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Response to the Request for Review for 2x5 Radhanagari Hydroelectric Project, India

"1. The demonstration of additionality is not sufficiently justified. In the analysis of investment barriers no real barriers are shown which relate to the CDM, i.e. it is not clear why the CDM is necessary to overcome these barriers. For example:
(a) In the PDD it is described that the project developers had to undergo a "tender and bid process" which includes, inter alia, the "invitation of financial bids from the selected promoters. It can therefore be concluded that other competitors submitted bids too. Consequently, if the project developers which present the project as a CDM activity had not been allotted the project, the project would probably have been carried out by one of the competitors, i.e. the project would have happened in the absence of the CDM project activity."

The proposed project activity did have to go through a tender and bid process in order to receive the allotment from the Government of Maharashtra to build the Radhanagari Hydroelectric Project. This was part of efforts from the Government to encourage private sector participation in electricity generation projects. While a number of companies were invited to submit financial bids, R. M. Mohite and Textiles Ltd. (RMMTL) was the sole company to submit a full proposal during the June 2003 call for expression of interests from the Government of Maharashtra, Water Resources Department (then called the Irrigation Department). RMMTL won the bid after a long and time consuming tender process of nearly a year. They are the first private party to have been allotted a power project since the government's policy (2002) of encouraging the private sector, and also the first private party to have been allotted a power development project (See attached letter). Therefore it can be concluded that in the absence of the project being developed as a CDM project by RMMTL, the project would not have gone ahead, as there were no other bidders to develop the site.

"(b) Also, in the PDD it is stated: "The power from the grid under these circumstances has become unreliable, with frequent power cuts. This has affected the business of RMMTL in the past few years. RMMTL is a hundred percent export oriented process industry in an extremely competitive market. Thus in order to compete in the market while at the same time maintaining their production capacity, they decided to set up an Hydro Electric Project". From this statement it can be concluded that there are significant other incentives than the CDM to go ahead with this project. In order to stay competitive, this project may therefore have been implemented without the registration as a CDM activity. Neither the PDD nor the validation report addresses this aspect."

The unreliability of power supply to RMMTL's industry facility is indeed an incentive to install more reliable generation. But in this situation, the rational choice would be to install captive power, such as diesel generation units, which would give the desired certainty of supply. In this instance RMMTL have chosen to develop a small hydro project, in an attempt to improve electricity supply locally, however there is a much stronger incentive to install diesel generation.

"(c) Under technological barriers the authors mention that "R. M. Mohite Textiles Ltd. is a relatively inexperienced small scale hydro power entrepreneur and subsequently lacks trained manpower for such a project" and that "this has posed additional perceived risk for investors lending the project, and has necessitated that Mohite Textiles Ltd. must meet additional cost for third party technical expertise". Seeking external advice is a normal aspect in project development. The other bidders of the tender certainly had to cope with this situation too. It remains therefore unclear why these technological barriers are prohibitive for the

implementation of the project without the recognition as a CDM project and how these barriers are overcome by the CDM."

New entrepreneurs entering a sector incur additional costs for training and buying in, or acquiring, expertise than well-established market players who would already possess in-house technical expertise. RMMTL will not only have to hire consultants during construction but also build a team for operation of the power project since their in-house technicians are not familiar with hydropower projects. The development of the Radhanagari Hydroelectric Project was a new venture for RMMTL and the CDM provided a strong incentive for RMMTL to go ahead despite their lack of experience and man-power in that sector.

This was definitely a barrier to entry for RMMTL, but may not have been for other developers. However, as already mentioned in the response to comment 1. (a) above, RMMTL was the sole bidder for the call for expression of interest for the development of the Radhanagari project. Therefore, if the project had not been developed as a CDM project by RMMTL, the project would not have been implemented at all.

"(d) It is stated that "common practice is investing in medium or large scale fossil fuel fired power projects". However, the issue of prevailing practice should be discussed in the context of RMMTL's situation and of companies in similar situations."

While RMMTL does manufacture textiles, and owns and operates industrial facilities, it is important to remember that this project activity is the installation of a grid-connected electricity project (small-scale hydropower) in Maharashtra State, India.

According to Attachment A to Appendix B of the Simplified Modalities and Procedures for Small Scale CDM Projects, the barrier due to prevailing practice is due to prevailing practice or existing regulatory or policy requirements that would have led to implementation of a technology with higher emissions." Thus in order to evaluate the prevailing practice, we must look at what the common practice is in the Indian power sector. The Indian power sector is dominated by thermal generation constituting 80% of total energy generation. It is planned that around 40,200 MW of coal-based capacity addition be carried out during the 11th Five Year Development Plan as opposed to 18,781 MW hydro capacity. The common practice in India is thus "investing in medium or large scale fossil fuel fired power projects" as stated in the PDD.

RMMTL is the first private party to receive an allotment from the Government of Maharashtra for development of a hydropower project[1]. Private participation in small hydropower development is not a common phenomenon in the state and according to the PDD "in the state of Maharashtra, only 27 out of the 234 possible hydroelectric sites identified by the MNES have been developed". Therefore it can be concluded that private sector development of small-scale hydro projects is not common practice in Maharashtra.

"Five hundred fourteen (514) small hydropower projects have been installed in India with an aggregate capacity of 1,693 MW" as stated in the PDD. However, the potential in India for small hydropower is around 15,000 MW. The installed capacity of small hydropower is thus only 11% of the potential in India. The sector is thus still nascent and has a long way before the full potential can be realized[2]. From this, it can also be concluded that development of small-scale hydro projects is not common practice in India.

In addition, a brief review of similar projects registered with the CDM Executive Board reveals that common practice barrier analysis is done in the context of the entire country and at the level of

[1] See attached letter.
[2] Based on statistics published on the Ministry of Non-Conventional Energy Sources website at http://mnes.nic.in/frame.htm?majorprog.htm

individual states that the projects operate in. These projects also allude to the fact investing in thermal power plants is a more common practice than investing in small hydropower projects[3].

"2. The Validation protocol (Section B.2.1) is not consistent with the PDD since additional barriers are mentioned. This should be clarified."

The additional barriers mentioned in the Validation protocol reflect contents from an earlier version of the PDD.

"3. The proposed methodology is potentially not applicable to this project activity for the following two reasons:
(a) According to the PDD the project involves "the addition of two hydropower generation units of 5MW capacity each, with total installed capacity of 10MW". The word "addition" implies that some hydropower generation units may already exist, and that this CDM project activity only adds new units to the existing system. If this is the case, then the overall installed capacity of hydropower may exceed 15MW. AMS-I.D. reads with that respect: "To qualify as a small scale CDM project activity, the aggregate installed capacity after adding the new units [...] should be lower than 15MW". This means that if some hydropower generation units already exist with a capacity of at lest 5MW, the threshold of 15MW would be reached, and the project would not qualify anymore as small scale project. The PDD does not address this issue. Judging from the validation report the DOE has not done so either. This should be clarified."

The proposed project activity was submitted for registration on 26 April, 2006 using the older version 07 of the small scale methodology AMS-I.D dated 28 November, 2005. This methodology was revised to include provisions for retrofit and renewable energy capacity additions as eligible activities. The revision of the methodology was agreed upon during the 23rd meeting of the Executive Board during 22-24 February, 2006. The minutes of this meeting were published on 3 March, 2006 and considering the 8 week grace period allowed before the revisions came into force, the last day for submission of projects using the older version of the methodology was 28 April, 2006. The proposed project activity was thus submitted in advance of the deadline and still qualifies as a small scale CDM project activity since the total installed capacity is only 10MW according to version 07 of the AMS-I.D. methodology. The following table shows a summary of the dates:

23 EB meeting	22-24 February 2006
Minutes published	3 March, 2006
8-week grace period	28 April, 2006
Project submitted for registration	26 April, 2006

The Radhanagari dam was constructed in 1954 on the river Bhogawati in order to supply water to a well-developed irrigation belt of Bhogawati-Panchganga valley. An installed capacity of 6 MW (4 x 1.5 MW) was also constructed at the time. However, with the passage of time, the capacity has been de-rated to 4.8 MW (4 x 1.2 MW) and is operated by the Maharashtra State Electricity Board (MSEB)[4].

Thus even if existing installed capacity would have to be considered along with the proposed project activity, the total installed capacity is 14.8 MW, which is below the threshold of 15 MW.

"(b) Provided that the project activity is below 15MW, a wrong methodology may have been chosen. The project activity is meant to supply electricity for "captive consumption" (p. 3 PDD) or "100% self consumption" (p. 9 PDD). For that reason, the project may have to use AMS-I.A. ("Electricity generation by the user").

The baseline scenario for this project is RMMTL continuing to purchase electricity from the grid.

[3] See 5 MW Dehar Grid-Connected SHP in Himachal Pradesh, India PDD; Taralia Small Hydroelectric Project of Ginni Global Ltd. PDD; Lohgarh, Chakbhai and Sidhana Mini Hydroelectric Projects PDD; etc on the CDM website at http://cdm.unfccc.int
[4] Detailed Appraisal Report 2 X 5000 kW Hydroelectric Project on Radhanagari Dam, November 2004

The small scale methodology AMS-I.A. states that the "category comprises of renewable energy generation units that *supply individual households or users with a small amount of electricity*". The latest version of the methodology states that "the *applicability of this methodology is limited to households and users that do not have a grid connection*". Furthermore, the methodology states that "units include technologies such as solar power, hydropower, wind power and other technologies that produce electricity *all of which is used on-site by the user*…" It therefore seems clear that AMS-I.A. would not be applicable.

On the other hand the small scale methodology AMS-I.D. states that "this category comprises *renewable energy generation units…that supply electricity to and/or displace electricity from an electricity distribution system that is or would have been supplied by at least one fossil fuel fired generating unit*". In addition to this the Small Scale Working Group (SSWG) at its third meeting made a recommendation to amend the methodology AMS-I.D. in order to "accommodate the possibility of *self consumption and displacement of grid electricity supply"*. The recommendation was eventually approved by the EB.

Since the proposed project activity connects to the grid and offsets grid electricity, it seems clear that AMS-I.D is applicable.

"4. In the validation report (p. 7) diesel units are also mentioned for the calculation of the CEF. However, in the corresponding table in the PDD (p. 26) no diesel units appear. The calculation of the CEF may therefore not be correct. This should be clarified."

The statement in the validation report about the generation mix of the grid is a general statement since coal, gas and diesel are the most common fuel types used in power generation for a grid from an emissions point of view. However, for the specific case of the Maharashtra State Grid, the generation mix consists of hydro, coal, gas and nuclear only. This information is thus presented in the table in Annex 3 of the PDD (p. 26).

"5. The estimated plant load factor is estimated to be 30.13% (p. 4). However, there is no justification that this estimate is reasonable. Although this does not constitute a problem, in order to tell whether the projected emission reductions are reasonable, the derivation of the plant load factor should be described better in the PDD (provide underlying data)."

The proposed project is designed to generate power based on irrigation water releases from the Radhanagari dam. Power generation thus does not occur continuously but only during peak load hours of approximately 4 hours in the morning and 3 hours in the evening. The PLF thus works out to be lower than for a project with continuous generation.

If any of the above requires any further clarification, please do not hesitate to contact:

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TO WHOM IT MAY CONCERN

Radhanagari Hydro Electric Project (2 x 5 MW)
Under Captive Power Production for 100% internal consumption

The Government of Maharashtra, Water Resources Department (then called as Irrigation Department) invited Private Sector Participation in Development of Captive Power Plant (CPP) generation through Small Hydro Electric Projects for a number of Projects during the year 2003-2004 as per guidelines published under Government Resolution Memorandum No. HEP (7/2002) HP, dated 28th November 2002. Radhanagari was one of the several projects.

R.M.Mohite Textiles Ltd., Kolhapur filed as bid for development of Radhanagari Hydro Electric Project 2 x 5 MW. The call for expression of interest was published in local & state level news papers in June 2003 & was kept open for 5 weeks for participation of interested bidders.

After a rigorous evaluation process involving both Technical & financial review of the bid, the Chief Engineer (Electrical), Hydro Projects, Water Resources Department, Hongkong Bank Building, 4th floor, M.G.Road, Mumbai 400 023 email - cashpid@vsnl.net conveyed his acceptance in May 2004 to allot the said Project site to the only bidder R.M.Mohite Textiles Ltd., Kolhapur. Incidentally the firm is the first private party to receive such allotment for development of a power project for captive power production for 100% internal consumption.

After allotment of the project site Project Development Agreement (PDA) was signed with Government of Maharashtra, Water Resources Department in September 2004. This is the first power project allotted for private participation after the November 2002 policy of Government of Maharashtra.

O.C Approved by S.E

(S.Y.Vernekar)
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Date - 22/06/2006

Copy to R.M.Mohite Textiles Ltd., Kolhapur for information with reference to their request letter No. RMMTL/RHEP/806/2006-2007, dated 22/06/2006

sci/T-1/certify