
VALIDATION REPORT

Wescare (India) Limited

**“GRID CONNECTED ELECTRICITY
GENERATION FROM RENEWABLE
SOURCES” AT KADAVUKALLE,
PUTLURU, ANANTPUR BY M/s
WESCARE (INDIA) Ltd. (WIL)**

SGS Climate Change Programme

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Project title	Organisational unit:
"Grid connected electricity generation from renewable sources" at Kadavukalle, Putluru, Anantpur by M/s Wescare (India) Ltd. (WIL)	SGS Climate Change Programme
Revision number	Client:
1	Wescare India Limited

Summary

SGS India Pvt. Ltd., an affiliate of SGS United Kingdom Ltd. has made a validation of the CDM project activity "Grid connected electricity generation from renewable sources" at Kadavukalle, Putluru, Anantpur by M/s Wescare (India) Ltd. (WIL) in Andhra Pradesh state in India, on the basis of UNFCCC criteria for the CDM, as well as criteria given to provide for consistent project operations, monitoring and reporting. UNFCCC criteria refer to Article 12 of the Kyoto Protocol, the CDM rules and modalities and the subsequent decisions by the CDM Executive Board, as well as the host country criteria.

The scope of validation is the independent and objective review of the project design document, baseline study and monitoring plan and other relevant document of the project. The information in this document is reviewed against the criteria defined in the Marrakech Accords (Decision 17) and the Kyoto Protocol (Article 12) and subsequent guidance from the CDM Executive Board.

The validation is not meant to provide any consulting towards the Client. However, stated requests for clarifications plan and/or corrective actions may provide input for improvement of the project design document (PDD).

The overall validation process, from Contract Review to Validation Report & Opinion, was conducted using internal procedures (UK.PP.12 issue 2 dated 01/07/2005).

The first output of the validation process is a list of Corrective Actions Requests and New Information Requests (CAR and NIR), presented in Annex 2 of this document. Taking into account this output, the project proponent revised its project design document.

In summary, it is SGS's opinion that the proposed CDM project activity correctly applies the baseline and monitoring methodology as mentioned in approved methodology adopted for the proposed project activity and meets the relevant UNFCCC requirements for the CDM and the relevant host country criteria.

Subject.:		
CDM validation		Indexing terms
Work carried out by		
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Technical review		
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Abbreviations

APTRANSCO	Andhra Pradesh Transmission Company
CA	Chartered Accountant
CAR	Corrective Action Request
CDM	Clean Development Mechanism
CEA	Central Electricity Authority
CER	Certified Emission Reductions
CO ₂	Carbon Dioxide
DNA	Designated National Authority
DOE	Designated Operational Entity
DR	Document Review
EIA	Environment Impact Assessment
GHG	Green House Gas(es)
HTSC	High tension service connection
MWh	Mega watt hour
I	Interview
IPCC	Intergovernmental Panel on Climate Change
IRR	Internal Rate of return
ISHC	International Stakeholder Consultation
kWh	Kilo watt hour
LCS	Local control system
MNES	Ministry of Non Conventional Energy Sources
MoEF	Ministry of Environment and Forest
MoV	Means of Verification
MP	Monitoring Plan
MT	Metric Tonne
NIR	New Information Request
NEDCAP Ltd	Non Conventional Energy Development Corporation of Andhra Pradesh Limited
PDD	Project Design Document
PPA	Power Purchase Agreement
UNFCCC	United Nations Framework Convention for Climate Change
WEG	Wind Energy Generator

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Annex 1: Local assessment

Annex 2: Validation Protocol

Annex 3: Overview of findings

1. Introduction

1.1 Objective

Wescare India Limited has commissioned SGS to perform the validation of the project: “Grid connected electricity generation from renewable sources” at Kadavukalle, Putluru, Anantpur by M/s Wescare (India) Ltd. (WIL) with regard to the relevant requirements for CDM project activities. The purpose of a validation is to have an independent third party assess the project design. In particular, the project's baseline, the monitoring plan (MP) and the project's compliance with relevant UNFCCC and host country criteria are validated in order to confirm that the project design as documented is sound and reasonable and meets the stated requirements and identified criteria. Validation is seen as necessary to provide assurance to stakeholders of the quality of the project and its intended generation of Certified Emission Reduction (CER). UNFCCC criteria refer to the Kyoto Protocol criteria and the CDM rules and modalities and related decisions by the COP/MOP and the CDM Executive Board.

1.2 Scope

The scope of the validation is defined as an independent and objective review of the project design document, the project's baseline study and monitoring plan and other relevant documents. The information in these documents is reviewed against Kyoto Protocol requirements, UNFCCC rules and associated interpretations. SGS has employed a risk-based approach in the validation, focusing on the identification of significant risks for project implementation and the generation of CERs.

The validation is not meant to provide any consulting towards the Client. However, stated requests for clarifications and/or corrective actions may provide input for improvement of the project design.

1.3 GHG Project Description

Wescare India Limited has installed, commissioned and have started operations of 54 numbers of Wind electric generators each of capacity 250 KW at Kadavukalle, Putluru Mandal, Dist Andhra Pradesh, India. The proposed CDM project activity is a Grid connected electricity generation from renewable sources. The intent of the project activity is to produce power from non-polluting sources and this is achieved by harvesting wind power. This power produced is wheeled through the Andhra Pradesh Transmission Company to the Southern regional grid of India. The starting date of project activity was 03-01-2000 and the project was commissioned on 31-03-2000.

Baseline Scenario:

The electricity generated by project activity would have otherwise been generated by Southern Regional grid which is predominantly a mix of Fossil fuel, Hydro and Nuclear based.

With Project Scenario:

The project activity is generating electricity using wind power. There is no associated anthropogenic emission of green house gases as the project activity could not use any amount of fossil fuel or any other kind of standby. The project displaces the power that would have otherwise been generated by Southern Regional grid which consists of power plants operating on a mix of hydro, nuclear and fossil fuels.

Leakage:

This was the new installation and the energy generating equipment was not transferred from another activity or the existing equipment was not transferred to another activity. So, no leakage is considered.

Environmental & Social Impacts:

According to Local assessor, there is no negative environmental and social impact reported or seen from project activity during the site visit or during the local stakeholder consultation carried out as a validation protocol.

1.4 The names and roles of the validation team members

Name	Role
Shivananda Shetty	Team Leader / Lead Auditor
Sanjeev Kumar	Assessor
Syed Khursheed Zaidi	Local Assessor
Siddharth Yadav/Irma Lubrecht	Technical reviewer

2. Methodology

2.1 Review of CDM-PDD and additional documentation

The validation is performed primarily as a document review of the publicly available project documents. The assessment is performed by trained assessors using a validation protocol.

A site visit is usually required to verify assumptions in the baseline. Additional information can be required to complete the validation, which may be obtained from public sources or through telephone and face-to-face interviews with key stakeholders (including the project developers and Government and NGO representatives in the host country). These may be undertaken by the local SGS affiliate. The results of this local assessment are summarized in Annex 1 to this report.

2.2 Use of the validation protocol

The validation protocol used for the assessment is partly based on the templates of the IETA / World Bank Validation and Verification Manual and partly on the experience of SGS with the validation of CDM projects. It serves the following purposes:

- it organises, details and clarifies the requirements the project is expected to meet; and
- it documents both how a particular requirement has been validated and the result of the validation.

The validation protocol consists of several tables. The different columns in these tables are described below.

Checklist Question	Means of verification (MoV)	Comment	Draft and/or Final Conclusion
<i>The various requirements are linked to checklist questions the project should meet.</i>	<i>Explains how conformance with the checklist question is investigated. Examples of means of verification are document review (DR) or interview (I). N/A means not applicable.</i>	<i>The section is used to elaborate and discuss the checklist question and/or the conformance to the question. It is further used to explain the conclusions reached.</i>	<i>This is either acceptable based on evidence provided (Y), or a Corrective Action Request (CAR) due to non-compliance with the checklist question (See below). New Information Request (NIR) is used when the validation team has identified a need for further clarification.</i>

The completed validation protocol for this project is attached as Annex 2 to this report

2.3 Findings

As an outcome of the validation process, the team can raise different types of findings

In general, where insufficient or inaccurate information is available and clarification or new information is required the Assessor shall raise a **New Information Request (NIR)** specifying what additional

information is required.

Where a non-conformance arises the Assessor shall raise a **Corrective Action Request (CAR)**. A CAR is issued, where:

- I. mistakes have been made with a direct influence on project results;
- II. validation protocol requirements have not been met; or
- III. there is a risk that the project would not be accepted as a CDM project or that emission reductions will not be verified.

The validation process may be halted until this information has been made available to the assessors' satisfaction. Failure to address a NIR may result in a CAR. Information or clarifications provided as a result of an NIR may also lead to a CAR.

Observations may be raised which are for the benefit of future projects and future verification or validation actors. These have no impact upon the completion of the validation or verification activity.

Corrective Action Requests and New Information Requests are raised in the draft validation protocol and detailed in a separate form (Annex 3). In this form, the Project Developer is given the opportunity to "close" outstanding CARs and respond to NIRs and Observations.

2.4 Internal quality control

Following the completion of the assessment process and a recommendation by the Assessment team, all documentation will be forwarded to a Technical Reviewer. The task of the Technical Reviewer is to check that all procedures have been followed and all conclusions are justified. The Technical Reviewer will either accept or reject the recommendation made by the assessment team.

3. Determination Findings

3.1 Participation requirements

The host Party for this project is India. India has ratified the Kyoto protocol on 26 August 2002. Initially, no Letter of Approval was provided and CAR1 was raised. A Letter of Approval dated Approval letter no.F.No.4/24/2005-CCC dated 26.12.2005 issued by the Indian DNA was provided subsequently. The approval of the project was also verified from the Ministry of Environment & Forest, Government of India's website. Hence CAR1 was closed out.

No Annex 1 Party has been identified in the PDD and therefore no further 'Letter of Approval' from a Annex I party was obtained. As registration of a CDM project activity can take place without an Annex 1 Party being involved at the stage of registration, this is not a mandatory requirement at this stage. However, it should be noted that before CER's can be transferred to an Annex I Party, a Letter of Approval should be submitted.

3.2 Baseline selection and additionality

The project has applied the Methodology type I.D: Title – "Grid Connected Renewable Electricity Generation" Version 10 dated 23rd December 2006. The baseline selected by the project proponent was the likely baseline scenario. The project activity produces electricity and will also be sold to the grid.

The project activity was started on 3rd January 2000 and was commissioned by 31st March 2000. Proof for start date and commissioning date has been provided by the project participants. The starting date of the project activity was verified as 3rd Jan 2000 with board note in which the decision was taken to go ahead with the project activity, in order to provide evidence that the incentive from the CDM was seriously considered in the decision to proceed with the project activity, minutes of a Board meeting of the project participant were provided. These minutes were reviewed and discussed during the site visit and the excerpts of the meeting duly signed by the corporate engineering head have been submitted to the validator. It was found that the relevant meetings took place on 3rd Jan 2000. The minutes showed the carbon credit was taken into account during the decision on going ahead with the project activity.

Subsequently, the purchase order to DAS LAGERWEY was released on 4th Jan 2000 which clearly states the nos. of machines was supposed to be installed and the capacity mentioned in the PDD was verified during site visit. The statement made to the board relates to this specific project as it is preceding to the board meeting that the Purchase Orders have been dispatched. The board statement is directed to this specific project activity as no other installations have been undertaken in the state of Andhra Pradesh by this project participant. Further to these actions undertaken by the proponent the initiated correspondence letters between NEDCAP an Andhra Pradesh state government company and project proponent for sale of CO2 benefit was verified. This series of evidences point out the approach and girth of efforts towards the specific activity as mentioned in the Board note.

The project activity faces Investment Barrier followed by Technological Barrier. The investment barrier indicates that the financial returns from wind energy are low. The IRR (Internal rate of return) calculated for this project was low at 4.9% (pre tax) at a generation of 1.6 million units per MW. CDM revenue helped to improve the IRR to 7.1% (pre tax) and was the deciding factor. The IRR calculations have been are certified by a Chartered Accountant for the data provided by the proponent. The CA certificate will be uploaded as proof of additionality. The project is at high risk subject to change in government policies. Due to a sudden change in wheeling policy, the wheeling charge was increased

from 2% to 28.4% of the total power wheeled. Such sudden notification makes it more difficult for the project activity to operate; in spite of which the project proponent has gone ahead with the project and as a proof for which the stay order against this sudden change has been furnished by the proponent. Technological as a barrier is predominately due to unforeseen natural disasters such as due to thunderstorm accompanied by lightening. It is a common phenomenon in the region which can destroy the control circuit caused by the occurrence of fire. This will lead to freewheeling of turbine leading to collapse of the tower and investment for the project. Considering CDM benefits and to mitigate fire smoke detectors were installed at each WEG. The smoke detector sends communication to the control system to stop the turbine and hence will help in minimizing risk.

Barrier due to prevailing practice is also used to demonstrate the additionality. The project proponent had pointed out that some Wind Power producers have moved out of the state of Andhra Pradesh and are relocating the turbines neighboring states. Enercon has relocated its 18.48 MW in Kondamidhapalli, Kurnool district in Andhra Pradesh to Karnataka. This has been checked and the copy of the report published has been made available to the assessor. Such actions by other wind project developers indicate that running wind mill projects in the usual conditions; a challenge which the project proponent has taken facing much difficulty.

The above situation was made clearer by the proponent based on the response to NIR 6 raised by the assessor which mainly dealt with issues on the project additionality. Based on the evidences, calculations and the findings as provided by the proponent, it can be concluded that the project activity was not a likely baseline scenario and hence it is reasonable to be additional to any which would have been used in the absence of project activity.

3.3 Application of Baseline methodology and calculation of emission factors

The project has applied the Small Scale CDM methodology under Type I – Renewable Energy Project and Category I.D. - Renewable Electricity generation for a grid Version 10 dated 23rd December 2006. The baseline of project activity is in the absence of the project activity the grid would have been supplied power by Fossil fuel, Hydro and Nuclear power plants. The baseline for this project is the net electricity supplied to the grid by the project activity multiplied by the emission factor of the Southern region Electricity grid of India. The baseline emission factor is calculated as a combined margin consisting of the combination of operating margin and built margin factors. The emission coefficient is calculated in a transparent and conservative manner and fixed ex-ante for the entire crediting period.

NIR4 was raised by the assessor so as to ascertain most recent data was used. In response to the finding the Project Proponent adopted the combined margin grid emission factor calculations with most recent data available and fixed the grid emission factor ex-ante for the entire crediting period. As the revised calculations ensured that the most conservation figure was achieved for the calculation of CERs, NIR4 was closed. NIR5 was raised for missing data (auxiliary consumption details) in CER calculations and also for clarity in the role of PLF. The revised PDD incorporated actual data generation for the period till 2005 and it was reasonable for auxiliary consumption to be omitted in the revised CER calculation and the role of PLF was satisfactorily explained. Hence, NIR5 was closed.

The application of Baseline methodology has been found to be in order of AMS 1D Version 10 dated 23rd December 2006 as per CDM guidelines and the calculations of emission factor has been found reasonable.

3.4 Application of Monitoring methodology and Monitoring Plan

The present CDM project activity uses monitoring methodology as described in AMS 1.D Version 10 dated 23rd December 2006 for “Renewable Electricity generation for a grid” as per CDM project activities. The data to be collected in order to monitor emissions from the project activity is detailed in

the project design document and the desk review showed that the monitoring plan is OK.

NIR7 was raised for the monitoring of transmission loss was not transparent and also it was not fully self explanatory why the uncertainty in data was marked low when this parameter was being calculated. It was well explained in the reply to the finding by the project proponent and was also observed during the site visit by the local assessor. Every Wind Turbine has a local control system (LCS) which records generation for that Turbine. A number of Wind Turbines are connected to the common metering point, known as HTSC (High Tension Service Connection), which has a digital meter certified and owned by APTRANSCO. This HTSC meter will record the total generation from all these Wind Turbines (export) and also the auxiliary consumption (import). The sum total of the LCS readings of the individual Wind Turbines will not be equal to the HTSC meter readings due to internal line loss in the range of 5 to 7%. The HTSC meter is officially inspected, and the reading is recorded and certified by the APTRANSCO Officials, each month on a prescribed date. Hence NIR7 was closed for the LCS and HTSC were calibrated and also site visit confirmed such activity as described in the response to the findings.

NIR8 was raised as QA/QC procedures planned for data mentioned in Sec D4 were missing in PDD. These procedures were included and elaborated in revised PDD along with reasonable explanation and hence NIR8 was closed.

3.5 Project design

The Project Design Document (PDD) was designed as per version 2 of guidelines laid for preparing PDD of large scale CDM project activity hence the format of the present PDD was checked against it.

The PDD and the monitoring plan for this project were made available on the SGS website <http://www.sgsqualitynetwork.com/tradeassurance/ccp/projects/project.php?id=58> and were open for comments from 16th November 2005 to 15th December 2005. Comments were invited through the UNFCCC CDM homepage.

CAR2 was raised for the assessor found a few details missing along with inadequate use of guidelines. No suggestions for changes in PDD were made by the assessor. The proponent replied back with adequate revisions in the PDD; this was found satisfactory and as per guidelines of the "Guidelines for completing CDM-SSC-PDD and F-CDM-SSC-subm" This was accepted and hence CAR2 was closed out.

NIR3 was raised as the information regarding ODA was not clear. In response to the question the project proponent had given the assessor all lease documents and other documentary evidence showing that no ODA was utilized. Hence NIR3 was closed out.

3.6 Environmental Impacts

The DNA of the host country i.e. Ministry of Environment and Forest, Government of India, does not require Environmental Impact Assessment (EIA) of wind mill projects. However the project proponent has proactively taken up an EIA study to comprehend the impact on the environment. Accordingly, it was concluded by the report that the proposed windmill operations will not produce any hazardous gaseous emission or solid waste or waste water. There will not be any significant variation in the levels of pollutants in the existing environment after the commencement of the unit.

The project proponent has ensured that necessary safety and environmental requirements of relevant Indian legislation was met for the facilities implemented. This was also verified by the assessor during the site visit.

3.7 Local stakeholder comments

A brief note is available on list of local stakeholders consulted and media used to invite comments. A meeting was organized on 10th Nov 2005 for local stakeholders' consultation. Few government

organizations such as Non Conventional Energy Development Corporation of Andhra Pradesh Limited (NEDCAP Ltd.), Andhra Pradesh Central Power Distribution Company Ltd., Oriental Bank of Commerce and personnel of the company were consulted. A public notice was given 15 days prior to meeting. A summary of the stakeholders' comments is provided and no adverse comment has been identified. The related documents have been verified during the site visit and the same was submitted to the assessor. During the site visit, the assessor had also interviewed with representatives of the government organization (NEDCAP and Andhra Pradesh State Electricity Board) present during the stakeholder meet. Stakeholder consultation process is not required by regulations/laws in the host country. The client obtained "Consent to establish and operate" from State Pollution Control Board which is an indication of regulatory acceptance. The host country approval has been accorded to project activity by Ministry of Environment and Forests, the host country approval confirms that the project leads to sustainable development in India (annex4). These documents were desk reviewed and found to be OK.

4. Comments by Parties, Stakeholders and NGOs

In accordance with sub-paragraphs 40 (b) and (c) of the CDM modalities and procedures, the project design document of a proposed CDM project activity shall be made publicly available and the DOE shall invite comments on the validation requirements from Parties, stakeholders and UNFCCC accredited non-governmental organizations and make them publicly available. This chapter describes this process for this project.

4.1 Description of how and when the PDD was made publicly available

The PDD and the monitoring plan for this project were made available on the SGS website <http://www.sgsqualitynetwork.com/tradeassurance/ccp/projects/project.php?id=58> and were open for comments from 16th November 2005 to 15th December 2005. Comments were invited through the UNFCCC CDM homepage.

The PDD and the monitoring plan was re-web hosted and made available on the SGS website <http://www.sgsqualitynetwork.com/tradeassurance/ccp/projects/project.php?id=181> and were again open for comments from 9th December 2006 to 7th January 2007. Comments were invited through the UNFCCC CDM homepage.

4.2 Compilation of all comments received

The project was up loaded for International stakeholder consultation (ISHC) for a period of 30 days twice and had received comments during the first web hosted period from 16th November 2005 to 15th December 2005.

The project had received the following international stakeholder comment

Comment 1		14-12-05 5:47pm
Name: perumal Arumugam	City: Chennai	
Organisation: Individual	Country: India	
Technological barrier:		
The argument on technological barrier is debatable		
The manpower expertise for the O&M will be provided by the manufacturer himself for the first two years over and above that after sales service, annual maintenance is being done by the		

manufacturer himself. The norms of jobs per MW for O&M as per the REEP study is 0.3 so the manpower requirement would be hardly 15 – 20 people. This technology started its footprints from 1985 so availing manpower would not be a constraint.

The failure of machines due to lightning, catching fire etc may be very very very minimum. Along with the PDD if it could have mentioned with the number of such accidents and occurrences it would be effective.

Investment barrier:

The investment analysis should not look into the aspect of only the capital investment it should also consider the

Tax holidays, accelerated depreciation, capital subsidy etc.

Does variable cost component has been taken care during computation?

Does the IRR consider all the benefits accruing from the project? In my opinion this should incase also include the value of tax breaks available to the project developer. To the best of my knowledge financial analysis in the PDD hasn't taken value of tax breaks into consideration, which in case of WE projects is very significant while establishing the investment barrier.

The wind power technology is no more a technical barrier in the country which stands fourth in the world in terms of installation.

Starting date of the Project activity:

The date of commissioning is mentioned as 18.03.2000 and 31.03.2000. The total installed capacity is termed as 13.5 MW, whereas as per the data provided below the state of AP has never registered a capacity of 13.5 MW in a single FY 2000 -01 or FY 2001-02. even with the statistics considered for two years it is not touching the figure what the PP has stated. So I feel there is some inconsistency in the data on starting date of the project activity.

I proposed a table but it is not attaching properly

Table indicates the yearwise installation in the state of Andhra Pradesh for the FY starting from APR to Mar:

Upto 1992 0.55 MW

1992 - 1993-1994 0 MW

1994 - 95 5.425 MW

1995-96 38.925 MW

1996 - 97 9.390 MW

1997- 98 1.5 MW

1998-99 6 MW

1999 -2000 6 MW

2000-01 3.8 MW

2001-02 0.7 MW

2002-03 0 MW

2003-04 6.2 MW

2004-05 21.8 MW

I would also like to know that the starting date of the project activity is commissioning date or the project initiation date?

Wind projects would generally take 3 – 6 months to commission which means that financial closure, procurement, tender, etc on the project is more than likely to be before 1 January 2000. Further, the last turbine's commissioning is March 2000.so does this project is eligible as CDM w.r.t date of operation?

4.3 Explanation of how comments have been taken into account

Response from project developer to comment 1

The project proponent was well educated of the fact that, occurrence of a fire accident, at the level of the windmills, will result in complete destruction of the entire connected circuit. The fire may be caused due to the natural occurrence of thunderstorm cum lightening strokes, which is a frequent phenomenon during the rainy season in this region. Also it is known fact that the lightning arresters fail, in case of the windmills. Occurrence of any such event may have led to a complete loss of investment.

A scrutiny of occurrence reports of damage to WEGs in the last 2 years reveals 6 cases of damage due to lightning and 10 cases due to fire. These events are being recorded as occurrence reports and the damages to the components are being recorded in FSRs for analysis and preventive actions. The occurrence/ Failure cum service reports are available for inspection.

The manpower norms of 0.3 are possibly only an average arrived at from data collected. It varies depending on the topography, alignment, and micro-siting of WEGs and more importantly the capacity of the WEG. The requirement of manpower is practically arrived at on the basis of Per Machine as against per MW. For instance, the manpower requirement for 6 WEGs 250 kw cannot be strictly compared to the requirement for 1 WEG of 1.50 MW.

Further, in our site, which is on a mountain ridge, the WEGs are placed in a non-linear fashion and stretched over a 9 km stretch. This necessitates additional manpower requirement on a 3- shift basis. Presently, there is a manpower of about 40 employees including security to operate and maintain the wind farm on 3-shift basis

We also wish to point out that operation and maintenance terms provided by each manufacturer vary. In this case, it was agreed to train 2 of our engineers and also maintenance support for a year. Wescare has an in-house team for project management and operations and maintenance of windfarms.

Tax aspects have been considered in the financial calculations. Proponent opted for Lease as a means of finance and the benefit of depreciation is available to the Lessor viz. the Financing institution.

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All costs are considered in the financial calculations. It is to be noted that there are no variable costs in windmill operations.

The Board approved the investment on 3rd January 2000. Only after this date activity on the project was started.

The normal time taken from start to commissioning does not exceed 3 months. The project was handed over on a turnkey basis to the supplier for installation before 31st March. The daily progress reports of the project are also available. Since the proponent opted for lease finance, commissioning before 31st March was critical. That was the condition on which lessors were interested in order to avail depreciation benefits under the Income Tax laws. In simple terms, the commissioning time is directly related to the manpower employed for the activity. Since each WEG is a standalone machine, erection / completion can be taken up at different locations simultaneously by multiplying the manpower in direct proportion to the number of WEGs.

There were instances of erection and commissioning in less than 2 months in our sites in Tamilnadu.

Our primary proof for commissioning is the Commissioning certificate issued by NEDCAP and that is the evidence of commissioning date.

As regards the table provided, the source is not mentioned. Similar figures were appearing on the site: www.windpowerindia.org. There appears to be an apparent error. The sum of the year wise installations (1992 to 2003-04) is 78.49 MW. The same table gives the cumulative installations as on 31st March 2004 as 98.80 MW. (For the same date the APTransco website gives the figure of installations as on 31.10.05 as 97.49 MW)

Another table in the same site provides the year wise generation of wind power (units) reflects a 30% increase during 2000-01 as against 1999-00. These points to additional capacity creation in that year.

Hence it is not advisable to rely on such data to establish the project commissioning date. The proof of commissioning is the commissioning certificate which has been submitted to the validator.

Comment by DoE on Comment 1:- The reply to the comments raised is satisfactory and are ably supported by documentary proofs; these were verified during the site visit based on the discussion(s), interview(s) and documentation provided by the project proponent. The Investment analysis sheet was provided to the DoE and the letter from CA was also provided who certified the IRR calculations. The local stake holder Minutes of meeting was also provided and the local assessor met some persons who were present during the local stake holder meeting conducted by the project proponent. These were found to be reasonable and now these are more detailed in revised PDD now. Local stakeholder consultation was taken up as a validation protocol by the validator. It was found that there was no negative environmental impact reported or seen by the local assessor. The project activity helps in harvesting wind power and provided positive impacts to the environment along with social development.

5. Validation opinion

SGS has performed a validation of the project "Grid connected electricity generation from renewable sources" at Kadavukalle, Putluru, Anantpur by M/s Wescare (India) Ltd. (WIL) using wind Power" The validation was performed on the basis of the UNFCCC criteria and host country criteria, as well as criteria given to provide for consistent project operations, monitoring and reporting. Using a risk based approach, the review of the project design documentation and the subsequent follow-up interviews have provided SGS with sufficient evidence to determine the fulfilment of the stated criteria. In our opinion, the project meets all relevant UNFCCC requirements for the CDM and all relevant host country criteria. The project will hence be recommended by SGS for registration with the UNFCCC.

SGS has received confirmation by the host Party that the project activity assists it in achieving sustainable development.

By utilizing wind power for generation of electricity, the project results in reductions of greenhouse gas emissions that are real, measurable and give long-term benefits to the mitigation of climate change. A review of the Investment Barrier followed by Technological barrier demonstrates that the proposed project activity is not a likely baseline scenario. Emission reductions attributable to the project are hence additional to any that would occur in the absence of the project activity.

The validation is based on the information made available to SGS and the engagement conditions detailed in the report. The validation has been performed using a risk based approach as described above. The only purpose of this report is its use during the registration process as part of the CDM project cycle. Hence, SGS can not be held liable by any party for decisions made or not made based on the validation opinion, which will go beyond that purpose.

6. List of persons interviewed

Date	Name	Position	Short description of subject discussed
01-11-2006	Mr.S.Pandian	President Wescare (India) Limited	Stakeholder consultation, technical and financial barrier
01-11-2006	Mr.Sureshkumar	Site in charge Wescare (India) Limited	Stakeholder consultation, project activities, monitoring plan
01-11-2006	Mr. M.KodandaRama Murthy	District Manager Non-Conventional Energy Development Corporation of Andhra Pradesh Limited (NEDCAP Ltd)	Current practices and patterns in the state concerning common practice
01-11-2006	Mr. K. Pratap Reddy	Field Officer, Wind Division (NEDCAP Ltd)	Authenticity and reliability of data available on the web regarding the state wind mill capacity and generation, local state legislation for wind mills.
01-11-2006	Mr. P. Veeraiah	Asst. Field Officer (NEDCAP Ltd)	
01-11-2006	Mr. V.V.Krishna Reddy	Assistant Engineer - Wind Division Tadipatri. (Andhra Pradesh Central Power Distribution)	Monitoring methods, calibration requirements, Facility performance

7. Document references

Category 1 Documents (documents provided by the Client that relate directly to the GHG components of the project, (i.e. the CDM Project Design Document, confirmation by the host Party on contribution to sustainable development and written approval of voluntary participation from the designated national authority):

- /1/ HCA letter given by MoEF, Government of India
- /2/ Modalities of communication
- /3/ PDD version1 dated 14-11-2005 (webhosted)
- /4/ PDD version 2 dated 03-11-2006
- /5/ PDD version 3 dated 27-04-2007
- /6/ PDD version 4 dated 20-06-2007

Category 2 Documents (background documents used to check project assumptions and confirm the validity of information given in the Category 1 documents and in validation interviews):

- /1/ Host Country Approval (HCA)
- /2/ Loan agreement
- /3/ IRR sheet
- /4/ CER calculation sheet
- /5/ Minutes of stakeholder consultation
- /6/ Letter of invitation and public notice for stakeholder consultation
- /7/ Board approval letter
- /8/ Board resolution, purchase order, tender bid for equipments
- /9/ Lease agreement copies and correspondence with NEDCAP
- /10/ Wheeling charges
- /11/ Commissioning certificate issued by NEDCAP

Annex 1

Project Specific criteria to be confirmed by Local Assessor

Questions be defined by team leader, Answer and Objective Evidence / Source of information / Persons Interviewed to be completed by Local Assessor; Compliance to be reviewed by Team Leader.

TABLE 12 ADDITIONAL INFORMATION TO BE VERIFIED BY LOCAL ASSESSORS / SITE VISIT

Loan has been taken from several banks and no ODA has been used for the project. To be confirmed during site visit.	1.7/PD DAnne x 2	I	Global Trust bank Limited, Sundram Finance Limited, Centurion Bank Limited, India Cements Capital Finance Ltd, Lakshmi General Finance Co Ltd. The documents to support these were checked at site and found OK. The documents confirmed no funding from ODA.	OK	OK
The PDD has referred to various information however supporting documents has not been provided Eg- IRR calculation sheet, emission reduction calculation sheet along with the relevant supporting of grid data. These have to be clarified during site visit.	1.11		IRR sheet, CER sheet, and data on grid were provided. These were cross checked. In addition to this documents to support the claims made in PDD were made available during site visit. These were found satisfactory.	OK	OK
Few government organizations as Non Conventional Energy Development Corporation of Andhra Pradesh Limited (NEDCAP Ltd.), Andhra Pradesh Central Power Distribution Company Ltd., Oriental Bank of Commerce and personnel of the company were consulted. The comments are required to verify.	7.1		Documentary evidence to support consultation with government organization such as NEDCAP, AP Central power distribution company Ltd, Orient Bank of Commerce was provided. This was cross checked and is OK.	OK	OK
A meeting was organized on 10 th Nov 2005 for local stakeholders' consultation. A public notice was given 15 days prior to meeting. To be verified.	7.2		Documents to support the media used for stakeholder consultation was provided for verification. This was checked and found OK.	OK	OK

There is no stakeholder consultation process required by regulations; however the process was conducted under EIA (Environmental Impact Assessment). There is no adverse impact identified. EIA report to be verified during site visit.	7.3		EIA report was verified at site.	OK	OK
The project activity is not a debundled component of a larger project activity. To be verified during site visit.	9.3		The project is a small scale project activity and is not a debundled component of a larger project activity. This confirmed by collecting documentary evidence from the project proponent.	OK	OK
Project capacity 13.5 MW			The Detail Project Report (DPR), details of wind mill installed and power generation capacity by Wescare and RCI were checked. The total power generation capacity from the project is 13.5 MW	OK	OK
Starting date of project activity			A copy of the Board approval which was dated 3 rd January 2000 for investment for the project was provided for verification. This date has been considered as the project start date.	OK	OK
Project commissioning date			Commissioning certificate issued by NEDCAP was provided during site visit. The same date has been considered as the project commissioning date.	OK	OK

Data monitoring, reporting, recording, reviewing and calibration of meters			The meters are installed at LCS and HTSC. The HTSC meters are certified, calibrated and is controlled by APTRANSCO. LCS meters are controlled by project proponent and are calibrated. System is in place for data monitoring, recording and review of data. As the project is commissioned and in operation, data monitoring, recording, reporting and reviewing system were checked for confirmation. It is OK	OK	OK
Role & responsibility of individuals in monitoring			Persons are dedicated and Responsibility and role of officials in project activity for monitoring and recording of data are identified. This was checked during site visit and is also explained in the revised PDD.	OK	OK
Grid data analysis			Grid data analysis was provided for verification during site visit. This was checked and found OK.	OK	OK

Annex 2

TABLE 1 PARTICIPATION REQUIREMENTS FOR CLEAN DEVELOPMENT MECHANISM (CDM) PROJECT ACTIVITIES (REF PDD, LETTERS OF APPROVAL AND UNFCCC WEBSITE)

1.1 The project shall assist Parties included in Annex I in achieving compliance with part of their emission reduction commitment under Art. 3 and be entered into voluntarily.	Document Rev	PDD	This is a unilateral project and no Annex 1 party has been identified so far.	OK	OK
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1.2 The project shall assist non-Annex I Parties in achieving sustainable development and shall have obtained confirmation by the host country thereof, and be entered into voluntarily	DR	PDD	The letter from the Indian DNA is not provided so far. HCA was provided by project proponent for validation. The same was verified and found OK.	CAR 1	CAR 1 is closed out.
1.3 All Parties (listed in Section A3 of the PDD) have ratified the Kyoto protocol and are allowed to participate in CDM projects	DR	MoEF web site	India has ratified the Kyoto protocol on 26 th August, 2002.	OK	OK
1.4 The project results in reductions of GHG emissions or increases in sequestration when compared to the baseline; and the project can be reasonably shown to be different from the baseline scenario	DR	PDD	The project proposes to replace the equivalent power supplied to the grid by using wind power which is renewable and otherwise would have been supplied by regional grid which is non renewable intensive.	OK	OK
1.5 Parties, stakeholders and UNFCCC accredited NGOs shall have been invited to comment on the validation requirements for minimum 30 days (45 days for AR projects), and the project design document and comments have been made publicly available	DR	UNFCCC web site	The project design document was hosted on the UNFCCC website for stakeholder comments from 16/11/06 to 15/12/06. And we have received one comment which has been sent to the project proponent for clarification; the same is also highlighted in UK findings. Project developer has responded to the international stakeholder comment.	OK	OK

1.6 The project has correctly completed a Project Design Document, using the current version and exactly following the guidance	DR	PDD	Yes the correct version is used and guidance has been followed. Few corrections have to be made in PDD as per attached PDD comments. PDD page 1: Annex 3, 4, 5 & 6 could be placed in their respective fields B5, F1, G2 & A.4.1.4 Sec A4: Tech description is missing A.4.1.4: Physical map to be placed A.4.2. Please refer "Guidelines for completing CDM-SSC-PDD and F-CDM-SSC-subm" page 24 A.4.3.1: Tabular format shall be used B1: Reference – version 07: 28 Nov 2005 is available B.3: Project starting date and CDM consideration date to be provided D.1: Reference – version 07: 28 Nov 2005 is available. All the correction has been made in the revised PDD. This was checked and found OK.	CAR2	CAR 2 is closed out.
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1.7 The project shall not make use of Official Development Assistance (ODA), nor result in the diversion of such ODA	DR/I	PDD /Ann ex 2	Information regarding public funding is not transparent. Loan has been taken from several banks and no ODA has been used for the project. To be confirmed during site visit. Documents were provided to support loan taken from various banks as listed in PDD. They were checked and it is confirmed that there is no ODA funding.	NIR 3/ Site Visit Table 12	NIR 3 is closed out.
1.8 For AR projects, the host country shall have issued a communication providing a single definition of minimum tree cover, minimum land area value and minimum tree height. Has such a letter been issued and are the definitions consistently applied throughout the PDD?	DR		This is not an AR project	N/A	N/A
1.9 Does the project meet the additional requirements detailed in: Table 9 for SSC projects Table 10 for AR projects Table 11 for AR SSC projects	DR		This is not an AR project	N/A	N/A
1.10 Is the current version of the PDD complete and does it clearly reflect all the information presented during the validation assessment	DR	PDD	Yes the current version of the PDD is complete and relevant information's are available. Few have been recommended in ref 1.6. All correction has been made by the project proponent in the revised PDD. These were cross checked.	CAR 2 pending	Hence CAR 2 was closed.

1.11 Does the PDD use accurate and reliable information that can be verified in an objective manner?	DR/I	PDD	The PDD has referred to various information however supporting documents has not been provided Eg- IRR calculation sheet, emission reduction calculation sheet along with the relevant supporting of grid data. These have to be clarified during site visit. Documents viz IRR sheet, emission reduction calculation sheets grid data were provided during site visit. These documents were verified and found satisfactory.	Site visit Table 12	OK
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TABLE 7 BCOMMENTS BY LOCAL STAKEHOLDERS (REF PDD SECTION G)

7.1 Have relevant stakeholders been consulted?	Sec G	DR	Few government organizations as Non Conventional Energy Development Corporation of Andhra Pradesh Limited (NEDCAP Ltd.), Andhra Pradesh Central Power Distribution Company Ltd., Oriental Bank of Commerce and personnel of the company were consulted. The comments are required to verify. Minutes of meeting and consultation held with the government and non-governmental organization were provided during site visit. These were checked and found to satisfaction.	Site Visit Table 12	Hence OK.
7.2 Have appropriate media been used to invite comments by local stakeholders?	PDD	DR/I	A meeting was organized on 10th Nov 2005 for local stakeholders' consultation. A public notice was given 15 days prior to meeting. To be verified. Copy of Letter and public notice inviting stakeholder for consultation was provided. This was checked and to found to satisfaction.	Site Visit Table 12	Hence OK.

7.3 If a stakeholder consultation process is required by regulations/laws in the host country, has the stakeholder consultation process been carried out in accordance with such regulations/laws?	G.1	DR/I	There is no stakeholder consultation process required by regulations; however the process was conducted under EIA (Environmental Impact Assessment). There is no adverse impact identified. EIA report to be verified during site visit. EIA report was verified at site.	Site Visit Table 12	OK
7.4 Is a summary of the stakeholder comments received provided?	G.2	DR/I	A summary of the stakeholders' comments is provided. There is no adverse comment identified. To be verified during site visit. Minutes of stakeholder consultation was provided during site visit. It had no adverse comments.	Site Visit Table 12 (Refer 7.1)	OK
7.5 Has due account been taken of any stakeholder comments received?	PDD	DR	No adverse comment	OK	OK

TABLE 8 OTHER REQUIREMENTS

8.1 Project Design Document

	PDD	DR	Yes, the template has been applied correctly and PDD is completed without modifying/adding headings or logo, format or font. However, few corrections are required (ref 1.6 above). All correction has been made in the revised PDD. This has been checked and was found OK.	Pending CAR 2	Hence CAR 2 was closed out. OK.
29/51					
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	PDD	DR	Few Corrections are required. All relevant correction has been made in the revised PDD.	Pending CAR 2	Hence CAR 2 was closed out.
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8.2 Technology to be employed

8	PDD	DR	Yes, the project design engineering uses current good practices.	OK	OK
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8	PDD	DR	The project is a wind based power project and uses current technology available in the host country.	OK	OK
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8	PDD	DR	Not expected within the project period	OK	OK
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8	PDD	DR	Yes, the project requires experienced employees else initial training to operate and maintain the same. Senior management official conduct training on technical matters.	OK	OK
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8	PDD	DR	The project's starting date needs to be more clarified on which date decision was taken by board to go with project activity. Operational lifetime is clearly defined and reasonable. The Board approved the investment on 3rd January 2000. A copy of the approval letter was checked and was found OK. In addition project commissioning certificate was produced for verification.	OK	OK
					37/51
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8	PDD	DR	The crediting period is fixed ten years.	OK	OK
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8	PDD	DR	Yes, the project's operational lifetime exceeds the crediting period.	OK	OK
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TABLE 9 ADDITIONAL REQUIREMENTS FOR SSC PROJECT ACTIVITIES ONLY

9.1 Does the project qualify as a small scale CDM project activity as defined in paragraph 6 (c) of decision 17/CP.7 on the modalities and procedures for the CDM?	PDD/ Dec 17/C P. 7 Para 6(c)	DR	Yes, the project qualifies as a small scale CDM project activity as defined in paragraph 6 (c) (i) of decision 17/CP.7 on the modalities and procedures for the CDM. As this is a renewable energy (wind mill) project with a 13.5 MW capacity under category ID.	OK	OK
9.2 The project conforms to one of the categories listed in Appendix B to Annex II to Decision 21/CP8	PDD/ Appendix B	DR	The project conform category ID – Renewable Electricity generation for a grid listed in Appendix B of the simplified modalities and procedures for small-scale CDM project activities.	OK	OK
9.3 The small scale project activity is not a debundled component of a larger project activity?	PDD/ Annex 7- appendix C	DR/I	The project activity is not a debundled component of a larger project activity. To be verified during site visit. It is not a debundled project.	Site Visit table 12	OK
9.4 PDD has been prepared in accordance with appendix A of Annex II to Decision 21/CP8	PDD	DR	Yes, The PDD has been prepared as per “SSC: CDM project design document for small-scale activities CDM-SSC-PDD (most recent version)”	OK	OK

9.5 The project uses a simplified baseline and monitoring methodology specified in Appendix B. If not, they may propose changes to the meths or a new SSC project category	PDD	DR	The project uses a simplified baseline and monitoring methodology specified in Appendix B. Sec B.5: the most recent available data should be used, please provide excel sheet to check baseline calculation with supporting documents (referred for calculation, date of power plant commissioning and other factors) as few General Reviews on CEA website are missing. Project proponent in the revised PDD has incorporated the most recent available data for baseline calculation and missing CEA links also have been included. These were cross checked and found OK.	NIR 4	OK. NIR 4 is closed out.
9.6 Are the emission reductions determined in accordance with the methodology described	PDD	DR	CER Calculation (annex 3), auxiliary consumption from Apr 2000 to Mar 2002 is missing. Please explain role of PLF in CER calculations. Since actual power generation data has been used from April 2000, PLF is not applicable to the project. CER calculations have been incorporated in the revised PDP. This was checked and found OK.	NIR 5	OK. NIR 5 is closed out.
9.7 Is there any bundling of SSC activities into one PDD? If so, does the monitoring plan consider sampling of activities? Refer to para 19 of Annex II. Also, note bundling provisions in SSC Briefing Note and SSC meths I C / I D and III D and Para 22e of Appendix B	PDD	DR	This is not a bundled project.	OK	OK

9.8 Is EIA required by host party? If not, none is required irrespective of SHC. If yes, has one been performed consistent with local requirements?	F	DR	No EIA is required by host party. However, EIA has been conducted and no adverse comment has been identified from EIA report and during SHC. (Refer 7.3 above)	OK	OK
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9.9 The project results in emission reductions that are additional in accordance with the following requirements: • (para 26) The project is additional if emissions are reduced below those in the absence of the project • (Para 27) Simplified baseline can be used; if not, baseline proposed shall cover all gases, sectors and sources listed in Annex A to the KP • Para 28) One or more barriers as detailed in attachment A to Appendix B to Annex II will be used to demonstrate that the project would not proceed without the CDM	B.2	Yes, the emissions are reduced below those in the absence of the project. Simplified baseline is used for the project activity Investment barrier followed by Technological barrier has been identified for project activity. Supporting docs. (as starting date of project activity, occurrence of lightning strokes, IRR calculation sheet, equity of project owner, CDM consideration proof at the project inception stage, wheeling charges from 2% to 28.4% and stay order) are required. Few other information is required on i) Other wind projects running in AP ii) How they overcome with these barriers Photocopies to support barriers were provided. Documents viz copy of board resolution, purchase order, tender bid for equipments; IRR sheet with and without CDM; lease agreement copies, correspondence with NEDCAP and document supporting increase in wheeling charges were provided. These documents were checked and found satisfactory.	NIR 6	OK. NIR 6 is closed out.
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9.10 Leakage is calculated according to the provisions of the SSC methodologies in Appendix B (http://cdm.unfccc.int/Projects/pac/ssclistmeth.pdf)	PDD/ ID	DR	No leakage is considered as per ID.	OK	OK
9.11 The project boundary shall be constructed in accordance with the requirements of the SSC meths in Appendix B	B.4	DR	The project boundary is constructed in accordance with the requirements of the SSC meth in Appendix B.	OK	OK
9.12 The Monitoring plan shall be consistent with the requirements of the SSC methodology in Appendix B and shall provide for the collection and archiving of data needed to determine project emissions, baseline emissions and leakage.	PDD/ D.3	DR	The monitoring plan is consistent with SSC methodology ID. However, the monitoring of transmission loss is not transparent. If this is estimated how its uncertainty level could be low. Power meters are installed at LCS and HTSC. These meters are calibrated. The HTSC meters are certified and owned by APTRANSCO and are sealed by them. Reading are recorded at both the meters. Further, the max difference in meter reading would be on account of transmission loss which would be 5-7%. In addition QA/QC checks are made in monitoring plan for any deviation from the expected transmission loss for which corrective actions are in place. On account of this the data uncertainty is deemed low. This is OK.	NIR 7	OK. NIR 7 is closed out.

9.13 The monitoring plan shall present good monitoring practice appropriate to the circumstances of the project activity (para 33)	PDD/ Anne x II para 33	DR	Yes, the monitoring plan presents good monitoring practice. As per sec. D.4, QA/QC procedure has been planned for the data, this is missing in PDD. QA/QC procedures have in incorporated in the revised PDD. This was checked and found OK.	NIR 8	OK. Hence NIR 8 is closed out.
9.14 If project activities are bundled, separate monitoring plan shall be prepared for each of the activities or an overall plan reflecting good monitoring practice will be prepared, consistent with the above requirements	PDD	DR	No, project activity is not bundled.	OK	OK

Annex 3

FINDINGS OVERVIEW

Each Table below represents a finding from the validation assessment. The findings are numbered consecutively, approximately in the order that they have been identified.

Description of table:

Type	Findings are either New Information Requests (NIR) or Corrective Action Requests (CAR). CARs are items that must be addressed before a project can receive a recommendation for registration. NIRs may lead to the raising of CARs. Observations are included at the end and may or may not be addressed. They are primarily to act as signposts for the verifying DOE.
Issue	Details the content of the finding
Ref	refers to the item number in the Validation Protocol
Response	Please insert response to finding, starting with the date of entry.

Rows for comments and further response will be appended to the table until the Findings has been addressed to the satisfaction of the Lead Assessor.

Please note that this is an open list and more findings may be added as validation progresses.

Date: 2006-02-13

Raised by: S. Shetty

No.	Type	Issue	Ref
1	CAR	No letter of approval from Indian DNA available	1.2
Date:30.10.2006 [Comments: CLIENT] Approval letter no.F.No.4/24/2005-CCC dated 26.12.2005 has been furnished to the validator.			
Date: 02-11-2006 Syed Khursheed Zaidi [Comment Local assessor] Host country approval was provided for verification. It was checked and found OK. Hence CAR 1 can be closed out.			
Date: 02-11-2006 Sanjeev Kumar [Acceptance and close out] OK. CAR 1 is closed out.			

Date: 2006-02-13

Raised by: S. Shetty

No.	Type	Issue	Ref
2	CAR	Yes the correct version is used and guidance has been followed. Few corrections have to be made in PDD as per attached PDD comments. PDD page 1: Annex 3, 4, 5 & 6 could be placed in their respective fields B5, F1, G2 & A.4.1.4 Sec A4: Tech description is missing A.4.1.4: Physical map to be placed A.4.2. Please refer "Guidelines for completing CDM-SSC-PDD and F-CDM-SSC-subm" page 24	1.6

		A.4.3.1: Tabular format shall be used B1: Reference – version 07: 28 Nov 2005 is available B.3: Project starting date and CDM consideration date to be provided D.1: Reference – version 07: 28 Nov 2005 is available	
Date: 30.10.2006 [Comments: CLIENT] The PDD has been revised and revised PDD has been made available to the validator.			
Date: 02-11-2006 Syed Khursheed Zaidi [Comment Local assessor] All correction has been made in the revised PDD. The revised PDD was verified and was satisfactory. Hence CAR 2 can be closed out.			
Date: 02-11-2006 Sanjeev Kumar [Acceptance and close out] OK. CAR 2 is closed out.			

Date: 2006-02-13

Raised by: S. Shetty

No.	Type	Issue	Ref
3	NIR	Information regarding public funding is not transparent.	1.7
Date: 1.11.2006 Information regarding Public funding is furnished in the PDD under section A.4.4. Annex 2 has been revised in the revised PDD submitted to the validator. A separate letter has also been submitted by the Project proponent to the validator.			
Date: 02-11-2006 Syed Khursheed Zaidi [Comment Local assessor] The project has no ODA funding. Documents to support loan taken from various banks were provided for verification. The documents confirm no ODA funding. The IRR calculation sheets were also checked. The project has no fund from ODA. Hence NIR 3 can be closed out.			
Date: 02-11-2006 Sanjeev Kumar [Acceptance and close out] OK. NIR 3 is closed out.			

Date: 2006-02-13

Raised by: S. Shetty

No.	Type	Issue	Ref
4	NIR	The project uses a simplified baseline and monitoring methodology specified in Appendix B. Sec B.5 (annex 4): the most recent available data should be used, please provide excel sheet to check baseline calculation with supporting documents (referred for calculation, date of power plant commissioning and other factors). Few General Reviews on CEA website are missing.	9.5
Date: 30.10.06 The excel sheet is available under Annexure 3, which is also enclosed. The most recent available data has been used in the revised calculations and the changed grid emission factor has been considered in the revised PDD which has been made available to the validator.			
Date: 02-11-2006 Syed Khursheed Zaidi [Comment Local assessor] Most recent available data has now been considered and missing CEA links have been incorporated in the revised PDD. The same has been considered in the excel sheet. These revised PDD has been checked and is satisfactory. Hence NIR 4 can be closed out.			
Date: 02-11-2006 Sanjeev Kumar [Acceptance and close out] OK. NIR 4 is closed out.			

Date: 2006-02-13

Raised by: S. Shetty

No.	Type	Issue	Ref
5	NIR	CER Calculation, auxiliary consumption from Apr 2000 to Mar 2002 is missing. Please explain role of PLF in CER calculations.	9.6
Date: 30.10.2006 The PDD was prepared based on the actual generation data up to 2004-05. There is no role for the PLF here since the actual generation is furnished from April 2000. PLF will be useful only for new projects, which do not have a track record. The CER calculation has been furnished in the revised PDD.			
Date: 02-11-2006 Syed Khursheed Zaidi [Comment Local assessor] The role of PLF was explained during the site visit. The explanation given is satisfactory. Hence OK. CER calculation has been incorporated in the revised PDD. This was checked and found satisfactory. Hence NIR 5 can be closed out.			
Date: 02-11-2006 Sanjeev Kumar [Acceptance and close out] OK. NIR 5 is closed out.			

Date: 2006-02-13

Raised by: S. Shetty

No.	Type	Issue
6	NIR	Investment barrier followed by Technological barrier has been for project activity. Supporting docs. (as starting date of project occurrence of lightening strokes, IRR calculation sheet, equity owner, CDM consideration proof at the project inception stage in wheeling charges from 2% to 28.4% and stay order) are required other information is required on iii) Other wind projects running in AP iv) How they overcome with these barriers

Date: 3.11.2006

Supporting documents for start date (Board Resolution copy, Purchase Order), Occurrence of lightning (Copy of APCPDCL for equipments citing climatic conditions in the region), IRR Calculation sheet (Annex.5 of revised PDD) (Copy of lease agreements and accounts extract) CDM consideration and awareness (Board note, correspondence) Wheeling charges increase (copy of APERC order and Stay order) have been provided to the validator.

Information on other wind projects in AP (as on 31.3.2002) as well as data on year wise installations in India with has been submitted to the validator.

In response to the query as to how they overcame the barriers we wish to submit as follows many of the installations Deccan Cements, Hyderabad Chemicals, ITW Signode, Rayalseema group, Vasavi Industries etc are corporate and have purportedly put up the plants for captive consumption and are guided by different economics and considerations. The data relating to grid penetration of wind power projects in the southern states in India reveals that Tamil Nadu having achieved over 23.5% penetration. As against this, the penetration level of wind power in AP is just over 1% the fact that AP has the highest gross potential in the country and the technical potential (2110 MW) is almost the same (2150 MW). The data on additional installations in AP during the 4 year period 2000 – 2004 has been just over 10 MW. In 2005-06 it has been just 0.5 MW. (Source: Green Energy – Vol.2.No.4 of July – August 2006)

From all the above it can be concluded that it is the existence of various barriers that has resulted in AP lagging behind other states in India. The above information has also been furnished in the revised PDD.

In this context it is pertinent to point out that some Wind Power producers have moved out of AP and are relocating to AP to neighbouring states. Enercon has relocated its 18.48 MW in Kondamidhapalli, Kurnool district in AP to Karnataka. This was published in vernacular daily Eenadu dated 7th June 2006 - English translation enclosed and news reported in www.enercon.com dated 14th June 2006)

Date: 04-11-2006 Syed Khursheed Zaidi
[Comment Local assessor] All supporting documents pertaining to barriers were provided during the site visit. These documents were checked and found OK. Adequate justification were provided on similar type of project in AP. Hence NIR 6 can be closed out.

Date: 04-11-2006 Sanjeev Kumar
[Acceptance and close out] OK. NIR 6 is closed out.

Date: 2006-02-13

Raised by: S. Shetty

No.	Type	Issue	Ref
7	NIR	The project uses a simplified baseline and monitoring methodology specified in Appendix B. However, the monitoring of transmission loss is not transparent. If this is estimated how its uncertainty level could be low. (Refer sec. D.3/D.4)	9.12

Date: 30.10.2006

Each Wind Turbine has a local control system (LCS) which records the generation from that Turbine. A number of such Wind Turbines are connected to the common metering point, known as HTSC (High Tension Service Connection), which has a digital meter certified and owned by APTRANSCO. This HTSC meter will record the total generation from all these Wind Turbines

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(export) and also the auxiliary consumption (import). The sum total of the LCS readings of the individual Wind Turbines will not be equal to the HTSC meter readings due to internal line loss in the range of 5 to 7%. The HTSC meter is officially inspected, and the reading is recorded and certified by the APTRANSCO Officials, each month on a prescribed date. The monitoring plan is enclosed as Annexure 4 to PDD submitted to validator.

Date: 02-11-2006 Syed Khursheed Zaidi

[Comment Local assessor] The LCS and HTSC meter are calibrated. Further HTSC meter is owned by APTRANSCO and they are also taking reading from this meter. This meter is considered for total power exported. In addition to this project proponent keeps a check on the variation in the meter readings and has accounted 5-7% as transmission loss. In addition to this, there are trained staff to record the readings and has been explained in Monitoring plan. This is OK. Hence NIR 7 can be closed out.

Date: 02-11-2006 Sanjeev Kumar

[Acceptance and close out] OK. NIR 7 is closed out.

Date: 2006-02-13

Raised by: S. Shetty

No.	Type	Issue	Ref
8	NIR	As per sec. D.4, QA/QC procedure has been planned for the data, this is missing in PDD.	9.13

Date: 30.10.2006

The generation is measured at the Metering point by APTRANSCO every month. This meter is calibrated and provided by APTRANSCO and sealed by them. This seal can be broken only by them while recording of the readings. Hence there is no tampering possible. The monitoring plan has been furnished as Annexure 4 in the revised PDD submitted to the validator.

Date: 02-11-2006 Syed Khursheed Zaidi

[Comment Local assessor] The variation in power meter reading with respect to LCS and HTSC will be on account of transmission loss which would be in the range of 5-7%. In case it exceed system are in place to take corrective actions. QA/QC procedure has been elaborated in the revised PDD. These have been checked and found OK.

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