Third Party Evaluator's Opinion on
Western Yamuna Canal Hydroelectric Project

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Efficiency

Undoubtedly, there is a drawback in the choice of horizontal valve turbine for this project. This design weakness continues to affect project performance (see next section) and would almost certainly do so in future as well. Lack of previous experience of executing agency with hydroelectric projects could account for this, as well as for part of the problems encountered in Stage 1, causing some time-overrun.

In the normal course, newness to the technology ought to have prompted even more caution and prudence like thorough testing of water samples for silt and sediment. There are other lapses that point to overall planning failures as well. Clearly, the executing agency needed to take a more realistic view with regard to the politics of inter-state water sharing, before pressing for sanction of the total loan assistance (including that for Stage 2) in 1981. Also relevant is whether an opportunity to revise the design for Stage 2 - taking advantage of the long intervening suspension and based on actual experience of Stage 1 - was missed in the actual implementation. If premature procurement of equipment for Stage 2 pre-empted such a design review, that would mark one more point of criticism justifying less than satisfactory grading for this project on the 'efficiency' criterion.

Sustainability

While the overall favourable assessment of effectiveness is valid as at present, there are a few points of concern with regard to future sustainability that need to be addressed. First, there is the high level of planned and forced outages. The fact that there were at least some years when the planned outage target could be met indicates that the problem is with operating standards. Here the junior status of this lone medium sized hydro-electric project in a predominantly thermal-oriented generating company is pertinent. Extreme delay in carrying out overhauling of Stage 1 plant could also be due in large part to institutional weaknesses. Added to this, persisting failure by the executing agency to meet efficiency standards in relation to its thermal plants is leading to deteriorating financial performance, in turn affecting the resources needed for special repairs.

Reverting to the design issue, excessive quantity of trash in the channel has again caused choking of the silt ejector and resultant drop in energy generated. Consequently, despite slightly improved water discharge in current fiscal year, the initially targeted energy output of 302 million units has been scaled down to 275 million units.

As to overcoming these drawbacks, on the positive side, the project still delivers electricity at Rs. 1.12 per unit (2.87 US cents), close to the lowest rate now available to Haryana. This provides some margin to explore the scope for rectification of design faults through 'Renovation & Modernisation' starting in current 11^{th} Plan itself. Admittedly, premature replacement of critical components would be expensive, but technical feasibility could be studied and cost-benefit analysis carried out, duly factoring in the potential gains in output, financial as well as economic. Lastly, the outsourcing option could cover not only cleanup services and overhauling, but also plant operation after renovation.