



Mr. Hans Jurgen Stehr
Chair, CDM Executive Board
UNFCCC Secretariat
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Re: Request for review of the request for registration for the CDM project activity "5 MW Upper Awa small hydroelectric project, Himachal Pradesh, India" (UNFCCC No. 1252)

Dear Mr. Stehr

SGS has been informed that the request for registration for the CDM project activity "5 MW Upper Awa small hydroelectric project, Himachal Pradesh, India" (UN1252) is under consideration for review because three requests for review have been received from members of the Board.

The requests for review are based on the reasons outlined below. SGS would like to provide an initial response to the issues raised by the request for review:

1. The PP shall further demonstrate the additionality of the project activity.

SGS Response

As per the appendix B attachment A of simplified modalities and procedures for CDM-SSC projects, the project proponent has demonstrated the additionality of the project through barrier analyses, viz., prevailing practice (common practice), investment barrier and other barriers like lack of infrastructure and geological risks such as landslides, earthquakes and hydrological risks vide page 13-19 of the PDD version 6 submitted for Request for Registration (RfR). The barrier analyses conclusively prove that the project would not occur due to these barriers in the absence of CDM benefits and by implementing the project, the project proponent would run enormous risk. The project proponent has further chosen to demonstrate the additionality of the project through benchmark analysis under investment barrier. Project proponent has used Weighted Average Cost of Capital (WACC) as benchmark for making the investment decision. WACC value was calculated based on the assumption mentioned in the Financials excel spreadsheet submitted during Request for Registration (RfR). Both barrier analysis and the benchmark analysis demonstrate the additionality of the project activity in uncertain terms.

The DOE has accepted additionality of the project activity based on the discussion for prevailing (Common) practise analysis given in the PDD version 6 submitted for RfR and also based on the benchmark analysis as the returns on the investment with out considering the CDM benefit are calculated as 10.79% and that with the CDM benefit are 14.05%. Project proponent has also given the sensitivity analysis considering the power generation as a variable. It was shown that on 5% increase in the power generation the returns from the project activity with out CDM benefit are 12.09% which is less than the benchmark value. The financial calculations and evidence for assumptions used in the calculation were provided by the project proponent during validation

process. The references for the assumptions used in the financial calculations were checked during the validation process and found acceptable. The same was attached herewith as Annex 1.

2. Clarification is required on how the common practice analysis can be considered a barrier which prevents the implementation of this specific project activity.

SGS Response

A common practice signifies the inherent profitability (for the like-minded entrepreneurs) of the project activity. A corollary to the theorem is that entrepreneurs would not be attracted to a project activity if it fails to meet their profit expectation and hence such projects would not be common practice. Therefore, if a project activity is not a common practice, it signifies the risks associated with the project activity and its inability to yield a risk-adjusted rate of return without additional support. A project activity is not a common practice; entrepreneurs would desist from venturing into that project. This invariably sets in motion demonstration effect in that entrepreneurs are dissuaded from entering into this project line. As if to support the veracity of the claim, unfortunately, today, in Himachal Pradesh, there are no convincing success stories to prove that small hydro power projects are attractive business proposition for investors in the absence of CDM benefits. The dissuasion, coupled with absence of success stories, act as a deterrent and barrier. It requires additional financial incentive to motivate the entrepreneur to venture into such project area. Thus, common practice, viewed against the foregoing, is a barrier, albeit as a proxy for various risks. Taking these facts for granted, the PDD had listed various factors and furnished necessary statistics to drive home the point that small hydro power projects are not common practice - not only in the country as a whole, but also in Himachal Pradesh in particular, which offers immense potential for small hydro power projects.

The PDD shows clearly that small hydro power is not a common practice in Himachal Pradesh and the Northern Region of India for the following reasons:

- The total contribution of small hydro to the overall power supply is very small, and
- The available potential for small hydro has only been tapped to a small degree (about 15%), despite year-long efforts to promote small hydro.

In addition, the PDD version 6 submitted for RfR establishes that the few small-scale hydro plants existing in the project region (Himachal Pradesh) are different from the proposed project in material respects. In particular:

- The vast majority of the small hydro power projects existing in the state are quite old, i.e. they were constructed well before the Year 2000 (some as early as 1912).
- These projects were generally constructed with public funding, by Himachal State Electricity Board (HPSEB).
- It is established in the PDD that out of 64 projects for a total capacity of 186.35 MW only 10 projects with a total capacity of 22.35MW have been commissioned. Out of these projects four projects of total 15.5MW capacity have been registered for CDM and another one project of 3MW capacity is reported to be pursuing for CDM and other projects are not of comparable size. It is further demonstrated that contribution of small hydro projects in the Northern region where Himachal Pradesh is one of the constituent states, the share of small hydro in the total power generation is estimated at 1.55% indicating that establishing small hydro projects is not a common practice in Himachal Pradesh.

This indicates that common practice was a barrier for project activity. .

3. The DOE should further validate the input values used in the investment analysis, in particular the assumptions regarding interest payments.

SGS Response

The financial calculations provided by the project proponent was checked by DOE and evidence against the assumptions used in the calculations were checked during validation process and found acceptable. The CERC order attached has mentioned 16% as minimum ROE for the power projects by private entrepreneurs. The Dividend Distribution Tax is based on the Income Tax Act, 1961 and the Transfer to Reserves is based on Companies (Transfer of Profits to Reserves) Rules, 1975 are attached herewith as Annex 3. While in respect of interest payment, copies of documents from term lending bank which includes the rate of interest applicable to the project activity has been taken into consideration as evidence against interest rate applicable. The same is attached as Annex 1 herewith. The bank loan document; attached herewith as Annex 1 mentions clearly that bank will charge interest at 11.75% on the term loan for the project activity. It was checked that the same value was used in financial excel sheet for the calculation of the interest payments and same was found acceptable.

4. Further clarification is required on how the DOE has validated the suitability of the benchmark.

SGS Response

The project proponent has submitted evidence against the calculation benchmark value of WACC during the validation process which was checked and found acceptable. Project IRR, being the return earned by the project during the reference period, has to be compared with a benchmark or cut-off rate to determine the adequacy of the return. Project proponent has chosen Weighted Average Cost of Capital (WACC) as the benchmark.

Since the project is financed by both equity and loan, the appropriate cut-off rate is the WACC, because WACC alone represents the weighted average of the costs of various sources of financing the project. WACC, therefore, represents the minimum rate of return or the benchmark return which the project should earn to merit consideration. Failure to earn the minimum rate of return is indicative of the erosion in the value of shareholders' investment.

The appropriateness of WACC as the benchmark is upheld by various publications on corporate finance. The most respected publication in financial management by James Van Horne while discussing the 'Acceptance criterion' underlines the need to compare the IRR with a cut-off or hurdle rate. The book states; "Acceptance criterion generally employed with the Internal-Rate-of- Return method is to compare the Internal Rate of Return with a required rate of return, known also as the cut-off or hurdle rate. If the internal rate of return exceeds the required rate, the project is accepted; if not it is rejected" (Van Horne James C., Financial Management and Policy (sixth edition) Page 111).

Therefore, where project IRR is used to demonstrate the additionality of project activity, no other benchmark would be more appropriate than the WACC.

5. Project activity 1252 follows AMS-I.D. vs. 10 while setting its monitoring plan. All relevant variables are chosen in the PDD and monitoring procedures are presented, including issues of quality control and assurance. Specifically, four parameters, i.e., gross, net, and auxiliary power supplied to the grid, plus internal power consumption from the grid, are measured via meters that are to be installed, calibrated and operated by PP. However, it is noted that the description of the first three parameters provided in Table B.7.1 is the same, i.e., "Electricity supplied to the grid by the project," causing some confusion to the reader as to what exactly the differences involved are. The monitoring plan should specify how and where within the plant boundaries will these parameters be metered/monitored.

SGS Response

We do apologise for the typo error occurred in table B.7.1 Data and parameters monitored in the PDD version 6 submitted for RfR. The same was corrected in the revised PDD attached herewith as Annex 4. It was mentioned now that the EG_y is net electricity supplied by the project activity to the grid in a



year, $EG_{gross,y}$ is gross electricity generated by the project activity in a year and $EG_{auxiliary,y}$ is electricity used by the plant auxiliaries. All the parameters will be measured on site with the help of energy meters. The net electricity supplied to the grid was cross-checked by calculating the same using below mentioned formula;

$$EG_y = EG_{gross,y} - EG_{auxiliary,y} - EG_{import,y}$$

The conservative value will be further considered for the emission reduction calculations.

We hope that above explanation would have cleared the comments raised by the CDM-EB.

Vikrant Badve (+91 9860365556) will be the contact person for the review process and is available to address questions from the Board during the consideration of the review in case the Executive Board wishes.

Yours sincerely

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Annex 1: Evidence against rate of interest.
Annex 2: Evidence against common practise analysis
Annex 3: Evidence against financial calculations and benchmark value
Annex 4: Revised PDD version 7