

CDM Executive Board

TÜV NORD CERT GmbH

Langemarckstrasse 20
45141 Essen
Germany

Phone: +49 201 825-0
Fax: +49 201 825-2517

Info.tncert@tuev-nord.de
www.tuev-nord-cert.com

TÜV®

Our / Your Reference

Contact
Rainer Winter
E-Mail: rwinter@tuev-nord.de

Direct Dial
Phone: -3329
Fax: -2139

Date
26.02.2008

Request for Review

“24.75 MW Ranganathaswamy Mini Hydrel Project, Karnataka, India” (1345)

Dear Sir/Madam,

Please find below the response of the project participant (Pioneer Power Corporation Limited) and the TÜV NORD JI/CDM Certification Program to the request for review for the above mentioned project no. 1345, dated 2008-02-11.

The request 1 as published on the UNFCCC webpage does not include any reasons to support request for review. Since the second and the third request were raised for the same reasons we assume that the request 1 was raised for the same points. In comparison to request 2 and 3, the request 1 has a second indication (last checkbox under the requirements derived from §37 of the CDM modalities and procedures). It was not possible to issue an initial response to this request due to missing specification.

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

Yours sincerely,

TÜV NORD JI/CDM Certification Program



Rainer Winter

Request for Review (2 and 3)	
Issue raised by EB-Members / DNA	“1. Further justification is required on how the DOE has validated that the WACC is an appropriate benchmark for the project activity according to sub-step 2b (paragraph 4.c) of the additionality tool.”
Response of project participant	Not applicable.
Response of DOE	<p>In the section B.5. of the PDD benchmark analysis has been carried out as per Sub-step 2 b of the additionality tool version 03.</p> <p>As per additionality tool sub-step 2b the benchmark value should represent <i>standard returns in the market</i>, considering the <i>specific risk of the project type</i>, but <i>not</i> linked to the subjective profitability expectation or risk profile of a particular project developer. Paragraph 4 (a), (b) and (c) are only indicative examples for arriving at the benchmark for IRR, NPV etc. As examples, the tool has suggested the use of benchmarks derived from Government bond rates increased by suitable risk premium as per para (a), estimate of cost of financing and required return on capital as per para (b) and internal benchmark of the company as per para (c).</p> <p>Within the benchmark analysis the project IRR was identified as a financial indicator. Project IRR has been calculated based on project cash outflows and cash inflows only, irrespective the source of financing. The project IRR is a measure for return on investment. As it has been computed irrespective the source of financing it represents a measure for financial attractiveness of the project activity from the point of view of both investors and creditors.</p> <p>Subsequently the weighted average cost of capital (WACC) was identified as a relevant benchmark value. The benchmark was derived from estimates based on the cost of financing and required return on capital in accordance with paragraph 4(b). WACC represents the weighted average of the required returns of all investor groups -the equity investors and debt creditors. It can be considered as a minimum rate of return which the project should earn to merit consideration by all investor groups (investors and creditors). In other words the investment is financial reasonable if the project IRR exceeds the minimum required of return – e.g. the weighted average cost of capital (WACC).</p> <p>Bearing in mind that both project IRR and the WACC represent a return on investment demanded by investors and creditors the weighted average cost of capital (WACC) can be considered as an appropriate benchmark value.</p> <p>Furthermore there is more than one potential developer in case of this project activity. For this reason internal benchmark of the company has been not used as a relevant benchmark value. The identified benchmark value (WACC) does not represent company internal benchmark. It represents the standard return in the market based on standard cost of debt and return on equity based on performance of the Indian National Stock Exchange Index containing 500 companies.</p> <p>In details WACC has been calculated as follows: While the documented rate of interest adjusted to tax rate has been taken as the cost of debt, expected return on equity has been arrived at based on the capital asset pricing model. With a view to eliminating the unsystematic risks associated with the projects, the performance of the Indian National Stock Exchange Index containing 500 companies, over the three-year period immediately prior to the date of the investment decision, has been taken to represent the market return. The weighted average yield of Government</p>

Securities has been taken to represent the risk free return. At present 6 power generating companies are listed in Indian stock exchanges. The beta values of these companies are as follows:

Listed Company	Beta value
Tata Power Company Ltd.	0.964
Jaiprakash Hydro Power Ltd.	1.078
Reliance energy Ltd.	1.230
GVK Power & Infrastructure Ltd.	1.101
National Thermal Power Corporation Ltd.	0.865
BF Utilities Ltd.	1.281

(Source: Bloomberg)

Of the above, BF Utilities is wind power generating company. NTPC, GVK and Reliance are thermal power generating companies. While Tata Power has hydro power generating activity, Jaiprakash Hydro is exclusively engaged in hydro power generation. The beta value for hydro power investments has been estimated based the beta of these two listed hydro power companies, namely Tata Power Company Ltd. (0.964) and Jaiprakash Hydro Power Ltd. (1.078). It should be noted that these beta values were found to be much higher in the previous years. In contrast to the above, the actual beta value taken in the calculation is only 0.75. The conservatism adopted in the computation of expected return on equity should thus be evident. Based on the above, the cost of financing the project has been computed, which represents *standard returns in the market*, considering the *specific risk of the project type*. The weighted cost of financing works out to 15.42%, which is very conservative given the high-risk nature of small- and medium-scale hydro power investments.

The conservatism of the benchmark is further supported by an alternative calculation of the benchmark IRR, based on the KERC recommended return of 16% on equity (<http://www.kerc.org/english.html>). The cost of debt financing has not been changed. Taking into account the changes of the relative weights in debt and equity financing over the 10-year lifetime, the resulting benchmark return works out to 15.46%. This underlines the fact that the original benchmark of 15.42% is overly conservative.

In contrast to the cost of financing of 15.42%, the project IRR excluding CER revenues over a 10-year calculation period works out to 12.29%. As shown in the PDD, even with a 5% increase in power generation or tariff, the project IRR does not cross the benchmark. However, a 5% reduction in power generation or tariff brings down the project IRR substantially. Thus, it was concluded that the project is additional.

The EB, in its 35 Meeting recommended that investment analysis need not be restricted to the crediting period. Since the PDD for this project activity was web hosted and validated before October 2007, the IRR computation had been done for 10 years, being the standard time horizon for the financial analyses of such investments in India.

Mr. Asim Kumar Jana
TUV India Pvt. Ltd.
801, Raheja Plaza - I
L.B.S. Marg. Ghatkopar (West)
Mumbai - 400 086
India
Phone: +91 22 56477074
Email: jana@tuv-nord.com

Request for Review (2 and 3)																			
Issue raised by EB-Members / DNA	<i>"2. The investment and sensitivity analyses should be presented in a transparent manner to allow reproducing the analyses and obtaining the same results as provided for in paragraph 6 of the additionality tool."</i>																		
Response of project participant	<p>The investment analysis and sensitivity analysis were integrated with the PDD as Enclosure-2 in pdf format. The computation of investment analysis with assumptions, projections and sensitivity analysis are enclosed in Excel worksheet format with this response. The transparent manner of presentation now would allow reproducing the analysis and obtaining the same results as per the additionality tool.</p> <p>The results of the sensitivity analyses are given in the following table, which confirms the additionality of the project:</p> <table border="1"> <thead> <tr> <th>Details</th> <th>IRR</th> </tr> </thead> <tbody> <tr> <td>Benchmark return</td> <td>15.42%</td> </tr> <tr> <td>Baseline scenario</td> <td>12.29%</td> </tr> <tr> <td>5% increase in generation</td> <td>13.53%</td> </tr> <tr> <td>5% decrease in generation</td> <td>11.02%</td> </tr> <tr> <td>5% increase in tariff</td> <td>13.53%</td> </tr> <tr> <td>5% decrease in tariff</td> <td>11.02%</td> </tr> <tr> <td>5% increase in project cost</td> <td>11.19%</td> </tr> <tr> <td>5% decrease in project cost</td> <td>13.47%</td> </tr> </tbody> </table>	Details	IRR	Benchmark return	15.42%	Baseline scenario	12.29%	5% increase in generation	13.53%	5% decrease in generation	11.02%	5% increase in tariff	13.53%	5% decrease in tariff	11.02%	5% increase in project cost	11.19%	5% decrease in project cost	13.47%
Details	IRR																		
Benchmark return	15.42%																		
Baseline scenario	12.29%																		
5% increase in generation	13.53%																		
5% decrease in generation	11.02%																		
5% increase in tariff	13.53%																		
5% decrease in tariff	11.02%																		
5% increase in project cost	11.19%																		
5% decrease in project cost	13.47%																		
Response of DOE	<p>Investment as well as sensitivity analysis have been included in the PDD as separate Annex in a transparent manner as requested in the Guidelines for completing the PDD, i. e. with all assumption and parameters. Together with this response it is also provided in excel format.</p> <p>Mr. Asim Kumar Jana TUV India Pvt. Ltd. 801, Raheja Plaza - I L.B.S. Marg. Ghatkopar (West) Mumbai - 400 086 India Phone: +91 22 56477074 Email: jana@tuv-nord.com</p>																		