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Reference CDM Ref 2799

Attention UNFCCC Secretariat CDM Team

Title Initial Comments about Request for Review of Project 2799

Dear Members of the CDM Executive Board

We are hereby submitting to the CDM Executive Board our comments about the request for review of "Hunan Shatian Hydroelectric Project" (2799) in accordance with the clarifications to implement the review process (version 08, adopted by EB38). We sincerely hope that these comments will be accepted by the Board.

Sincerely yours

A handwritten signature in black ink, appearing to be 'Lee, Jae Hoon'.

Lee, Jae Hoon
Director

Attached: Initial Comments about Request for Review of Project 2799

- 1) Reasons for Request 1: The DOE shall explain how it has validated the investment analysis as appropriate, in line with the VVM paragraph 111(c) and 112(a) & (c), in particular, investment costs, operating hours, operating costs, electricity tariff and 10% loss rate.

A. Comments from KEMCO

i. Investment costs and O&M costs:

In line with the VVM (EB 44, Annex 3), paragraph 111 (c), “On the basis of its specific local and sectoral expertise, confirmation is provided, by cross-checking or other appropriate manner, that the input values from the FSR are valid and applicable at the time of the investment decision”, the KEMCO Validation Team assessed the validity of the Feasibility Study Report (FSR) as follows:

Validity of FSR: The Feasibility Study Report (FSR) was prepared by an engineering company, Hunan Hydroelectric & Power Exploration Research Institute in January 2005 and this report was approved by Hunan Provincial Economy Committee in 20 January 2005. Considering the date of investment decision, February 2005, it is deemed unlikely in the context of the underlying project that the input values would have materially changed.

In line with the VVM (EB 44, Annex 3), paragraph 112(a) and (c), “The validation report shall (a) describe in detail how the parameters used in any financial calculations have been validated; (c) confirm whether the underlying assumptions are appropriate and the financial calculations are correct,” the KEMCO Validation Team assessed the appropriateness of key parameters in the financial calculations as follows:

Investment costs: investment costs for the proposed project are based on the Feasibility Study Report (FSR) which was prepared by the Hunan Hydroelectric & Power Exploration Research Institute. The Validation Team further confirmed the appropriateness of the investment costs by noting the FSR approval letter by Hunan Economy Committee in Jan 2005. The investment cost has been cross checked against the Completion Report of Shatian Hydropower Station Expansion Project by the Water Conservancy Bureau of Chenzhou City¹, which concluded that the actual completed investment is 205 million RMB, 5% higher than the planned investment cost.

¹ See Completion Report of Shatian Hydropower Station Expansion Project, Water Conservancy Bureau of Chenzhen City, dated 18 March 2009.

O&M costs: O&M costs for the proposed project are based on the Feasibility Study Report (FSR) which was prepared by the Hunan Hydroelectric & Power Exploration Research Institute. In addition, the proposed project is deemed to have a similar percentage of O&M costs relative to investment costs, 2.07% of total investment with other similar hydro power projects in Hunan Province² (0.78% to 3.83%), and enable KEMCO to confirm that the O&M cost is reasonable. Furthermore, the results of the sensitivity analysis of the PDD shows that even if the project incurred almost zero operating costs, which is unrealistic, the IRR of the project would remain below 8%.

Electricity price: the electricity price for the proposed project is based on the Feasibility Study Report (FSR) which was prepared by the Hunan Hydroelectric & Power Exploration Research Institute. In addition the appropriateness of the electricity price is further confirmed by a cross-check with the electricity tariff approval for the Project by Hunan Price Bureau on 5 Dec 2007, as well as the approval by Hunan Price Bureau on 22 October 2008. Please refer to:
http://www.priceonline.gov.cn/priceGOV/news/jgzc_detail.jsp?doc_id=119167&channelname=%BC%DB%B8%F1%D5%FE%B2%DF

Operating Hours: it is validated that operating hours (or Plant load factor) by the proposed project activity is based on the Feasibility Study Report (FSR) which was prepared by an engineering company, Hunan Hydroelectric & Power Exploration Research Institute in January 2005 while electricity generation by the existing hydropower plants is based on the letter from the Hunan Electric Power Corporation Exchange Center dated 26 Oct 2008. In addition, the loan application report including the Operating hours (Plant load factor) was provided to Rucheng County Construction Bank, when the project applied for project financing on 5 February 2006.

Hence, KEMCO can thus confirm that the operating hours (plant load factor) has been validated to be appropriate as per the requirements of the VVM as well as CDM-EB 48th meeting report Annex 11. KEMCO has further noticed the total electricity delivered from May 2008 (expansion completion month) to April 2009 (whole year delivery) is 291,924.8MWh (for both the existing and new power plant) as provided by the Electric Power Bureau of Chenzhou City. The designed theoretical electricity output is 344,090MWh. By applying the effective power coefficient factor of 0.9, the theoretical electricity delivered to grid of 309,681 MWh can be obtained, which is similar to the Actual delivery of 291,924.8MWh. Hence it had been confirmed that the actual electricity delivered to the Grid from May 2008 to April 2009 can further demonstrate that the designed theoretical electricity output (as well as operating hours) is reliable and valid.

² O&M Cost of Projects in Hunan Province.

10% Loss Rate: According to Feasibility study p.12-2, an effective electricity coefficient factor of 0.9 should be applied. So the percentage of 10% should be correctly expressed as: 10% = “1- effective electricity coefficient factor”. A coefficient factor was applied in the feasibility study process of the Project as well as other projects in China, in order to incorporate the fact that due to variations of the river flow, grid load restraints, equipment maintenance and plant shut down periods, hydropower plants cannot achieve the designed electricity generation, which significantly affects the economic analysis of a power plant. SL16-95³ specifies the range for coefficient for effective supply to the grid to be used depending on the particular project circumstances. For Grid connected, monthly/weekly/daily regulating stations the range for coefficient shall be 0.7- 0.9 is thus the upper range to be applied.

In addition, KEMCO noted that even under the unrealistic assumption that all water resource would be used and the project would operate at its theoretical electricity generation potential output (electricity coefficient factor of 1), the IRR would be still below the benchmark (4.34%).

In conclusion, the input values are validated as relevant and accurate to the project activity at the time of the investment decision.

- 2) Reasons for Request 2: The DOE shall clarify the inconsistency of the combined margin grid emission factor as PDD, section B.6.3 and Appendix 1 mentions this as 0.9970 tCO₂/MWh, while in Section B.6.1 it is quoted as 0.9735 tCO₂/MWh.

A. Comments from KEMCO

- i. Both the two Emission Factors have been published by Chinese NDRC. The value of 0.9970 was the Emission Factor published on 18 July 2008, and applied in the GSP version of PDD (PDD Published on 7 October 2008). It was revised to 0.9735 and re-published on 30 December 2008. The data source for both version of EFs were the same (China Electric Power Year Books (2003-2007) and China Energy Statistic Yearbooks (2005-2007)), which were the most recent data available at the time of submission of the CDM-PDD to the DOE for validation, According to <tool to calculate the emission factor for an electricity system> the correct Emission Factor 0.9735 has been applied.

- 3) Reasons for Request 3: The DOE shall further confirm how it has validated that the project activity meets the applicability criteria of the applicable methodology, in particular, “no change in the volume of reservoir as a result of the project activity”.

³ Chinese national code for small hydropower project development

A. Comments from KEMCO

- i. The Project design in the FSR was based on the existing reservoir of an old power plant. According to the document the designed water level as well as the volume of reservoir would not change after the implementation of the Project.

The applicability criteria have been further validated based on water level measurements from 2003 to 2009 provided by Hydrology Measuring Center of ZhongNan Hydroelectric & Power Institute⁴. Based on the data provided KEMCO has confirmed the water level and the volume of the reservoir have not changed after the implementation of the Project. The water level has also been included to the monitoring plan and will be verified after the registration of the Project.

⁴ See Clarification of the Water Level of Shatian Hydroelectric Project, Hydrology Measuring Center of Zhongnan Hydroelectric& Power Institute, 4 Dec, 2009