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Our / Your Reference	Contact	Direct Dial	Date
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Request for Review
"7.2 MW Wind Project at Chitradurga, Karnataka" (1341)

Dear Sir/Madam,

Please find below the response of the project participant and the TÜV NORD JI/CDM Certification Program to the requests for review (dt. 23/11/2007, 25/11/2007 and 28/11/2007) for the above mentioned project no. 1341.

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

Yours sincerely,

TÜV NORD JI/CDM Certification Program

Rainer Winter

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Request for Review	
Issue raised by EB Member(s) / DNA	*"Further clarification is required on the validation of the input values in the IRR calculations, in particular the higher investment costs than other similar projects; related to the distribution lines."* *(Refer comment no. 1 of Request for Review dt.23/11/2007 and comments of Request for Review dt. 25/11/2007 and 28/11/2007)*
Response of project participant	The project required higher investment cost than other similar project, particularly for distribution lines for the following reasons: 1. As the total capacity of the project was small, none of the suppliers were ready to quote for turn-key supply. (turn-key supply involves – supply of turbines, land procurement, total civil works, total electrical works, foundation, getting all requisite clearances, erection and commissioning). PP has received quotations from two of the existing suppliers in the State of Karnataka, who have quoted with limited scope of supply as follows: a. Vestas RRB India Ltd (500 kW machines) quoted Rs 25 Million for 500 kW Turbine, the per MW Cost was Rs. 50 Million.(Refer Evidence Annex 1) b. Enercon India Ltd - (800 kW machines) quoted Rs. 35 Million for 800 kW Turbine, the per MW cost was Rs. 43.75 Million. (Refer Evidence Annex 2) Among the two best quotes received, the quote for ENERCON turbines was economically viable and hence PP had selected to go ahead with ENERCON. PP has incurred additional cost of Rs. 8.12 Million per MW towards – Land Procurement, Civil Work and Electrical Infrastructure (i.e 33KV Internal Lines, 12.5MVA transformer with accessories and 66KV Overhead Line) (Total cost per MW Rs. 51.87 million less turbine cost per MW Rs. 43.75 million) Whereas the same supplier i.e M/s Enercon was supplying on turn-key basis (at other location) at the rate of Rs. 39.50 million per 800 kW turbine. i.e. Rs. 49.37 million per MW. (Refer Evidence Annex 3) Based on the above it is evident that PP has incurred an excess amount of Rs. 2.50 Million per MW (i.e cost incurred by PP – Rs. 51.87 million per MW – less – turnkey supply of Enercon Rs. 49.37 million per MW) as compared to other similar contemporary project. In addition to the above, the following reasons further contributed to additional investment cost. 2. As none of the supplier was ready to quote on turnkey basis for this project, it was inevitable for the PP to go for the limited scope of supply as proposed by the supplier i.e. supply of turbines, making foundation, erection & commissioning of the turbines. This resulted in extra work for the PP for developing the

infrastructure like land procurement, total civil work, total electrical work and getting all requisite clearances.

3. Even though the PP had an option to evacuate 33 KV Sub-station with less complications with regard to technicalities, but the distance to the Sub-station was 45 km, it would have lead the project more un-economical as additional cost for laying overhead lines & associated expense would have been incurred.

4. The PP has opted for evacuating to the nearby distribution grid by accepting the pre-condition of the Karnataka Power Transmission Corporation Limited (KPTCL) that:
"Construction of a 66 KV DC line (around 6 KM with Coyote ACSR conductor) to the existing 66 KV station at Horakeredevarapura with Terminal Bays and Circuit Breakers for each circuit at both ends of the DC line". (Refer Evidence Annex 7)

Because of above, PP has to incur the following additional cost as compared to 33 KV infrastructure.

In case of Normal project, wherein the cost of 33 KV infrastructure would have been(Refer Evidence Annex 4)	Rs. 8.75 Million
other Accessories for 33 KV infrastructure	Rs. 2.82 Million
Total cost of 33KV Infrastructure -	Rs. 11.57 Million

However actual cost incurred by PP are as follows:

Towards substation and 66 KV overhead line (Refer Evidence Annex 5)	Rs. 21.00 Million
Towards Transformer (Refer Evidence Annex 6)	Rs. 5.15 Million
SF Breaker and other related costs -	Rs. 2.95 Million
Total Cost Incurred because of 66 KV infrastructure –	Rs. 29.10 Million

TOTAL ADDITIONAL COST INCURRED ON ELECTRICAL INFRASTRUCTURE BECAUSE OF 66 KVA EVACUATION Rs. 17.53 Million (Rs 29.10 Million – 11.57Million)

The per MW additional Cost incurred with reference to Overhead line (Distribution line) than other similar projects is Rs. 2.43 million (Rs. 17.53 Million/7.2 MW)

5. It is evident that the PP could not fully utilize the infrastructure. For eg: the 66 KV distribution line can accommodate theoretically up to 66 MW whereas the PP is using only to a limited extent of its available capacity.

   Further, the other infrastructures like approach road, the expenditure would have been the same even if the project was large scale.

   Like that the 33 KV internal line theoretically can accommodate up to 33 MW whereas PP is using only to the limited extent of its available capacity.

	From the above explanations, it is evident that PP was not in a position to avail the large scale operation advantage because of the small capacity of the project and thereby lead to higher investment cost than other similar projects more particularly in distribution lines.
Response of DOE	With the limited option available with PP, the PP decided to accept the offer of the supplier i.e. supply of turbines, making foundation, erection & commissioning of the turbines. This resulted in extra work for the PP for developing the infrastructure like land procurement, total civil work, total electrical work and getting all requisite clearances, resulting higher investment cost. Further as per the KPTCL pre condition, PP was asked to construct a 66 KV DC line (around 6 km with Coyote ACSR conductor) to the existing 66 KV station at Horakeredevarapura with terminal bays and circuit breakers for each circuit at both ends of the DC line. This further resulted in to the higher investment by the PP as compared to the other similar project. The documentary evidences for the various major costs incurred for the project were considered and verified by the DOE to validate the higher investment cost by the PP. With the documentary evidences and the arguments provided by the PP, it was very much convincing that PP had to make higher investment as compared to similar other project. The PP has to make additional investment of Rs. 2.50 Million per MW in order to comply with evacuation permission of KPTCL for 66 KV distribution line also leading to higher investment cost. These supporting documents are further attached in folder named *Comment 1*. Invoices for major cost incurred in this project are attached in this folder. However, bills for additional cost of accessories & other items were verified by the DOE & the same is not attached as it runs in many pages. 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 66477074 Email: jana@tuv-nord.com

<table>
<tr><th colspan="2">Request for Review</th></tr>
<tr><td>Issue raised by EB Member(s) / DNA</td><td>“Further clarification is required with regard to the prior consideration of the CDM as the 1st wind turbine was commissioned in 2005 but the PDD was submitted for validation only in 2006. The DOE shall further clarify how the entity has assessed and validated that the PPs considered the CDM in a management decision in 2004 and whether this consideration is clearly and transparently substantiated.”

(Refer comment no. 2 of Request for Review dt.23/11/2007)</td></tr>
<tr><td>Response of project participant</td><td></td></tr>
<tr><td>Response of DOE</td><td>DOE had reviewed the events occurred after the resolution made by the PP in November 2004 and it was convincing after reviewing the evidences as described in below table, that PP had considered the CDM benefits during 2004, though first turbine was commissioned in 2005 and validation process started in 2006.

Further 2 years gap from Management Decision to validation startup is not unrealistic, as the PP was very new to the concept of CDM, considerable time was spent in understanding the concepts and finding suitable professionals to undertake the said activity and procedural aspects (HGA approval, PDD development, DOE selection) of CDM project cycle.

The following chronological steps with factual evidences self explain the reason for delay:

<table>
<tr><td>a. Board resolution & decision on investment in wind power project, considering CDM benefits (Refer Evidence Annex 1)</td><td>On 26th November 2004</td></tr>
<tr><td>b. Discussions, negotiations & agreement with ENERCON for the supply of Turbines, Proposal for CDM related Services & associated works as per the scope agreed. (Refer Evidence Annex 2)</td><td>From 3rd Dec 2004 to 6th Jan 2005</td></tr>
<tr><td>c. Term loan sanction from banks, micro siting of the hill by Enercon , contour survey of the hill, requisite clearances all civil & electrical work by PP. (Refer Evidence Annex 4)</td><td>7th Jan 2005 to April 2005.</td></tr>
<tr><td>d. Unexpected monsoon, high wind, delay in supply of turbine from ENERCON lead further delay.</td><td>May 2005 to first week of Aug 2005.</td></tr>
<tr><td>e. Commissioning of turbines.</td><td>18th Aug 2005 to 17th Sep 2005</td></tr>
<tr><td>f. Second CDM proposal received from Asia</td><td>On September 2005</td></tr>
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	Carbon (Refer Evidence Annex 3)	
	g. Discussions, negotiations with ENERCON & Asia Carbon & finalization of order with Asia Carbon for CDM related services	February 2006
	h. PDD preparation by Asia Carbon/PP.	June 2006 to Dec 2006
	i. Hosting of PDD by DOE	Dec 2006

As the WTG project is intended to sale the electricity with provision of further stream of CDM revenue, the delay of CDM procedural steps can not be detrimental for commissioning of WTGs. Hence the commission happened around 1 year before the validation start. The documentary proof for the events as mentioned above including the proof of Management decision is attached in Folder named *Comment 2*.
DOE has looked into all the above aspects and proofs while validating and it was evidenced and convincing that CDM benefits were considered by PP in the year 2004, very clearly and in transparent manner.

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Request for Review	
Issue raised by EB Member(s) / DNA	*"The monitoring plan is as per the methodology. However as there are similar wind energy projects in the region (and in some situations, with same project proponents/ suppliers) there is a probability of more than one project supplying to the same sub-station. The PP shall further clarify whether this is the case. In addition the DOE shall further clarify how they have addressed the risk of double counting and which systems are in place to avoid double counting."* *(Refer comment no. 3 of Request for Review dt.23/11/2007)*

Response of project participant	Yes, there is one more co-investor having 3 number of WTG, each of 800 KW, totaling 2.40MW capacity, who is also supplying to the same sub-station and the said investor has not opted for CDM benefits with the PPs. Following foolproof methodology is adopted to avoid double counting of generation: 1. Individual meters are established so as to measure generation by individual project. The generated power is stepped up to 33 KV by using step-up transformer, metered by individual meters and transferred to sub-station via internal 33 KVA lines to the 12.50 MVA transformer installed at the substation at the bottom of the hill. From the substation, the power is further stepped up to 66 KVA and generation will be measured at the bulk meter (common meter) (common meter - combined for all the projects) and then fed into KPTCL Grid via 66 KVA overhead lines. More over, in order to attain 100% accuracy & to perform cross check, along with main meter, Check meter is also installed at both individual and bulk meter. 2. Both the meters i.e. individual meters and bulk meters are properly sealed and monitored by KPTCL and Bangalore Electricity Supply Company (BESCOM) Officials. 3. Metering Procedure: At the close of each month, joint meter reading will be done by BESCOM and KPTCL officials in presence of PP for both individual and bulk meters. The readings of both these meters are taken and transmission loss between individual meter and Bulk meter will be shared proportionately for billing purpose. The Above procedure is explained with live data for the month of November, 2007: (Refer Evidence Annex 1) **A. INDIVIDUAL METERING POINT:** Metering Point:- Individual Project on top of the Hill (Technically called as 33KV Metering Point)

Unique Individual Meter No.	Ownership	Capacity	KWH recorded for the Month of Nov, 07 with respect to individual projects
MMCL-02	Mysore Mercantile Co Ltd	4.8 MW	501300
MMCl-03	Abletech Electro Engineers Pvt Ltd	1.6 MW	182700
MMCl-04	C B M Corporation	0.8 MW	80145
MMCl-05	Mineral Enterprises Ltd (Not participated in this project activity)	2.4 MW	260250
Total Generation in KWH Recorded in Individual Meter for the Month Nov, 2007			1024395

B. BULK (COMMON) METERING POINT:

The bulk (common) meter recorded a total generation and export from Meter No. MMCL - 01	1013400 KWH
Transmission Loss (Difference between individual meter reading and export recorded in bulk meter)	10995 KWH
Share of Transmission loss derived as a % of total generation for individual projects for the month	1.0733 %

Hence in the given example the power exported for this month to the grid by individual projects will be as below:
Project Participants:

a. MMCL : 501300 KWH – 5381 KWH (Transmission loss i.e. 1.0733%) = 495919 KWH
b. Abletech : 180739 KWH
c. CBM : 79285 KWH

Mineral Enterprises Ltd (Not participated in this project activity) : 257457 KWH
Both of these calculations will be done by Officials of BESCOM and KPTCL in the presence of PPs representative.

From the above explanation, it is evident that foolproof system is in place by having individual meters and the generated power in KWH is counted based on the individual meter reading after deducting transmission loss from individual meter to bulk meter for each project. Thus the risk of double counting is permanently avoided.

The above procedure is more clearly explained in the following pictorial representation:

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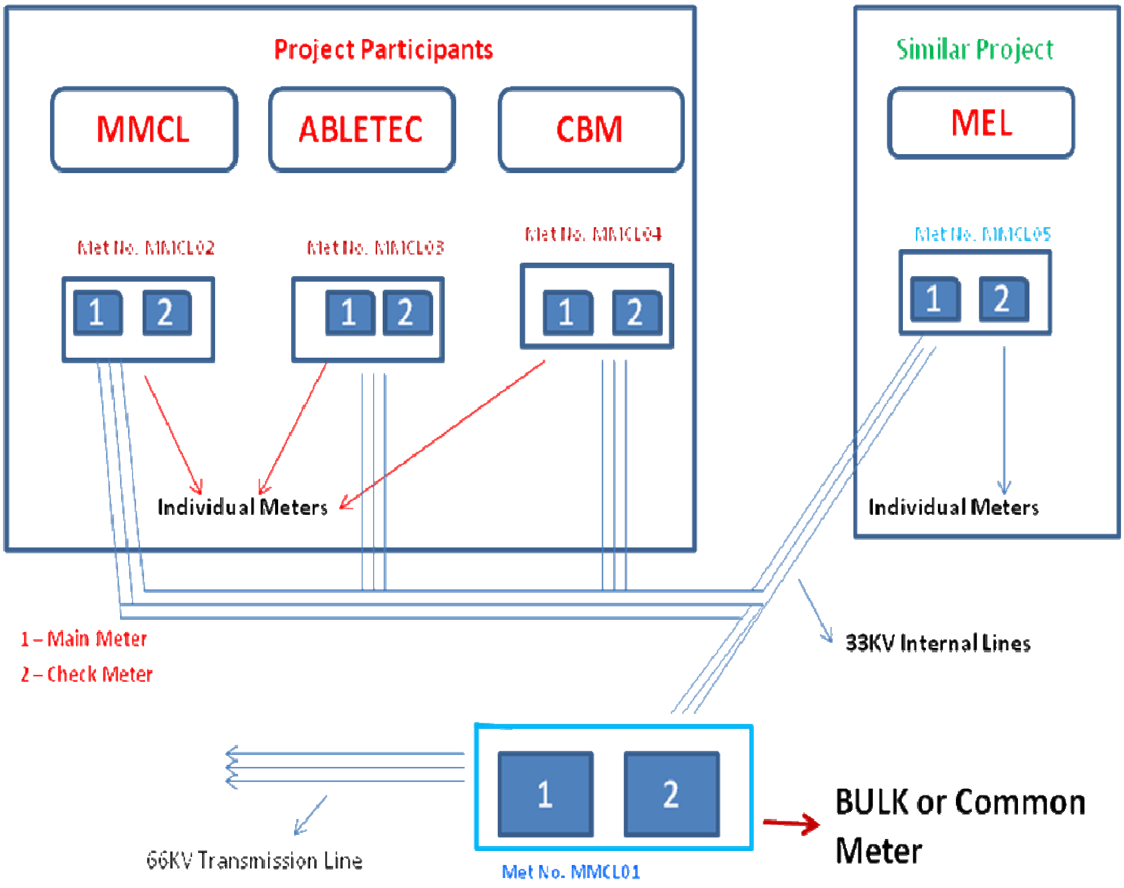

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<tr>
<td>Response of DOE</td>
<td>There is foolproof system available to avoid the risk of double counting. As described above in the pictorial form, the power generated from each WTG is metered through the main meter and check meter with unique identification allocated to each project participant. Further to understand this case, let us take the example of project participant MMCL. MMCL has installed 6 WTG, each of 800 KW, with total capacity of 4.2 MW. Now the power generated through these 6 WTG is metered through Meter No. MMCL 02, having main meter and check meter. The power metered through main meter is further stepped up & is metered through bulk (common meter) having main & check meter.
Further considering the same example, power exported for the month of Nov, 2007 by MMCL, meter reading at MMCL 02 meter: 501300 KWH (Reading through the MMCL 02 meter reading) – 5381 KWH (Transmission loss i.e. 1.073% , accounted through total bulk meter reading and subtracting the proportionate transmission loss) = 495919 KWH.
Thus the system described above is able to give the actual power exported by the individual project participant without any ambiguity and double counting. Further, it is also verified that individual meters and bulk meters are properly sealed and monitored by KPTCL and BESCOM officials.
(Documentary evidence is attached in folder Comment 3)</td>
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