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TÜV®

CDM Executive Board

Our / Your Reference	Contact	Direct Dial	Date
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Initial Comments to Request for Review of project "Energy Efficient Power Generation by Nabha Power Limited" (Ref. no. 4807)

Dear Honourable Members of the CDM Executive Board,

Please find below the response of the TÜV NORD JI/CDM Certification Program to the request for review for the above mentioned project No. 4807.

If you have any questions do not hesitate to contact us.

Yours sincerely,

TÜV NORD JI/CDM Certification Program

Rainer Winter

Question Raised by the EB	
1	The DOE shall further validate the suitability of the electricity tariff used in the investment analysis in the context of the project activity undertaken without the CDM as a baseline alternative in order to assess the additionality of the project activity, given that the board resolution dated 22 September 2009 submitted as evidence for the investment decision of the CDM (VR, p. 82, 83) says that "...the company will bid for Rajpura Thermal Power Project and revenue from Clean Development Mechanism (CDM) be considered while deciding bidding amount and the board instructed to proceed with bidding considering revenue from sale of Carbon Credits", in line with the VVM, version 1.2, paragraph 104. In doing so, please clarify whether the tariff submitted to the bidding, which was applied in the investment analysis has considered the CDM revenue.
Changes Made in/ Reference	
☐ **PDD**	**-**
☒ **FVR**	Section 5.2.5, Page 84
☐ **Financial Models**	-
☐ **ER Sheet**	-
☒ **Additional Comment by PP**	

We submit that the project falls under "Section II" as per Annex 13 EB 62, as the start date of the project activity is 16/07/2010, which is post 02/08/2008. As per paragraph 2 of Annex 13 EB 62, project developers are required to inform UNFCCC and DNA in writing of the commencement of the project activity and the intention to seek CDM status within 6 months from the start date. The Project Developer had intimated UNFCCC and DNA on 21/01/2010, *i.e.*, even before the start date. Therefore, the project conforms to paragraph 2 of Annex 13 EB 62.

Board of Directors of L&T Power Development Limited (LTPDL) took a decision to bid for the project in the meeting held on 22/09/2009 and passed a resolution to this effect. While taking the investment decision, the Board also resolved that revenue from Clean Development Mechanism (CDM) be considered while deciding the bid tariff.

With this direction, LTPDL prepared the bid tariff. The levelised tariff worked out to INR 3.02/kWh without taking into consideration the CDM benefits. LTPDL observed that some other projects

were then allotted based on similar bidding process in the vicinity of the candidate project activity based on the following levellised tariff[1]:

Project & State	***Capacity (MW)***	***Date***	***Developer***	***Quoted Tariff (INR/kWh)***
Jhajjar, Haryana	1320	Mar-08	CLP	2.996
Talwandi Sabo, Punjab	1980	Jun-08	Sterlite Energy	2.864

Since these projects were awarded at a levellised tariff of less than INR 3.00/kWh, LTPDL realized the need to bring down the tariff below INR 3.00/kWh in order to be successful in the bid. Considering the need to bring down the tariff to less than INR 3.00/kWh and the fact that these projects also seem to have reckoned CDM benefits (in view of the fact that Jhajjar Power Limited had issued a prior notification seeking CDM status on 15/07/2009), LTPDL took into consideration CDM benefits (which has also been recommended in the Request For Proposal issued by PSEB) in the levelised tariff calculation, which brought down the levelised tariff to INR 2.89/kWh. The bid document was submitted with this tariff on 09/10/2009 and LTPDL emerged successful.

Later, it was also found out that the next two lowest bidders had offered levelised tariff of INR 2.94/kWh and INR 2.98/kWh implying that the project developer would not have been successful had it quoted the tarff of INR 3.02/kWh

In view of the above background, it is submitted that

a) The project falls under “Section II” as per Annex 13 EB 62 and UNFCCC and DNA were informed about the intention to seek CDM status even before the start date of the project;
b) Board of LTPDL took the decision to participate in the bid in the meeting held on 22/09/2009, wherein it decided to take CDM benefits into consideration while quoting the tariff (Prior consideration of CDM benefits – conformity to Annex 13 EB 62) and a copy of the Board resolution has already been submitted to DOE;
c) The levelised tariff of INR 2.89/kWh quoted (and considered in additionality demonstration) takes into account the CDM benefits; and
d) The levelised tariff would have been INR 3.02/kWh without reckoning CDM benefits and the project developer would not have emerged successful at this tariff.

☒ **Additional Comment by DOE**

The validation team reviewed the above response of the PP and has arrived at the following conclusions:

1. The authenticity of the values presented in the context of the original bid could be confirmed. The validation team was furnished with the financial bid submitted (Annex -1).
2. The Project was awarded to the PP at Levelized tariff of INR 2.89/kWh (Annex – 2.i and Annex 2.ii).
3. Validation team also noticed that two projects, viz., Jhajjar Power Ltd. located in the

[1] Supporting evidences submitted to the DOE

neighbouring state (Haryana) and Talwandi Sabo Ltd. located in the same state (Punjab), were declared successful bidders based on the levelized tariff of INR 2.996/kWh and INR 2.864/kWh quoted by them (Annex - 3).

4. If the CDM benefits were not taken into consideration, the project developer could have quoted INR 3.02/ kWh.(Annex – 4)
5. From the bids submitted by various developers, Validation team observed that two bidders had quoted a tariff of INR 2.94/kWh and INR 2.98/kWh (Annex – 5)
6. Therefore, if the project developer had not taken into consideration the CDM benefits, the tariff would have been INR 3.02/kWh and the candidate project would not have been selected.
7. Validation team, therefore, confirms that the CDM benefits were taken into consideration by the project developer while quoting the tariff

As regards the conformity of the tariff to paragraph 104 of VVM (ver.1.2), validation team submits as follows:

1. The Board took the decision on 22/09/2009 to submit the bid for Rajpura Thermal Power Project (Annex -6).
2. The Board resolution clearly states that the revenue from sale of carbon credits should be considered while deciding the bidding price, i.e., levelized tariff.
3. The bid was submitted by the project developer on 09/10/2009, i.e., *after the Board took the decision to submit the bid* (Annex – 1).
4. Therefore, while quoting the tariff, the project developer had taken into consideration the CDM revenue as proposed by the Board.

Suitable modification has been made in the FVR.

☒ **Other/Additional documents**

1. Copy of the financial tariff bid submitted (Annex - 1)
2.
   i. PSERC tariff order dt. 14/07/2010 (Annex – 2.1) (http://pserc.nic.in/pages/Petition%20No.8%20of%202010.doc)
   ii. Signed copy of the Annex 2.i dated 14/07/2010 (Annex 2.ii)
3. Web shots of the tariff quoted by Jhajjar Power Ltd. and Talwandi Sabo Ltd. (Annex - 3)
4. Worksheet prepared with the levelized tariff of INR 3.02/kWh (Annex - 4)
5. Tariffs quoted by other bidders for NPL (Annex - 5)
6. Board Resolution (Annex – 6)

Question Raised by the EB	
2.	The DOE shall further substantiate how it has validated that the assumed prime lending rate as the benchmark is applicable for the project activity, in line with paragraph 112 of VVM v1.2 and paragraph 12 of EB 51 Annex 58. In doing so, the DOE shall clarify (a) why the lending rate of other development banks has not been considered as the benchmark; and (b) whether the applied benchmark is also applicable to other projects with similar risks.

Changes Made in/ Reference	
☐ **PDD**	**-**
☒ **FVR**	Page 104 – 106
☐ **Financial Models**	-
☐ **ER Sheet**	-

☒ Additional Comment by PP

The additionality of the project is demonstrated using project IRR. As per Guidance 12 of Annex 5 EB 62, commercial lending rate or weighted average cost of capital are appropriate benchmark for project IRR. Therefore, the Prime Lending Rate (which is the commercial lending rate) considered as benchmark is in conformity with Guidance 12 of Annex 5 EB 62.

Prime Lending Rate published by Reserve Bank of India (RBI) has been used as a benchmark because it represents the Prime Lending Rate charged by five major Banks in the country and hence it is representative of the commercial lending rate prevailing in the country at the time of decision making.

☒ Additional Comment by DOE

The question consists of three issues, viz.,

a) Conformity of the benchmark selected to guidance 12 of Annex 58, EB 51 (Annex 5, EB 62 now) and paragraph 112 of VVM (ver.1.2);

b) Reasons for not considering lending rates of other development banks; and

c) Applicability of applied benchmarks to other projects with similar risks.

All the three issues are addressed in seriatim:

a) <u>Conformity of benchmark to Annex 58, EB 51 and VVM:</u>
Guidance 12 of Annex 5, EB 62 states local commercial lending rates or weighted average costs of capital (WACC) are appropriate benchmarks for a project IRR. Since project IRR has been selected as financial indicator, selection of Prime Lending Rate (PLR), (which is the commercial lending rate), is in conformity with guidance 12 of Annex 58, EB 51 (Annex 5, EB 62). Since the benchmark selected is in conformity with guidance 12 of Annex 5, EB 62, the applied benchmark is suitable for the financial indicator (conformity to paragraph 112 (a) of VVM ver.1.2). As risk premium is not applied in the benchmark, paragraph 112 (b) is not applicable. Considering the fact that L&T (LTPDL, the bidding company, is a wholly own

subsidiary of L&T) earned a return of 17.55% on capital employed during 2008-09[2], it is reasonable to expect that the investment would not have taken place at a rate of return lower than the benchmark (conformity to paragraph 112 (c) of VVM ver.1.2). We therefore submit that the selected benchmark conforms to guidance 12 of Annex 58, EB 51 (Annex 5, EB 62) and paragraph 112 of VVM (ver.1.2)

b) Reasons for not considering lending rates of other development banks:

The lending rate considered as benchmark represents the mid rate of the PLR charged by 5 major banks in the country[3]. Hence, the benchmark does not represent the lending rate of any bank. Weekly Statistical Supplement (issued by the Reserve Bank of India), provides only the lower and higher end of PLR. Therefore, as a conservative approach, PP has selected the mid range. There are two reasons for selecting this source, viz., (a) it is published by the central bank of the country and hence authentic; and (b) latest lending rates of *all* banks are not available in public domain[4]. Since guidance 13 of Annex 58, EB 51 required the *benchmark should be based on publicly available data sources which can be clearly validated by the DOE,* DOE relied on the RBI published data, which is credible, reliable and relevant at the time of investment decision. However, in Annex 5, EB 62, the requirement of *publicly available data sources* has been removed.

c) Applicability of applied benchmarks to other projects with similar risks:

The answer to the second question lies in the first question itself. Interest rate differs from bank to bank based on their cost of funds and administrative cost. Therefore, the benchmark selected, being commercial lending rate will vary from project to project depending on the lending institution and hence the benchmark is not applicable uniformly to all projects with similar risks. Moreover, even within the bank, the lending rate (being the benchmark) will vary from company to company and project to project. Lending rate is a function of the time (in which the decision is taken) and the credit rating (of the project developer). Commercial lending rate varied between 11.00% and 14.00% in 2008 and 2009[5]. Though the interest rate

[2] Larsen & Toubro Ltd., Annual Report 2008-09. P.16. The Annual report can be accessed at http://www.larsentoubro.com/lntcorporate/LnT_DWS/Downloads.aspx?res=P_CORP_CINV_AFNC_AANL_ALNT&year=2009

[3] Weekly Statistical supplement dt.18/09/2009 http://rbidocs.rbi.org.in/rdocs/Wss/PDFs/4T_180909.pdf (please see the footnote No.2 in the website)

[4] Moreover at the time of decision making, project developers cannot envisage from which bank the loan will be sourced, or rather which bank will lend and at what terms. Further, in projects such as these, where the credit requirements are very large, no single bank meets the entire credit requirement. It is a consortium of banks, who lend and the terms vary between the consortium members. Hence, a logical approach would be to source the commercial lending rate from a publicly available credible source

[5] That the commercial lending rate does not remain constant can be appreciated from the data given below, which summarises the movement of the PLR of 5 major banks during 2008 and 2009 (as published in the Weekly Statistical supplement of RBI)

Period	Rate percent	Period	Rate percent
01/01/2008 – 15/02/2008	12.75 – 13.25	08/11/2008 – 28/11/2008	13.00 – 13.50
16/02/2008 – 22/02/2008	12.50 – 13.25	29/11/2008 – 26/12/2008	12.50 – 13.25
23/02/2008 – 29/02/2008	12.25 – 13.00	27/12/2008 – 30/01/2009	12.00 – 12.50
01/03/2008 – 20/06/2008	12.25 – 12.75	31/01/2009 – 03/04/2009	11.50 – 12.50

progressively declined during 2009, of late, it has started moving northwards once again and the prevailing rate is ranges between 14.25% and 15.25%[6](Annex – 7). Another determinant of the lending rate is the credit rating of the project developer. After the issuance of recommendatory framework by the Basel Committee on Banking supervision in June 2004 (popularly known as Basel II), which became effective for all commercial banks with effect from March 31, 2009, banks have started rating borrowers/projects[7]. Project risk is assessed taking into consideration *inter alia* industry risk, business risk and management risk construction risk, funding risk, execution risk and based on the evaluation of these risks borrowers are assigned rating, which indicates the likelihood of the project meeting the debt obligation in time. The rating and commercial lending rate is inversely related, in the sense that higher the rating lower is the interest rate and vice versa[8] (Annex- 7). This is true not only of India, but world over. Therefore, the benchmark cannot be applied to all other projects with similar risk, as project risk is not the only sole determinant of the credit risk of a borrower.

In the above background, it is submitted that

a) the benchmark selected is in conformity with guidance 12 of Annex 58, EB 51 and paragraph 112 of VVM (ver.1.2);
b) uncertainty over the banker/consortium of banks (who will lend) and terms of loan, non-availability of latest information in public domain for all banks and development banks and the need to rely upon credible information are the main reasons for choosing the PLR published by the RBI;
c) the selected benchmark cannot be applied to all other projects with similar risk, as the lending rate varies between banks, time and the credit rating of the company and project.

21/06/2008 – 27/06/2008	12.50 – 12.75	04/04/2009 – 24/04/2009	11.50 – 12.25
28/06/2008 – 08/08/2008	12.75 – 13.25	25/04/2009 – 26/06/2009	11.00 – 12.25
09/08/2008 – 19/09/2008	13.25 – 14.00	27/06/2009 – 31/12/2009	11.00 – 12.00
20/09/2008 – 07/11/2008	13.75 – 14.00		

(Source: Various issues of Weekly Statistical Supplement, Reserve Bank of India. This publication can be accessed at http://www.rbi.org.in/scripts/BS_ViewWSS.aspx.)

[6] It may be stated in this context that after brief spell of southward movement, the interest rates have started moving northwards and today, lending rate of most of the banks are over 14% including the top five banks . State Bank of India and Punjab National Bank, it is 14.25%, 15% in the case of Bank of Baroda and Bank of India and 15.25% in the case of Union Bank. The rates were available in the following website as on 10/08/2011.However, screenshots are enclosed:http://www.moneycontrol.com/stocks/stock_market/corp_notices.php?autono=452436; https://www.pnbindia.in/En/ui/Interstrates-LoansandAdvances.aspx, http://www.bankofindia.com/Interestrate.aspx, http://www.bankofbaroda.com/int_adv.asp, http://www.unionbankofindia.co.in/BPLR.aspx

[7] This is because Basel II guidelines, require banks to provide capital on the credit exposure (popularly known as capital adequacy ratio) as per credit ratings assigned. Banks rate projects if it is set up as a SPV; in case it is set up as a division of the company, the project as well as the company are rated. Since almost all power projects are set up as SPV, banks consider project risk in risk rating.

[8] Bank of Baroda, for example, prescribed the following interest rate for loans:

Rating	Interest rate	Rating	Interest rate
CR1	Base Rate + 4.25%	CR2	Base Rate + 4.50%
CR3	Base Rate + 5.00%	CR4	Base Rate + 5.50%
CR5	Base Rate + 6.25%	CR6	Base Rate + 6.75%
CR 7,8,9, and 10	Base Rate + 7.00%		

Accessed on 10/08/2011 from the website http://www.bankofbaroda.com/int_adv.asp

☒ **Other/Additional documents**
1. Screen shots of the BPLR of major banks (Annex 7)

Question Raised by the EB	
3	The DOE shall further substantiate the suitability of the coal transportation cost and corresponding escalation rate applied in the financial analysis as it is not clear whether these costs are already included in the fuel costs, in line with paragraph 111 (a) of VVM v1.2. In addition the DOE shall confirm whether there are no other coal sources available near the project site.
Changes Made in/ Reference	
☐ **PDD**	**-**
☒ **FVR**	Page 94, 95
☐ **Financial Models**	-
☐ **ER Sheet**	-
☒ **Additional Comment by PP**	

The coal costs and the coal transportation costs have to be considered separately as per the communication dated 11/09/2009 from Nabha Power Limited[9]. In the same communication, Nabha Power Limited communicated separate values of coal cost, escalation of coal cost, coal transportation cost and escalation of coal transportation cost. This was the primary information available to LTPDL during decision making.

The values of coal cost, coal transportation cost and their escalation values also tally with other publicly available documents. These documents have been provided to the DOE to corroborate the appropriateness of the values used for investment analysis. The basis and source of these values are as follows:

1. *Coal Cost*: Coal price is available in the coal price schedule of South Eastern Coalfields Limited (SECL-fuel supplier) prevailing at the time of decision making. These price schedules are centrally regulated by Coal India Limited (SECL is a subsidiary of Coal India Limited) from time-to-time. The

[9] Nabha Power Limited was incorporated as a Special Purpose Vehicle by Punjab State Electricity Board (PSEB) This SPV was later transferred to the winning bidder i.e. LTPDL.

current prices are available on the website http://www.coalindia.in/Documents/Pricing_Revised_Final030311.pdf. The price schedule clearly mentions "***Basic Price of coal at the Pit-Head***" implying that the coal price does not include coal transportation cost.

2. *Escalation of coal cost*: Coal cost escalation is available as a part of escalation rates published by Central Electricity Regulatory Authority (CERC) and it is available in http://www.cercind.gov.in/Escalation-rate/Explanation-for-the-Notification-27-3-09.pdf (page 10 of 13).

3. *Coal Transportation Cost & its escalation*: The procedure for determining the coal transportation cost and its escalation is provided in the relevant explanation to CERC escalation rates (http://www.cercind.gov.in/Escalation-rate/Revised-Methodology-dated-3.7-9.pdf, page 3 of 28).

Source of coal for the candidate project was predefined as "long term linkage from SECL" in the RfP (page 10). Hence, PP had no other option but to consider coal from SECL. Further, PP would like to add that the candidate project activity is located in the state of Punjab, which is located in the northern part of the country, while the coal reserves are located in the central and eastern part of the country. The distance of the nearest coal reserves from the project site is 1500 kms and the same can be viewed in the Coal Reserves Map of India (http://www.mapsofindia.com/maps/india/coalreserves.htm).

☒ **Additional Comment by DOE**

The question comprises four issues, viz.,

a) whether the fuel cost already includes transportation costs;
b) whether there are no other coal sources available near the project site;
c) suitability of the coal transportation cost; and
d) suitability of coal transportation escalation rate

All the four issues are answered in seriatim:

a) Whether the fuel cost already includes transportation cost:

The fuel cost has been considered at Rs.520 /ton and the transportation cost at Rs.1204/ton in the financial indicator calculation. The fuel cost does not include coal transportation cost. These are two different costs and hence dealt with separately in the financial indicator calculation. Validation team checked the clarification letter issued by Nabha Power Ltd. on 08/09/2009 (Annex – 8) and observed that it mentions *inter alia* about fuel transportation cost. The model calculation provided by Nabha Power Ltd. to all bidders on 11/09/2009 also provides for coal cost and coal transportation cost (Annex – 9). Therefore, the fuel (coal) cost of Rs.520/ton does not include transportation cost.

b) whether there are no other coal sources available near the project site:

The project is located in the State of Punjab. Neither the Punjab state, nor any of the adjoining states have coal deposits. Coal deposits in India are located in the states of Chhattisgarh, Madhya Pradesh, Maharashtra, Jharkhand, West Bengal, Orissa, Assam and Andhra Pradesh[10] (Annex – 10) - all located in the central or eastern part of the country. Request for Proposal (Annex – 11) states that the fuel has to be transported to a distance of approximately 1600 kms.[11] Hence, the project has to transport the coal and coal transportation cost is inevitable.

c) suitability of the coal transportation cost:

Since the coal deposits are located away from the plant, fuel has to be transported. Power plants get coal transported through rail. The model calculation provided by Nabha Power Ltd. to all bidders on 11/09/2009 (Annex – 9) considered coal transportation cost of Rs.1204, which has been adopted in the financial indicator calculation, as this was the information available to the PP at the time of decision making. PP has also justified the transportation cost based on CERC notification dated 27/03/2009 (which was available to PP at the time of decision making – Annex – 12). In the notification, CERC has estimated the transportation cost at Rs. 1617.20 for 2000 kms. The transportation cost of Rs.1204 given by Nabha Power Ltd. translates to 1487 kms.,i.e., approximately 1500 kms.

Validation team also checked the transportation cost independently and observed that the coal freight rates published by the Indian Railways[12] for a distance of 1451-1475 Kms. is Rs.1289.70/ton and for a distance of 1475 -1500 kms. is Rs.1310.70/ton. The transportation cost works out to ~Rs.1300/ton. Hence, transportation cost of Rs.1204/ton assumed by the project developer was found to be conservative and appropriate.

d) suitability of the coal transportation escalation:

Tariff consists of capacity charges and energy charges. Energy charges consist of fuel cost and fuel transportation cost. Clause 3.3.1.3 of the RfP (Annex – 11) requires the bidder to adopt the rate notified by the CERC to energy charges. CERC notification dated 03/07/2009 (Annex – 13) was the latest notification available at the time of decision making. CERC prescribes separate escalation rates for projects depending on the distance between the power plant and the coal deposits. Thus, it provides escalation rate for power plants located at

[10] The map on coal deposit in India can be accessed at http://www.mapsofindia.com/maps/india/coalreserves.htm
[11] Request for Proposal (p.10)
[12] See http://www.indianrailways.gov.in/railwayboard/uploads/directorate/traffic_comm/freight_rate-2k6/rate_inst_59-2k6-table.pdf (class 150)

a distance of upto 100 kms., upto 500 kms., upto 1000 kms., upto 2000 kms. and beyond 2000 kms. For the plants located upto 2000 kms., CERC has prescribed fuel transportation cost escalation of 2.39% based on the mean escalation in the transportation cost based on 3 years moving average during the 10 years preceding 2008. Since the RfP requires the bidders to adopt this rate, project developer has to adopt this rate. Validation team checked the notification and found the rate considered is correct and appropriate. Moreover, validation team also checked the RfP and observed it states that bidder should adopt the rate notified by the CERC to energy charges. Validation team also submits that all bid based power plants in the country adopt the rates prescribed by CERC. Moreover, coal transportation cost is a "pass on" cost, in the sense that every escalation in the fuel transportation cost is matched by a corresponding escalation in the tariff.

In the above background it is submitted that

a) fuel cost does not include transportation cost;

b) there are no coal resources available near the project site;

c) coal transportation cost assumed is correct, appropriate and conservative and

d) escalation for transportation cost assumed is based on CERC prescribed rates and the adoption is in conformity with the RfP and general practice adopted in the country

☒ **Other/Additional documents**

1. Clarification letter dt. 08/09/2009 issued by Nabha Power Ltd. (Annex – 8)
2. Communication dt. 11/09/2009 from Nabha Power Ltd. providing model calculation (Annex – 9)
3. Map of coal deposits in India (Annex – 10)
4. Request for Proposal (Annex – 11)
5. CERC Notification of July 2009 page 4,5, 18 and 28. (Annex – 12) (http://www.cercind.gov.in/Escalation-rate/Revised-Methodology-dated-3.7-9.pdf)
6. CERC Escalation Rate dt. 03/07/2009 (Annex – 13) (http://www.cercind.gov.in/Escalation-rate/Notification-dated-3.7-9.pdf)

Question Raised by the EB	
4	The DOE shall explain why a sensitivity analysis on the tariff was not conducted,

	as this is a key parameter to the IRR calculation. In doing so, please refer to VVM, version 1.2, paragraph 111.e.
Changes Made in/ Reference	
☒ **PDD**	Section A.1 (page 2), Section B.4 (page 25, 30, 31 & 32), Section B.5 (page 41 & 42)
☒ **FVR**	Page 114
☒ **Financial Models**	Sheets titled "Results & Sensitivity" and "Quoted Tariff"
☐ **ER Sheet**	-

☒ **Additional Comment by PP**

The PP would like to bring to the kind notice of the EB that the bid document was titled "*Selection of Developer through Tariff Based Bidding Process For Procurement of Power on Long-Term Basis from domestic Coal Based Thermal Power Station to be setup at village Nalash near Rajpura, District Patiala, Punjab, India.*" As the title of the bid document reveals the tariff is the basis for selection of the developer and the candidate project activity was declared successful, as it had quoted the lowest levelized tariff of INR 2.89/kWh.

As mentioned in the PDD , the quoted tariff consists of two components:

1. *Capacity Charges*: Quoted by the developer during bidding and remains fixed during the entire tenure of the Power Purchase Agreement.
2. *Energy Charges*: Quoted by the developer during bidding based on the values of coal and coal transportation costs prevailing at the time of bidding. However, this component forms the variable component of the tariff such that the increase/decrease in the cost incurred by the project developer on fuel and fuel transportation will be reimbursed in full by PSEB by way of increased/decreased energy charges[13]. Therefore, the variation in fuel cost and fuel transportation cost does not impact the IRR.

The worksheet submitted incorporates sensitivity analysis on energy charges, which automatically takes care of a corresponding increase in tariff (energy charges) as it is a pass-through. Therefore, it is capacity charges which have not been subjected to sensitivity analysis. However, as mentioned above, the capacity charges quoted by the developer are fixed (i.e. determined at the time of bidding) and changes in capacity charges would not normally occur for the entire project duration and any variation thereon is therefore unrealistic and hence represents a hypothetical scenario. Nevertheless, as desired by the EB, the capacity charges have been subjected to ±10% variation and the results are as follows:

[13] Article 1.2.3 of Schedule 7 of the draft Power Purchase Agreement by PSEB dated 10/06/2009

Variation in Capacity Charges	0%	+10%	-10%
IRR – Final	10.50%	11.61%	9.30%

Though it is seen that at a 10% increase in capacity charges will make the project non-additional, it is submitted that, such a situation is hypothetical and thus unlikely to occur.

Provision has been made in the worksheet to analyze the variations in the tariff (capacity charges) in the sensitivity analysis. The PDD has been modified to incorporate the sensitivity analysis with tariff being subjected to variation. The revised PDD and revised spreadsheet are enclosed.

☒ Additional Comment by DOE

As stated by the project developer, the title of the bid document itself is " *Selection of Developer through <u>Tariff Based Bidding Process</u> for Procurement of Power on Long-Term Basis from domestic Coal Based Thermal Power Station to be setup at village Nalash near Rajpura, District Patiala, Punjab, India.*". As the title of the bid document reveals, the tariff is the basis for selection of the developer. Clause 3.4.1. of RfP (Annex – 11) states, "The Levelized Tariff calculated as per Clause 3.3.2.1 shall be ranked from the lowest to the highest and the Bidder with the lowest Levelized tariff shall be declared as the Successful Bidder and the Letter of Intent shall be issued to such Successful Bidder, subject to Clause 3.4.1.2"

Hence, the project was awarded because the Levelized Tariff quoted by the project developer was the lowest. Once the tariff is submitted and accepted, the quoted tariff becomes fixed for 25 years and no change in tariff is possible as it gets incorporated as Schedule 11 in the PPA. It is for the above reasons that the tariff is not subjected to sensitivity analysis. This has been stated in the VR also.

However, in deference to the direction given by EB, tariff has also been subjected to sensitivity analysis. The results are given below:

Parameter	-10%	0%	+10%
Tariff	9.30%	10.50%	11.61%

Though the sensitivity analysis reveals that the project will become non-additional if the tariff goes up by 10%, this is hypothetical as the tariff is fixed by the PPA (Annex -14) and not even one percent increase in the tariff is permissible or possible. Provision has been made in the work sheet to take care of the variations in the tariff in the sensitivity analysis. The PDD and VR have been modified to incorporate the sensitivity analysis with tariff being subjected to variation. The revised PDD, revised spread sheet and revised VR are enclosed.

☒ Other/Additional documents

1. Annexure 11 – Request for Proposal
2. Annexure 14 – Draft Power Purchase Agreement