction Phase

The construction methods and final End Land Use (ELU) are important in deciding if the utilisable soils need to be stripped and retained, and ultimately how much of the materials will be needed for the rehabilitation (stripping volumes). Failure to remove and store the utilisable materials will result in the permanent loss of the growth medium.

Making provision for retention of utilisable material for the decommissioning and/or during rehabilitation will not only save significant costs at closure, but will ensure that additional impacts to the environment do not occur.

The depths of utilisable materials on area of concern range from 400mm to 800mm. It is important to note however that the area has already been disturbed as part of the Power Station construction, and topsoil has already been removed or disturbed in places.

Table 4.2 describes the proposed soil utilization during the construction phase.

Table 4.2 Construction Phase – Soil Utilization Plan

Phase	Step	Factors to Consider	Comments
Construction	Delineation of areas to be stripped		Stripping will only occur where soils are to be disturbed by activities that are described in the design report, and where a clearly defined end rehabilitation use for the stripped soil has been identified.
	Reference to biodiversity action plan		It is recommened that all vegetation is stripped and stored as part of the utilizable soil. However, the requirements for moving and preserving fauna and flora according to the biodiversity action plan should be consulted.
	Stripping and Handling of soils	Handling	Soils will be handled in dry weather conditions so as to cause as little compaction as possible. Utilizable soil (Topsoil and upper portion of subsoil B2/1) must be removed and stockpiled separately from the lower "B" horizon, with the ferricrete layer being seperated from the soft/decomposed rock, and wet based soils seperated from the dry soils if they are to be impacted.
		Stripping	The "Utilizable" soil will be stripped to a depth of 750mm or until hard rock/ferricrete is encountered. These soils will be stockpiled together with any vegetation cover present (only large vegetation to be removed prior to stripping). The total stripped depth should be 750mm, wherever possible.
	Delineation of Stockpiling areas	Location	Stockpiling areas will be identified in close proximity to the source of the soil to limit handling and to promote reuse of soils in the correct areas. All stockpiles will be founded on stabilized and well engineered "pads"
		Designation of Areas	Soils stockpiles will be demarcated, and clearly marked to identify both the soil type and the intended area of rehabilitation.

This "Soil Utilization Plan" is intimately linked to the "development plan", and it should be understood that if the plan of construction changes, these recommendations will probably have to change as well.

4.3 Operational Phase

The operational phase will see very little change in the development requirements, with the footprint of disturbance remaining constant, albeit that the temporary infrastructure might become redundant and rehabilitation of these features might be possible.

Maintenance and care of the soil and land resources will be the main management activity and objective required during the operational phase. Management of material loss, compaction and contamination are the main issues of consideration. Table 4.3 gives details and recommendations for the care and maintenance of the resource during the operational phase.

Table 4.3 Operational Phase – Soil Conservation Plan

Phase	Step	Factors to Consider	Comments
Operation	Stockpile management	Vegetation establishment and erosion control	Enhanced growth of vegetation on the Soil Stockpiles and berms will be promoted (e.g. by means of watering and/or fertilisation), or a system of rock cladding will be employed. The purpose of this exercise will be to protect the soils and combat erosion by water and wind.
		Storm Water Control	Stockpiles will be established/engineered with storm water diversion berms in place to prevent run off erosion.
		Stockpile Height and Slope Stability	Soil stockpile and berm heights will be restricted where possible to <1.5m so as to avoid compaction and damage to the soil seed pool. Where stockpiles higher than 1.5m cannot be avoided, these will be benched to a maximum height of 15m. Each bench should ideally be 1.5m high and 2m wide. For storage periods greater than 3 years, vegetative (vetiver hedges and native grass species - refer to Appendix 1) or rock cover will be essential, and should be encouraged using fertilization and induced seeding with water and/or the placement of waste rock. The stockpile side slopes should be stabilized at a slope of 1 in 6. This will promote vegetation growth and reduce run-off related erosion.
		Waste	Only inert waste rock material will be placed on the soil stockpiles if the vegetative growth is impractical or not viable (due to lack of water for irrigation etc.). This will aid in protecting the stockpiles from wind and water erosion until the natural vegetative cover can take effect.
		Vehicles	Equipment, human and animal movement on the soil stockpiles will be limited to avoid topsoil compaction and subsequent damage to the soils and seedbank.

4.4 Decommissioning and Closure

The decommissioning and closure phase will see:

- The removal of all infrastructure;
- The demolishing of all concrete slabs/plinths and the ripping of any hard/compacted surfaces;
- The backfilling of all voids and deep foundations and the reconstruction of the required barrier layer (compaction of ferricrete and clay rich materials) wherever feasible and engineering possible;
- Topdressing of the disturbed and backfilled areas with the stored “utilisable” soil ready for re-vegetation;
- Re-vegetation of the final phases of the disposal facility (ash disposal) and waste piles with utilisable soil;
- Vegetation of soil dumps and waste piles;
- Fertilization and stabilization of the backfilled and final cover materials (soil and vegetation) and
- The landscaping of the replaced soils to be free draining.

There will be a positive impact on the soil and land capability environments as the area of disturbance is reduced, the soils are returned to a state that can support low intensity wildlife grazing or sustainable conservation and the impacts of compaction and erosion are mitigated.

Table 4.4 summarises the proposed management and mitigation actions recommended.

Table 4.4 Decommissioning and Closure Phase – Soil Conservation Plan

Phase	Step	Factors to Consider	Comments
Decommissioning & Closure	Rehabilitation of Disturbed land & Restoration of Soil Utilization	Placement of Soils	Stockpiled soil will be used to rehabilitate disturbed sites either ongoing as disturbed areas become available for rehabilitation and/or at closure. The utilizable soil (500mm to 750mm) removed during the construction phase, must be redistributed in a manner that achieves an approximate uniform stable thickness consistent with the approved post development end land use (Conservation land capability and/or Low intensity grazing), and will attain a free draining surface profile. A minimum layer of 300mm of soil will be replaced.
		Fertilization	A representative sampling of the stripped and stockpiled soils will be analysed to determine the nutrient status and chemistry of the utilizable materials. As a minimum the following elements will be tested for: EC, CEC, pH, Ca, Mg, K, Na, P, Zn, Clay% and Organic Carbon. These elements provide the basis for determining the fertility of soil. based on the analysis, fertilisers will be applied if necessary.
		Erosion Control	Erosion control measures will be implemented to ensure that the soil is not washed away and that erosion gulleys do not develop prior to vegetation establishment.
	Pollution of Soils	In-situ Remediation	If soil (whether stockpiled or in its undisturbed natural state) is polluted, the first management priority is to treat the pollution by means of in situ bioremediation. The acceptability of this option must be verified by an appropriate soils expert and by the local water authority on a case by case basis, before it is implemented.
		Off site disposal of soils.	If in situ treatment is not possible or acceptable then the polluted soil must be classified according to the Norms and Standards (DEA) for the Handling, Classification and Disposal of Hazardous Waste (Local Dept of Water Affairs) and disposed of at an appropriate, permitted, off-site waste facility.

4.5 Monitoring and Maintenance

Nutrient requirements reported in this document are based on the monitoring and sampling of the soils at the time of the baseline survey. These values will definitely alter during the storage stage and will need to be re-evaluated before being used during rehabilitation. Ongoing evaluation of the nutrient status of the growth medium will be needed throughout the life of the project and into the rehabilitation and closure phases.

During the rehabilitation exercise, preliminary soil quality monitoring should be carried out to accurately determine the fertilizer and pH requirements that will be needed. Additional soil sampling should also be carried out annually after rehabilitation has been completed and until the levels of nutrients, specifically magnesium, phosphorus and potassium, are at the required levels for sustainable growth.

Once the desired nutritional status has been achieved, it is recommended that the interval between sampling is increased. An annual environmental audit should be undertaken. If growth problems develop, ad hoc, sampling should be carried out to determine the problem.

Monitoring should always be carried out at the same time of the year and at least six weeks after the last application of fertilizer.

Soils should be sampled and analysed for the following parameters:

pH (H_2O) Phosphorus (Bray I)

Electrical conductivity Calcium mg/kg

Cation exchange capacity Sodium mg/kg;

Magnesium mg/kg; Potassium mg/kg Zinc mg/kg;

Clay, sand and Silt Organic matter content (C %)

The following maintenance is recommended:

- The area must be fenced, and all animals kept off the area until the vegetation is self-sustaining;
- Newly seeded/planted areas must be protected against compaction and erosion (Vetiver hedges etc.);
- Traffic should be limited were possible while the vegetation is establishing itself;
- Plants should be watered and weeded as required on a regular and managed basis were possible and practical;
- Check for pests and diseases at least once every two weeks and treat if necessary;
- Replace unhealthy or dead plant material;
- Fertilise hydro seeded and grassed areas soon after germination, and
- Repair any damage caused by erosion.

LIST OF REFERENCES

Taxonomic Soil Classification System (*Mac Vicar et al, 2nd edition 1991*)

The Soil Erodibility Nomograph (*Wischmeier et al, 1971*)

Vetiver Grass for Soil and Water Conservation, Land Rehabilitation, and Embankment Stabilization – A collection of papers and newsletters compiled by the Vetiver Network – Richard G. Grimshaw (OBE) and Larisa Helfer - The World Bank – Washington DC – 1995

The South Africa Vetiver Network – Institute of Natural Resources – Scottsville – Mr. D. Hay and J. McCosh1987 to present.

Chamber of Mines of South Africa, 1981. Guidelines for the rehabilitation of land disturbed by surface coal mining in South Africa. Johannesburg.

Non-Affiliated Soil Analysis Working Committee, 1991. Methods of soil analysis. SSSSA, Pretoria.

Soil Classification Working Group, 1991. Soil classification. A taxonomic system for South Africa. Institute for Soil, Climate and Water, Pretoria.

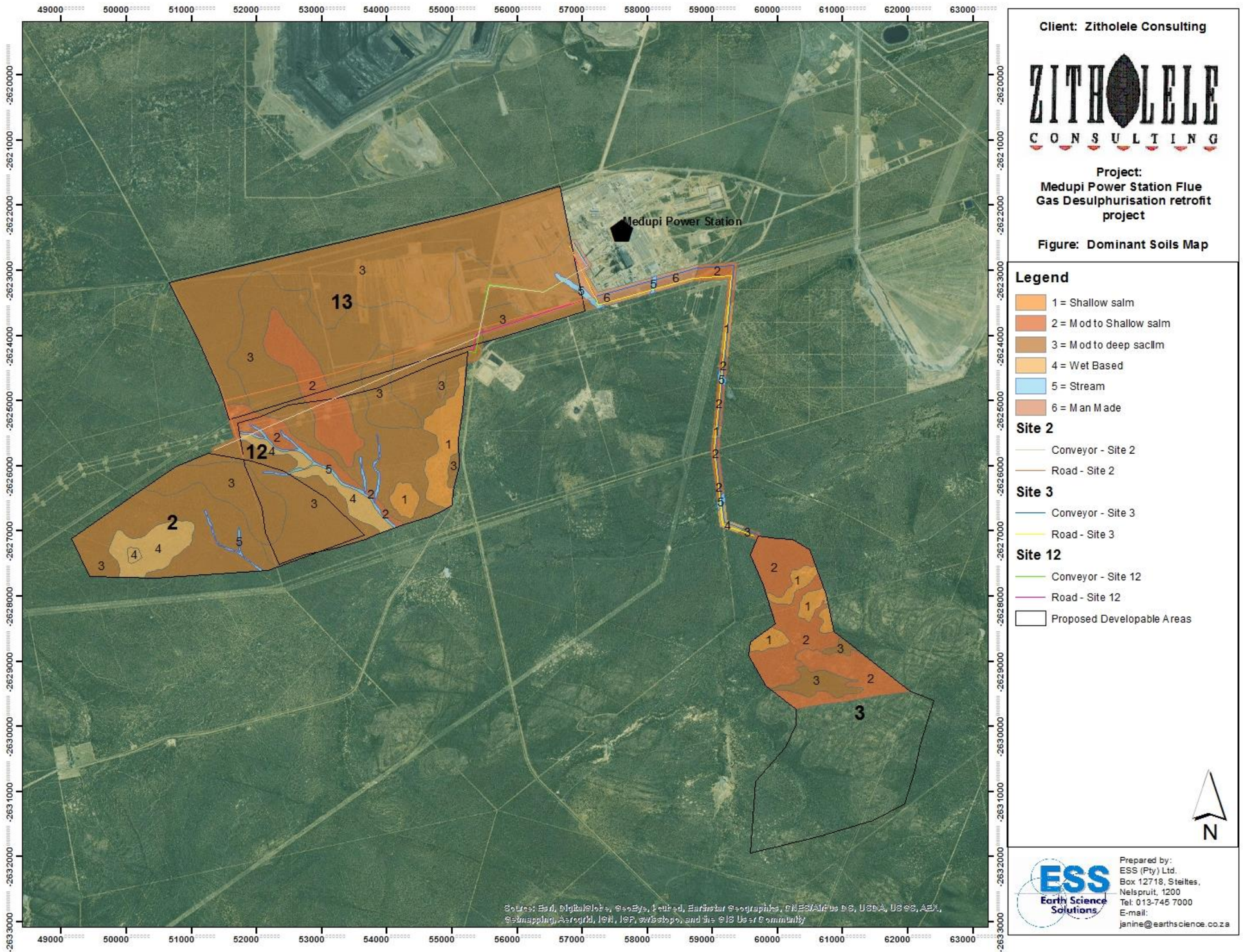
Van der Watt, H.v.H and Van Rooyen T. H, 1990. A glossary of soil science, Pretoria: Soil Science Society of South Africa (1990).

Plant and Soil - **J. L. Brewster, K. K. S. Bhat and P. H. Nye** – "The possibility of predicting solute uptake and plant growth response from independently measured soil and plant characteristics".

APPENDIX 1

SITE MAPS A3)

(Soils, Soil Groups and Land Capability)



Client: Zitholele Consulting

Project:
Medupi Power Station Flue Gas Desulphurisation retrofit project

Figure: Dominant Soils Map

Legend

- 1 = Shallow salm
- 2 = Mod to Shallow salm
- 3 = Mod to deep sacilm
- 4 = Wet Based
- 5 = Stream
- 6 = Man Made

Site 2

- Conveyor - Site 2
- Road - Site 2

Site 3

- Conveyor - Site 3
- Road - Site 3

Site 12

- Conveyor - Site 12
- Road - Site 12
- Proposed Developable Areas

N

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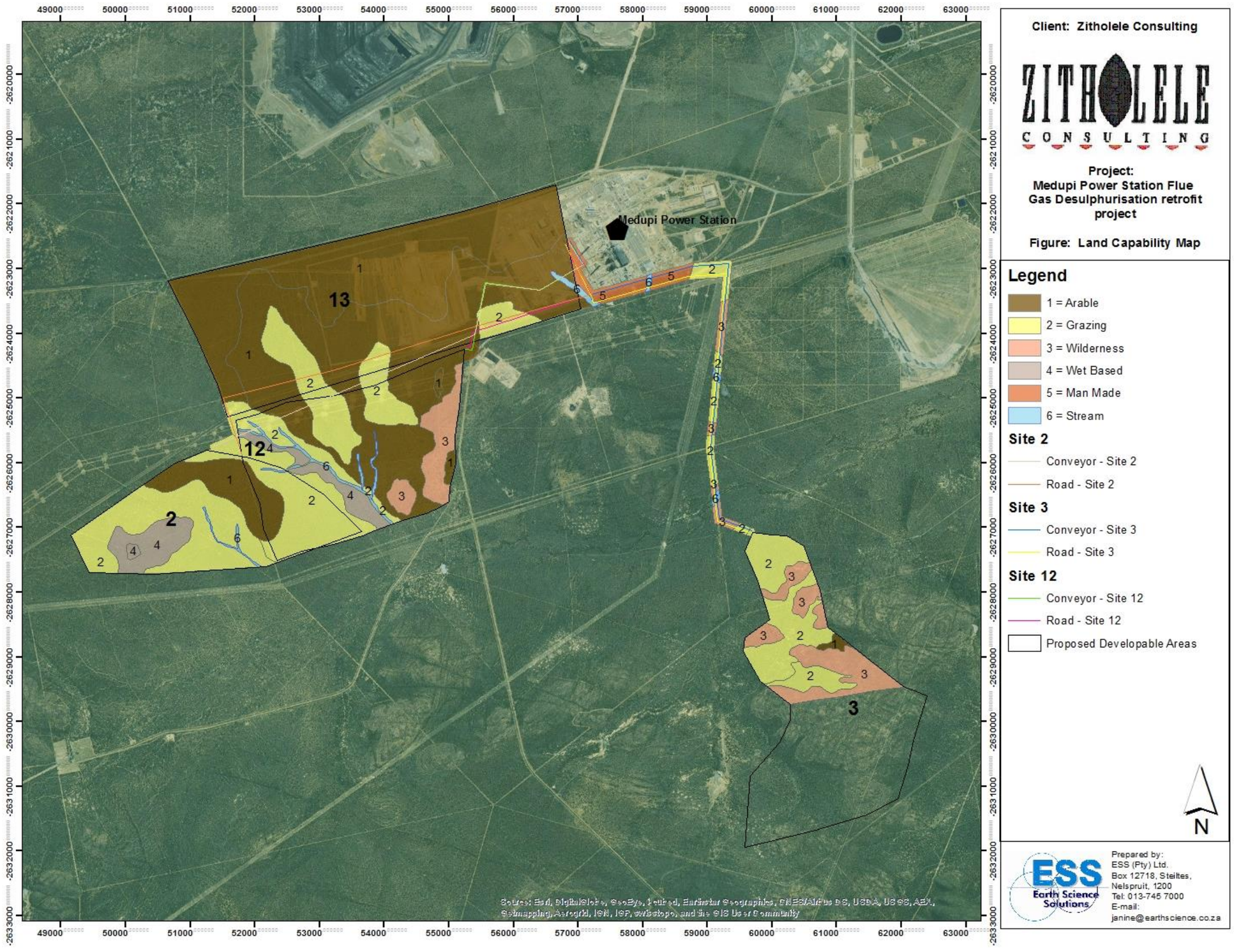
Medupi Power Station
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Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, GeoMapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community
Client: Zitholele Consulting
ZITHOLELE CONSULTING
Project:
Medupi Power Station Flue Gas Desulphurisation retrofit project
Figure: Land Capability Map
Legend
1 = Arable
2 = Grazing
3 = Wilderness
4 = Wet Based
5 = Man Made
6 = Stream
Site 2
Conveyor - Site 2
Road - Site 2
Site 3
Conveyor - Site 3
Road - Site 3
Site 12
Conveyor - Site 12
Road - Site 12
Proposed Developable Areas
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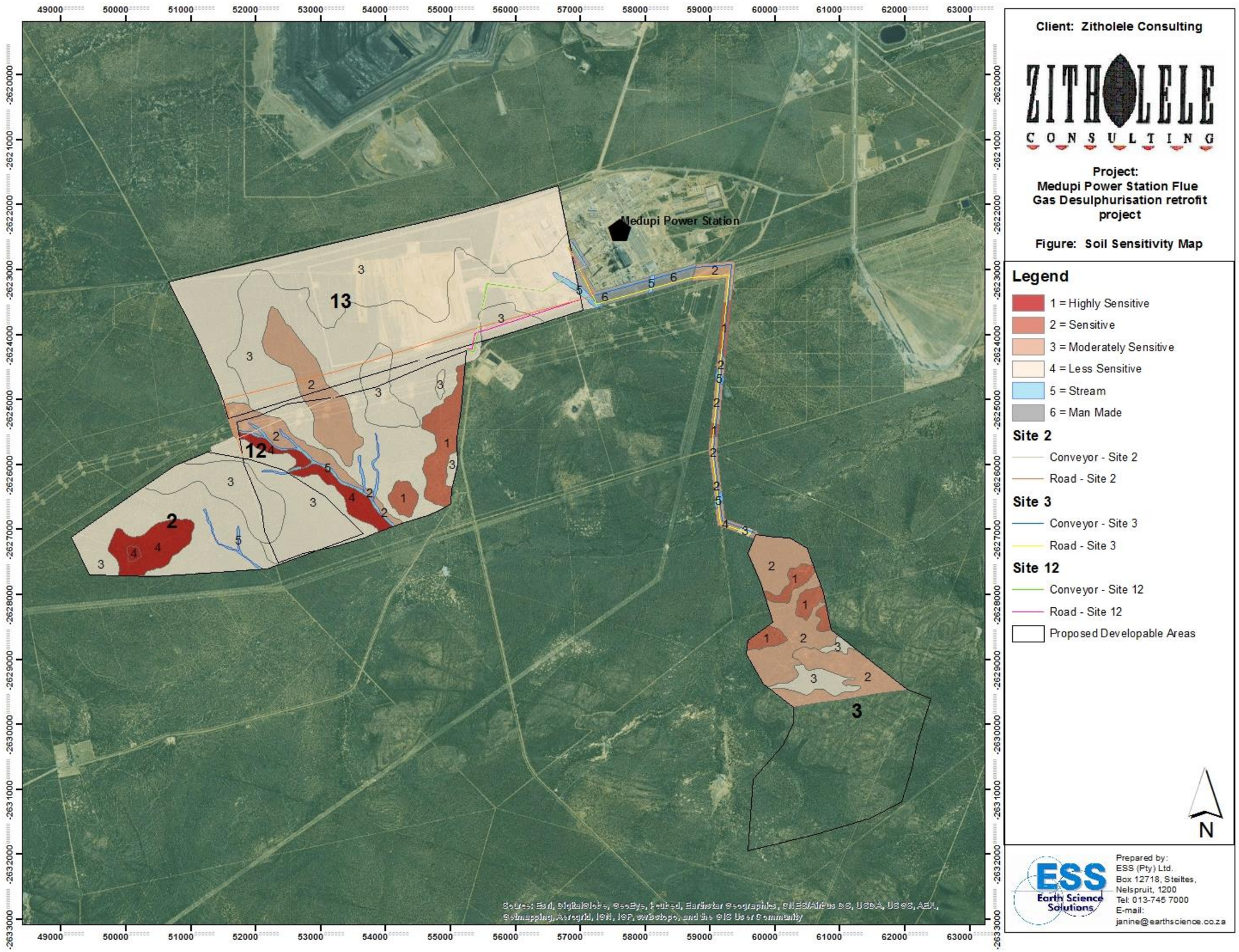
Client: Zitholele Consulting
ZITHOLELE CONSULTING
Project:
Medupi Power Station Flue Gas Desulphurisation retrofit project
Figure: Soil Sensitivity Map
Legend
1 = Highly Sensitive
2 = Sensitive
3 = Moderately Sensitive
4 = Less Sensitive
5 = Stream
6 = Man Made
Site 2
Conveyor - Site 2
Road - Site 2
Site 3
Conveyor - Site 3
Road - Site 3
Site 12
Conveyor - Site 12
Road - Site 12
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