



Query 1:

The PP/DOE are requested to present the sensitivity analysis of the investment analysis as per EB 48 Annex 60 paragraph 10 (a).

In doing this, the PP is requested to include in the analysis the variables that constitute more than 20% of total project costs, subject these variables to reasonable variation and present the result of these variations in the PDD and the spreadsheet for investment analysis.

Response:

In line with para 20 of EB 62 Annex 5, PP has now presented the results of sensitivity analysis of the investment analysis in the revised PDD & the spreadsheet. The following parameters have been subjected to sensitivity analysis.

- Project Cost
- Plant load factor (PLF)
- Station Heat Rate
- Fuel cost

BVCH has verified the results of sensitivity results presented in section B.5 of the revised PDD. Detailed assessment on the sensitivity analysis is also included in section 3.7.3 of the validation report

Query 2:

The DOE is requested to include information on how it has validated the input values to the financial calculations as per VVM v 1.2 paragraph 114 (a). In particular,

(i). The project lifetime of 20 years

Response: The lifetime of the project activity has been considered as 20 years based on the recommendation of the DPR prepared by an independent third party. The technical specifications of the gas turbines in the project activity were also checked and from the same, the lifetime in number of operating hours is mentioned as 144000, which comes to about 17 years. The assumption of 20 years technical lifetime can therefore be regarded as conservative.

BVCH validation team has also cross verified the life time of the project activity assumed by other registered project activities under methodology AM0029.

Project ID	Lifetime Assumed	Reference
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6520	20 years	http://cdm.unfccc.int/Projects/DB/BVQI1340734439.47/view
5554	20 years	http://cdm.unfccc.int/Projects/DB/RWTUV1323884893.28/view
2915	20 years	http://cdm.unfccc.int/Projects/DB/BVQI1250060108.72/view

Hence, validation team is of the opinion that the lifetime of 20 years considered for the project activity is appropriate. Besides, the guidance to the investment analysis (EB62 Annex 5) under para 3 also refers that “*In general a minimum period of 10 years and a maximum of 20 years will be appropriate*”. Hence, the period of assessment considered by the PP is in line with the Investment analysis guidance.

(ii). The escalation rate of natural gas price (10%) given that the Notification No. Eco 2/2009-CERC of 30/09/2009 indicates an escalation rate for domestic gas of 1.31%; Please, note that the document used for validating the escalation rate applied to natural gas price (Notification No. Eco 2/2009-CERC of 30/09/2009, available at <http://www.cercind.gov.in/Escalation-rate/Notification-dated-30-09-09.pdf>) was also used for validating the Project Activity 6943 and, in that case, the DOE did quote the correct escalation value (i.e. 1.31%).

Response: The escalation factor provided in the CERC tariff order cited seemed too low to the PP; a search of the tariff orders for contemporary projects revealed that Gujarat State Electricity Corporation Limited (GSEC), a government owned corporation has sought an annual escalation of 10% from the GERC. The same rate was considered by the PP. However, following the UNFCCC’s comments, the rate of annual escalation considered has been revised as 1.31%. Still, there is no change in the baseline and Power generation through the CCGT continues to remain not the least expensive among all the realistic and credible alternatives considered in the baseline analysis.

(iii). The adequacy of applying an escalation rate to the spares on working capital, given that the O&M costs are already escalated.

Response:

Validation team would like to clarify that only O&M cost has been escalated year on year basis. The spares cost is considered as a percentage (30%) of the annual O&M cost and is directly calculated from the annual O&M cost arrived after escalation. There is hence no separate escalation rate applied to the spares on working capital.

In the previous sheets submitted, the spares on working capital was computed from the O&M expenses for one month in working capital. The same has been corrected in the revised investment analysis sheet.

Query 3:

The DOE is requested to include information on how it has validated sensitivity analysis of the investment analysis as per VVM v1.2 paragraph 111 (e).

Response:

PP has now subjected the parameters which constitute 20% of the project cost to +/- 10% sensitivity analysis. It was observed by validation team that the parameters subjected to the sensitivity analysis do not cross the benchmark at +/- 10% sensitivity range applied by the project participant.

Further, the validation team has also assessed that only by varying the project cost to (-) 14.6%, the project IRR will cross the Benchmark. However this is not likely since the project cost assumed by the PP is exactly the same as the project cost in the EPC agreement signed with M/s Lanco Infratech Limited Ref/P9/ and hence, further decrease in the project cost is not probable. All the other parameters (fuel cost, PLF & SHR) considered by the PP do not show variations in project IRR due to change in the parameter value. The reason for this is explained in the validation report. The validation team is therefore convinced that requirements of para 111(e) of the VVM are met.



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Internal Technical Reviewer

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