
ANNEX 7

LOCAL ASSESSMENT CHECKLIST

Vandana Vidhyut Limited

Rice Husk Based Power Project

Project No. CDM.VAL0159

Date: 25-10-2005



CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
<p><i>Key assumptions and data presented in the PDD must be verified, usually by local assessors or during a site visit. Where the baseline is constructed from historic emissions data, a site visit by an Assessor or Lead Assessor will be necessary; where the baseline is constructed from an economically attractive course of action, a local assessor may be sufficient. Where the baseline uses 48c (measure of best practice) any combination of Assessor / Lead Assessor / Local Assessor and Expert may be required.</i></p> <p><i>During the line by line review of the PDD, identify all statement / facts / assumptions / variables etc that need to be verified. List them below and then ensure that the team verifies the data and provides references / supporting documentation where necessary.</i></p> <p><i>The list may be quite long therefore avoid repetition.</i></p>					
1. Letter from DNA for host country When you receive the LoA, please check with the DNA that it is real!	1.2 & CAR1		Original document sighted at the head office of VVL and the scanned copy of the same is attached herewith.	OK	
2. Where does the project obtain its rice husk?	PDD page 5		The project proponent has ensured sufficient availability of rice husk. Agreements are already in place with three (3) suppliers namely <ol style="list-style-type: none"> 1. M/s Coal Man, Bilaspur for 36,000 tpa 2. M/s Goyal Trading Company for 18,000 tpa 3. Fulaira Trading for 36,000 tpa The copies of the agreement have been obtained. The total agreement is for 90,000 tonnes per annum. Additionally VVL has also started purchasing rice husk from three (3) other suppliers for about 200-300 tons per	OK	

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			month.		
3. Is there sufficient rice husk available?	PDD page 5		<p>The theoretical requirement of rice husk for producing 7.7MW of power utilising 100% rice husk is 91,476 tonnes per annum (1.5 tonnes of rice husk per MW); but since the project co-fires coal, the actual requirement of rice husk is much lesser.</p> <p>However VVL has already ensured the supply of 90,000 tonnes of rice husk per annum from three suppliers and in the process in making agreements with three others (as mentioned above).</p> <p>Therefore availability of rice husk of required quantity is ensured all the time throughout the year.</p>	OK	
4. Check the contracts of the companies delivering the rice husk. When do they start? What are their obligations? Are there penalties involved? In short: how does the project guarantee that it will receive rice husk?	PDD page 5		<p>The agreements for supply of rice husk were signed in July 2003 for the entire 10 years of credit period. It has been stated in those agreements that the total quantity of rice husk generated by the rice millers would exclusively be sold to the project proponent- Vandana Vidhyut Limited.</p> <p>All those agreements don't have a penalty clause on the suppliers but it has been stated in those agreements that if the buyer (i.e. VVL) doesn't pick up the agreed quantity of rice husk produced within 10 days, the sellers have the option to sell the same to a third party.</p> <p>As stated above, the availability of rice</p>	OK	

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			husk of required quantity is ensured.		
5. Are there similar initiatives in the neighborhood that could cause a shortage in rice husk?	PDD page 5		<p>As per the Chattisgarh Renewable Energy Development Agency (CREDA) declaration, this is the second rice husk based power generation project in this state, other one is located about 115 kms away at Raipur. This statement is also substantiated by a published literature in the website of Ministry of Non-Conventional Energy Sources (MNES) at http://mnes.nic.in/annualreport/2001-2002/English/ch5</p> <p>It has been stated in the website that Vandana Vidhyut Limited is the first grid connected biomass based power project..</p>	OK	
6. Is the site suitable for storage of rice husk? What are the volumes? How does the project know exactly how much rice husk is loaded into the boiler (see description on page 41 of the PDD which contains uncertainty)	PDD page 5 and page 41		<p>There is a capacity for storing more than 5000 tonnes of rice husk at a time under a proper shed. Additionally they have a provision for storing around 4000 tonnes of rice husk in the open area during non-monsoon seasons.</p> <p>The daily requirement is about 220 tonnes of rice husk and VVL generally receives about 200-500 tonnes of rice husk every day, and the same is stored in the stock yard.</p> <p>The quantity of the rice husk and coal fed into the FBC boiler is measured by a combination of monitored data in the belt weighing monitoring system and scaling of</p>	OK	

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			the bunker. The same is monitored continuously on a 8 hourly shift basis by the Shift in-charge (Operations). (Please refer to the “GHG Performance Monitoring, Measurement and Reporting of data” for detail description on the monitoring protocol followed by VVL at site)		
7. Please check the Power Purchase Agreement with CSEB	PDD page 5		The Power Purchase Agreement (PPA) has been signed by the project proponent with the State Electricity Board, the copies of the same have been obtained.	OK	
8. Reference of the data sources to be checked (Please have a look at page 13 of the PDD: where do these figures come from? It says VVL analysis reports: does that mean they undertake the analysis on-site in their own laboratory? Check how often this analysis is undertaken)	1.11 & CAR2 PDD page 13		The analysis of the raw materials – rice husk and coal is carried out on a daily basis in the in-house laboratory of VVL ,located inside the plant. The laboratory has complete facility to measure the proximate analysis parameters. Samples of raw materials are procured at random from the belt conveying the raw materials from the stock yard to the bunker before they are mixed in the drag chain. These samples are then tested in the in-house laboratory.	OK	
Emission factor calculation for the coal used to be checked	2.4 & NIR 4		F-grade coal is purchased from the South Eastern Coalfields Limited (SECL), the same has been verified at site. As per the PDD, the total carbon % in coal is considered to be 40% based on which the project emission calculation is carried		

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			out. This is taken from theoretical calculation. VVL has sent the sample to a government laboratory for analysis and the results will be forwarded to SGS shortly.		
Calculation of the operating margin to be checked (check whether the tables contain ALL the power plants involved)	2.2 & NIR 5 PDD page 33		The same was cross checked and found to be ok on the basis of the documents and the web address that have been provided. The copies have been submitted to SGS.	OK	
Calculation of the built margin to be checked (check whether the tables contain ALL the power plants involved)	2.3 & CAR 7 PDD page 33		The same was cross checked and found to be ok on the basis of the documents and the web addresses that have been provided. The copies have been submitted to SGS.	OK	
Monitoring plan to be checked. Are the plant's employees aware of the monitoring protocol? Do they know how to monitor and who is responsible? What kind of system do they use? How do they check their own procedures? Do they undertake internal audits? What kind of system is being used to collect the data? Who is responsible and who has access to these data? What happens if data are missing?	5.2 & CAR 11 PDD page 41		There is a formal procedure for monitoring of all the parameters related to the project activity . The procedure clearly identifies the roles and the responsibilities of various personnel. Please refer to the "GHG Performance Monitoring, Measurement and Reporting of data" (attached herewith) for detail description on the monitoring protocol followed by VVL at site. There is a formal procedure for internal audit and latest records have been verified at site. Please refer to the "GHG Internal Audit" (attached herewith) for further details on the audit procedure followed by VVL.	OK OK	

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Environmental Impact Assessment undertaken as required by regional/national legislation? Please review the document.	PDD page 61		The EIA study has been undertaken and the same has been approved by the regulatory authorities after which VVL has been given the consent to build and the consent to operate the rice husk based power project.	OK	
Local Stakeholder consultation process (has it been undertaken in accordance with the regional/national legislation? Check with some stakeholders whether their comments were taken into account, meaning did the project listen to them? Are there still complaints outstanding?)	7.1 & CAR 13		The stakeholder consultation has been carried out as a part of the EIA study and after the clearance of the same by the regulatory authorities, the approval for the project has been granted by the state pollution control board. Comments have also been gathered from various stakeholders like CREDA, Rotary Club of Bilaspur Central, Gram Panchayat, Chattisgarh Lagha and Sahayak Udyog Sangh, Ramnarayan Babulal (Rice Millers & Grain Merchants) and Shree Mohan Rice Industries; copies of which have been verified at site and submitted to the validator.	OK	
Project start date and the relevant document which provides the proof that the incentive from CDM was seriously considered and was instrumental in overcoming the barriers. <i>I would like to receive copies of the documented evidence.</i>	8.3.1 & CAR 14		VVL has provided us with a signed copy of the extract of the "Minutes of the Board Meeting" held in Oct 2000 in which the decision was taken to invest in the project activity. CDM was one of the prime considerations in that meeting. The copy of the extract has been enclosed.	OK	
Please check the PPA dating from 2000. What were the reasons for starting a PPA and a project back in 2000? If this	PDD page		To obtain Govt clearances project proponent have to follow procedural		

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<p>was NOT CDM, then the project is only eligible for the expansion part of 1.7 MW expansion it built in 2001.</p> <p><i>Please check the dates on the documents carefully and make copies of all relevant documents.</i></p>	6		activities which have long and uncertain time frame. PPA was signed on 2 nd Sept 2000 and VVL's decision of proceeding with project activity was taken after receiving all Govt clearances. During project progress VVL further proposed a revision in the PPA which was sanctioned and the 1 st supplementary PPA was signed in 24 April 2003.		
<p>Check the analysis reports for the rice husk: which laboratory has undertaken the analysis? Are they accredited to undertake that work? How long ago was the analysis carried out? Is it a continuous process?</p>	PDD page 12		The analysis of the rice husk is carried out on a daily basis in the in-house laboratory of VVL. The analysis is performed before the rice husk and the coal is blended in the drag chain and fed into the boiler.		
<p>How often does co-firing occur? How are the quantities of rice husk and coal fed into the boiler measured?</p> <p>Please describe the process of the rice husk arriving at the site of the plant until it is burnt in the boiler and the electricity is generated.</p>	PDD page 13		The co-firing of coal occurs on a daily/routine basis. The quantity of the rice husk and coal fed into the FBC boiler is measured by a combination of monitored data in the belt weighing monitoring system and scaling of the bunker. Please refer to the "GHG Performance Monitoring, Measurement and Reporting of data" for detail description on the monitoring protocol followed by VVL at site		
<p>Check that the co-firing does not exceed 25%. How does the project ensure this 25%?</p>	PDD page 13		The Ministry of Non Conventional Energy Sources (Power Group) has given the provision for using fossil fuel up to 25% along with the primary fuel rice husk. The project activity has utilised 16.5% (w/w) of coal on an aggregate basis in FY 2002-2003 with an objective to reduce the coal		

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			percentage further in the following years. The same has been verified with actual coal consumption data at site and found to be justified.		
Could you obtain more figures to support the investment barrier?	PDD page 22		<p>A copy of the quotation given by M/s Fulaira Trading, dated 09/05/2001, was submitted to the validator where the price of rice husk was quoted as Rs. 345 per ton. VVL has entered into an agreement with M/s Fulaira Trading. The latest invoice from the same supplier, dated 16/08/2005, reflects the cost of rice husk to be Rs. 600 per ton.</p> <p>The copies of the quotation, agreement and invoice have been submitted to the validator.</p>		

Ref no.	Title (full bibliographic reference if possible)	Brief note on content / significance	Hard copy (Y/n)
1	CEA General Review (for the years 2002-2003 & 2003-2004)	Used for the generation figures for all the power plants supplying to CSEB grid in 2002-2003 & 2003-2004	Y
2	WREB Annual Report (2004-2005)	Used for the generation figures for all the power plants supplying to CSEB grid in 2004-2005	Y
3.	www.jindalsteelpower.com , www.indiainfoline.com	For calculating the net export of power from Jindal Steel to CSEB grid.	Y
4	CEA Performance Review of the Thermal Power Station, (for the years 2002-2003 and 2003-2004)	To calculate the efficiency of the thermal power generation with coal in Western Region.	Y
5	IPCC Good Practise Guidance and Uncertainty Management in National Greenhouse Gas Inventories	For the emission factor and oxidation factor of coal and gas.	N
6	www.mnes.nic.in	For the baseline emission factor of the importing grids	N
7	http://envfor.nic.in:80/divisions/ccd/cdm_iac.html	Guidelines given by government of India regarding sustainable development.	N
8	GHG Performance Monitoring, Measurement and Reporting of data	Entire monitoring procedure followed by VVL in the plant	Y
9	GHG Internal Audit	Internal Audit procedure followed for the project activity	

Date met	Name	Position	Contact details	Brief note on subject of interview
19 th September,2005	Mr.Gopal Krishna Agarwal	Director	Vandana Bhavan, MG Road, Raipur, 492 001, India Phone- +91-33 2535440,2535405 Vil-nib@sancharnet.in	Start date, decision to invest in the project
19 th -20 th September,2005	Mr.K C Kukraiti	Advisor	Vandana Bhavan, MG Road, Raipur, 492 001, India Phone- +91-33 2535440,2535405 Vil-nib@sancharnet.in	Availability of the Rice husk etc.
19 th -20 th September,2005	Mr.Satish Kumar	Manager(Finance and Administration)	Vandana Bhavan, MG Road, Raipur, 492 001, India Phone- +91-33 2535440,2535405 Vil-nib@sancharnet.in Pandeysatish73@rediffmail.com	Start date, additionality, board meeting details
19 th -20 th September,2005	Mr.Indra Guha	Sr.Consultant	Ernst and Young, 22,Camac Street, Block"C", 3 rd floor Kolkatta-700 0016,India Tel- 91-33-2281-1224 Indra.Guha@in.ey.com	Project description, Additionality, monitoring practises, calculations, data authenticity for calculating the BM/OM.

19 th -20 th September,2005	Mr.Saunak Saha	Associate Consultant	Ernst and Young, 22,Camac Street, Block"C", 3 rd floor Kolkatta-700 0016,India Tel- 91-33-2281-1224	Project description, Additionality, monitoring practises, calculations, data authenticity for calculating the BM/OM.
20 th September,2005	Mr.B.N.P Sinha	General Manager- Works	Vandana Vidyut Ltd SIRGITTI, Industrial Area, Sector-Bilaspur-495 004(C.G) PH:+91-7752-245117/245118 Cell+91-9300321801	Production process, storage, monitoring and measurements
20 th September,2005	Mr.Saurabh Bajpai	Manager- Commercial	Vandana Vidyut Ltd SIRGITTI, Industrial Area, Sector-Bilaspur-495 004(C.G) PH:+91-7752-245117/245118	Data recording, archiving
20 th September,2005	Mr.B K Garnaik	Manager- Electrical and Instrumentation	Vandana Vidyut Ltd SIRGITTI, Industrial Area, Sector-Bilaspur-495 004(C.G) PH:+91-7752-245117/245118	Monitoring and measurement
20 th September,2005	Mr. R S Kaushik	Lab Incharge	Vandana Vidyut Ltd SIRGITTI, Industrial Area, Sector-Bilaspur-495 004(C.G) PH:+91-7752-245117/245118	Analysis of the raw materials (proximate analysis).