

Monitoring Form

I. Thermal power station

(1) Operation phase

(a) Air pollution

<Ambient air quality >

Location: Meteorological post outside of Turakurgan Thermal Power Station (TTPS) at water intake facility, approximately 300 meters from TTPS.

Regulation: Sanitary norms, rules and hygiene normative documents of the Republic of Uzbekistan. It have been updated from San Pin No.0015-94 to 0293-11 for residential areas

Sampling Date: June 2021

Unit mg/m³

Date	Item	Measured Value		Uzbekistan maximum permissible concentration (MPC)	IFC/WB EHC GuidelineGeneral;2007	
		30min Min –Max	Average		30min	1hr
20.05.2021	NO ₂	0.08-0.011	0.043	0.085	0.2	0.04
20.05.2021	NO	0.01-0.09	0.06	0.6	-	-

<Exhaust gas>

Location: Gas duct

Regulation: GOST 29328-92

Sampling Date: June 2021

Parameter	Unit	Min –Max	Excess period of the standard	GOST 29328-92	IFC/ WB EHC Guideline (Thermal Power Plant; 2008)
NO _x	mg/N m ³	12-16	no excess	51	51

Note dry gas base, O₂=15%

(b) Water quality

<Wastewater>

Location: Outlet of waste treatment facility

Regulation: Rules for protection of surface water from contamination by discharge water. (San Pin No.0056-98)

Sampling Date: June 2021

Item	Unit	Measured value	Standard of Uzbekistan	IFC/WB EHS Guidelines
Temperature	°C	18	-	-
pH	-	7.9	6.5-8.5	6.5-9.0

Item	Unit	Measured value	Standard of Uzbekistan	IFC/WB EHS Guidelines
SS	mg/L	0.19	30	50
Oil and Grease	mg/L	0.13	0.3	10
Nitrites	mg/L	0.1	3.3	-
Nitrates	mg/L	12.6	45	-
Sulfates	mg/L	108.2	500	-
Chloride	mg/L	60.4	350	-
Calcium	mg/L	62.1	487	-
Sodium	mg/L	29.6	170	-
Potassium	mg/L	-	-	-
Phosphate	mg/L	0.00	2.5	-
Fe	mg/L	2.88	5.0	1.0
Magnesium	mg/L	29.2	170	-
Residual chlorine	mg/L	-	-	0.2
hexavalent chromium	mg/L	0.1	0.5 / 0.1	0.5
Copper	mg/L	0.00	1.0	0.5
Zinc	mg/L	0.00	1.0	0.5
Lead	mg/L	0.00	0.1	0.5
Cadmium	mg/L	0.00	0.1	0.5
Mercury	mg/L	0.00	0.005	0.005
Arsenic	mg/L	0.00	0.5	0.5

<River quality>

Location: Grand Canal Namangan

Regulation: Rules for protection of surface water from contamination by discharge water.(San Pin No. 0056-98)

Sampling Date: June 2021

Item	Unit	Measured Value		Environmental standard in Uzbekistan
		Water inlet	Water discharge	
Temperature	°C	23	23	
pH	—	8.7	8.3	6.5- 8.5
DO	mg/L	Summer: 4.0 or higher Winter: 6.0 or higher	Summer: 3.2 or higher Winter: 5.7 or higher	Summer: 4.0 or higher Winter: 6.0 or higher
BOD	mgO ₂ /L	0.0	0.0	3.0
SS	mg/L	171.5	120	30
Oil	mg/L	0.7	0.02	0.05
Ammonia	mg/L	0.0	0.0	0.08
Nitrite	mg/L	2.5	0.0075	0.08
Nitrate	mg/L	0.028	5.5	40
Sulfate	mg/L	192	137	100
Phenol	mg/L	0.0	0.0	0.001
Chloride	mg/L	36	48	300
Calcium	mg/L	56.1	62.12	180
Sodium	mg/L	0.00	0.00	120
Potassium	mg/L	0.00	0.00	50
Phosphate	mg/L	0.0	0.0	0.01

Item	Unit	Measured Value		Environmental standard in Uzbekistan
		Water inlet	Water discharge	
Fe	mg/L	0.66	0.76	0.5
Cu	mg/L	0.00	0.00	0.001
Zn	mg/L	0.00	0.00	0.01
Cr	mg/L	0.00	0.00	0.5
Pb	mg/L	0.00	0.00	0.03

psychology

(c) Waste

Location: Project site and associated facilities

Regulation: RD 118.0027714.60-97 Nature protection. Treatment of waste from production and consumption. Terms and definitions. Goskompriroda of Uzbekistan. Tashkent. 1997.

Duration: January 1 ~ June 30, 2021

Type of Waste	Hazardous Class	Place of generated waste	Storage amount (Unit: t or kg)	Disposal amount (Unit: t or kg)	Disposal method and place
General Waste	V	Turakurgan TPS and facilities	178.7 ton	178.7 ton	Disposed through a service provider at Turakurgan.
Black metal waste	V	Turakurgan TPS and facilities	90.0 ton	90.0 ton	Disposed through a service provider at Turakurgan.
Non-ferrous metallic waste	V	Turakurgan TPS and facilities	18.0 ton	18.0 ton	Disposed through a service provider at Turakurgan.
Hard domestic waste	IV	Turakurgan TPS and facilities	278.0 m ³	278 m ³	Disposed through a service provider at Turakurgan.
Medical waste	IV	Turakurgan TPS and facilities	10.6 kg	10.6 kg	Disposed through a service provider at Turakurgan.
Paper waste	V	Turakurgan TPS and facilities	1,200.00 kg	1,200.00 kg	Disposed through a service provider at Turakurgan.
Oily sand, Oily crushed stone, Oily sludge	II	Turakurgan TPS and facilities	no oil leaks	no oil leaks	N/A
Waste glass	V	Turakurgan TPS and facilities	did not form	did not form	N/A
Waste oil	II	Turakurgan TPS and facilities	Waste is not generated at initial stage of operation	N/A	N/A
Batteries	II	Turakurgan TPS and facilities	Waste is not generated at initial stage of operation	N/A	N/A

Waste is disposed from site by special sub-contractors and sent for recycling. The Uzbekistan Law has defined waste by levels of hazardousness, as follows:

- Level I is Highly hazardous

- Level II is Hazardous
- Level III is Moderately Hazardous.
- Level IV is Slightly Hazardous
- Level V is Non-Hazardous

(d) Noise

Location: Since TTPS is located quite far from the residential areas, closest one is at distance of approximately 7 km from TTPS, no noise measurement is done outside of the TTPS.

Regulation: Protection from noise” (State committee of Uzbekistan for architecture and construction. Tashkent. 1996) (Norms for household construction)(KMK 2001.08-96)

Date: N/A

Unit:dBA

Date (Period)	Location	Average (L_{eq} or L_{50})	Max (L_5 or L_{10})	Uzbekistan Noise standards	IFC/ EHC Guideline (General; 2007) residential area
				Residential area Day: 55 Night: 45	Residential area Day: 55 Night: 45

Note: Noise situation in residential area is mainly assessed by average value.

Noise level of the project boundary is mainly assessed by maximum value.

(e) Labor and working conditions

Location: Turakurgan Thermal Power Station and related facilities

Reporting period: January 1 ~ June 30, 2021

Item	Monitoring Results	Measures to be Taken (if any)
Worker's accident	there were no accidents	N/A

(g) Grievances regarding existing social infrastructure and services

Location: Turakurgan Thermal Power Station

Reporting period: January 1 ~ June 30, 2021

Date	Name	Contents	Response	Remarks
	N/A			There were no complaints from people

(h) Electric magnetic field (EMF)

Location: Electric magnetic field measurement is not conducted.

Reporting Date: N/A

Date	Location	Status	Provision	Remarks
				No monitoring is conducted.

(i) Infectious diseases

Location: Turakurgan Thermal Power Station

Reporting period: January 1 ~ June 30, 2021

Item	Monitoring Results	Measures to be Taken (if any)
Occurrence of diseases		
COVID-19	17 personnel of the TTPS fell ill by COVID-19 in 2021	Keep a safe distance from others, wear a mask, ventilate areas well, avoid crowded places, wash hands and cover nose and mouth with elbow or tissue when coughing or sneezing.

(j) Accident

Location: Thermal Power Station

Frequency: Regularly

Reporting period: January 1 ~ June 30, 2021

Item	Monitoring Results	Measures to be Taken (if any)
Traffic accident	there were no accidents	N/A
Fire	there were no accidents	N/A