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# Validation Report

MATRIX POWER PVT. LTD.

VALIDATION OF THE REVISED MONITORING PLAN OF  
THE REGISTERED CDM-PROJECT NO. **0281**

4.5 MW BIOMASS (AGRICULTURAL RESIDUE) BASED POWER GENERATION UNIT  
OF M/S MATRIX POWER PVT. LTD. (MPPL)

REPORT NO. 1161574

**18 April 2008**

TÜV SÜD Industrie Service GmbH  
Carbon Management Service  
Westendstr. 199 - 80686 Munich – GERMANY



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<b>Subject:</b> Validation of Revised Monitoring Plan	
<b>Accredited TÜV SÜD Unit:</b> TÜV SÜD Industrie Service GmbH Certification Body "climate and energy" Westendstr. 199 - 80686 Munich Federal Republic of Germany	<b>TÜV SÜD Contract Partner:</b> TÜV SÜD South Asia C-153/1, Okhla Industrial Estate Phase- 1 New Delhi – 110020 India
<b>Client:</b> Matrix Power Pvt Ltd Street No. 8-2-269/3/1 Building 257, Road 2 Banjara Hills, Hyderabad Andhra Pradesh-500033 India	<b>Project Site(s):</b> Karempudi (PO) Guntur District – 522 614
<b>Project Title:</b> 4.5 MW Biomass (Agricultural Residue) Based Power Generation Unit of M/s Matrix Power Pvt. Ltd. (MPPL)	
<b>Applied Methodology / Version:</b> AMS I D version 7	<b>Scope(s):</b> 1
<b>Registered PDD Version:</b> Registration Date: 2006-07-21 Starting Date of Crediting Period: 2001-08-15	<b>Revised Monitoring Plan:</b> Date of issuance: 2008-03-27
<b>Assessment Team Leader:</b> Abhishek Goyal	<b>Further Assessment Team Members:</b> Bratin Roy, Sandeep Kanda
<b>Summary of the Validation Opinion:</b> <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> The review of the revised monitoring plan and the subsequent follow-up interviews has provided TÜV SÜD with sufficient evidence to determine the fulfilment of all stated criteria. In our opinion, the revised monitoring plan meets all relevant UNFCCC requirements for the CDM. Hence TÜV SÜD will recommend the replacement of the monitoring plan of the registered PDD by the submitted revision.</li> <li><input type="checkbox"/> The review of the project design documentation and the subsequent follow-up interviews have not provided TÜV SÜD with sufficient evidence to determine the fulfilment of all stated criteria. Hence TÜV SÜD will not recommend the replacement of the monitoring plan of registered PDD.</li> </ul>	



Table of Contents	Page
1 INTRODUCTION.....	3
1.1 Objective	3
1.2 Scope	3
2 METHODOLOGY .....	4
2.1 Appointment of the Assessment Team	4
2.2 Review of Documents	5
2.3 Follow-up Interviews	5
2.4 Internal Quality Control	5
3 FINDINGS.....	6
4 VALIDATION OPINION.....	7

## 1 INTRODUCTION

### 1.1 Objective

The validation objective is an independent assessment by a Third Party (Designated Operational Entity = DOE) of a proposed revision of a monitoring plan against all defined criteria set for the registration under the Clean Development Mechanism (CDM). Validation is required in the context of proposed revisions of a registered CDM activity and will finally result in a conclusion by the executing DOE whether a revised monitoring plan is valid and should be submitted for replacing the previous version. The ultimate decision on the registration of a proposed revision rests at the CDM Executive Board.

The project activity discussed by this validation report is registered as CDM activity No. 0281 with the project title:

4.5 MW Biomass (Agricultural Residue) Based Power Generation Unit of M/s Matrix Power Pvt. Ltd. (MPPL)

### 1.2 Scope

The scope of any assessment is defined by the underlying legislation, regulation and guidance given by relevant entities or authorities. The core requirements on revised monitoring plans are given by annex 12 of the report of EB-31 as referred below:

*15. The request for revising monitoring plan is made in cases where:*

- a. the monitoring plan in the registered CDM project activity document is found not to be consistent with the approved monitoring methodology applied to the registered project activity; or*
- b. the proposed revision of the monitoring plan ensures that the level of accuracy or completeness in the monitoring and verification process is not reduced as a result of the revision;*

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 revised monitoring plan.

## 2 METHODOLOGY

The project assessment aims at being a risk based approach and is based on the methodology developed in the Validation and Verification Manual, an initiative of Designated and Applicant Entities, which aims to harmonize the approach and quality of all such assessments.

### 2.1 Appointment of the Assessment Team

According to the technical scopes and experiences in the sectoral or national business environment TÜV SÜD has composed a project team in accordance with the appointment rules of the TÜV SÜD certification body "climate and energy". The composition of an assessment team has to be approved by the Certification Body ensuring that the required skills are covered by the team. The Certification Body TÜV SÜD operates four qualification levels for team members that are assigned by formal appointment rules:

- Ø Assessment Team Leader (ATL)
- Ø Greenhouse Gas Auditor (GHG-A)
- Ø Greenhouse Gas Auditor Trainee (T)
- Ø Experts (E)

It is required that the sectoral scope linked to the methodology has to be covered by the assessment team.

The validation team was consisting of the following experts (the responsible Assessment Team Leader is written in bold letters):

Name	Qualification	Coverage of technical scope	Coverage of sectoral expertise	Host country experience
<b>Abhishek Goyal</b>	ATL	p	p	p
Bratin Roy	GHG-A	p	p	p
Sandeep Kanda	T		p	p

**Abhishek Goyal** is an Assessment Team Leader for CDM/JI projects and environment/energy expert at TÜV SÜD Industrie Service GmbH. Before joining the TÜV SÜD Industrie Service GmbH he has worked on development of PDDs and methodologies for several energy efficiency, renewable energy, and waste to energy projects. He has extensive experience in CDM.

**Bratin Roy** is a lead auditor for quality, environment and occupational health and safety management system (according to ISO 9001, ISO 14001 and OHSAS 18001) and an auditor for CDM/JI projects at TÜV SÜD South Asia. He holds a master degree in environmental science. He is based in Pune, India. He has received extensive training in the CDM validation and verification processes and has already participated in several CDM project assessments.

**Sandeep Kanda** is trainee for CDM/JI projects and environment/energy expert at TÜV SÜD Industrie Service GmbH. Before joining the TÜV SÜD Industrie Service GmbH he has worked on development of PDDs and methodologies for several energy efficiency, renewable energy, and waste to energy projects. He has extensive experience in CDM.

## 2.2 Review of Documents

The revised Monitoring Plan (Revised section D of the registered PDD) submitted by the client and additional background documents related to further monitoring aspects were reviewed as initial step of the validation process.

## 2.3 Follow-up Interviews

Telephone conferences have been held with the responsible person (Mr. Abhiram Kasu) of Matrix Power Pvt. Ltd. and (Mr. Bratin Roy) of TUV SUD South Asia in India discussing the revision of the monitoring plan in the PDD.

## 2.4 Internal Quality Control

As final step of a validation the validation report has to undergo an internal quality control procedure by the Certification Body "climate and energy", i.e. each report has to be approved either by the head of the certification body or his deputy. In case one of these two persons is part of the assessment team approval can only be given by the other one.

It rests at the decision of TÜV SÜD's Certification Body whether a revised monitoring plan will be submitted for approval to the EB or not.

### 3 FINDINGS

TÜV SÜD was informed by project participants that changes have occurred at the project site whereby monitoring of auxiliary power consumption by the project activity is not possible as defined in the monitoring plan in the registered PDD.

In the project activity, gross power generated by the power plant is monitored from the main energy meter installed at the Control room of the power plant for every hour of the day and noted in the log book. Power exported to the grid and imported from the grid is monitored from energy meter installed at sub-station on 23<sup>rd</sup> day of every month. A joint meter reading for the energy exported to the Grid will be recorded by representatives of State Electricity Board and MPPL and the readings are jointly signed by both the parties as a proof of export of Power to the grid from power plant and import of Power from grid by the Power Plant. Standby meter and check meter are also present for emergency at the substation and plant control room respectively. Emission reductions are calculated based on the power exported to the grid, power imported from the grid and coal consumed by the plant which is as per the registered PDD and methodology.

However, as per the registered PDD section D.3., the monitoring methodology for the auxiliary consumption for the plant operations is reported as 'Measured'. In actual case, the auxiliary consumption was reported on the basis of 'Calculation' as mentioned in the last published monitoring report for the period - 24<sup>th</sup> July 2006 to 23<sup>rd</sup> July 2007 for which CERs were issued on 5<sup>th</sup> November 2007. The auxiliary consumption has been calculated as the difference between total electricity generated and total electricity exported to the grid, both of which are continuously measured. Based on the request by the CDM secretariat (Email dated 13<sup>th</sup> November 2007), the PP is proposing a revision in the monitoring plan in Section D .3. of the registered PDD to change the method of capturing the auxiliary consumption from 'Measured' to 'Calculated'.

The parameter 'Power Imported' is also mentioned in the monitoring report referred earlier and is being measured by the same meter which measures the power exported. This parameter was not mentioned explicitly in the monitoring plan of the registered PDD. So the same has also been included in the revised monitoring plan.

As per the approved methodology ID Version 7, " monitoring shall consist of metering the electricity generated by the renewable technology". The electricity generated, exported and imported has been monitored in this project. Auxillary consumption is being calculated by subtracting the measured data of the gross generation meter and export meter. Hence, possibilty of miscalculation or deviation from the approved methodolgy is negligible.

With this regard, TÜV SÜD considers the revised monitoring plan as acceptable and reasonable for the last crediting period (24<sup>th</sup> July 2007 to 14<sup>th</sup> August 2008) of the initial 7 years registration (15<sup>th</sup> August 2001- 14<sup>th</sup> August 2008) period. It is confirmed that the level of accuracy or completeness in the monitoring and verification process is not reduced as a result of the revision.



#### 4 VALIDATION OPINION

TÜV SÜD has performed a validation of the revised Monitoring Plan of CDM Project 0281: 4.5 MW Biomass (Agricultural Residue) Based Power Generation Unit of M/s Matrix Power Pvt. Ltd. (MPPL)

The reviews of the revised monitoring plan and the subsequent follow-up interviews have provided TÜV SÜD with sufficient evidence to determine the fulfilment of all stated criteria. In our opinion, the revised monitoring plan meets all relevant UNFCCC requirements for the CDM. Hence TÜV SÜD recommends the replacement of the monitoring plan of the registered PDD by the submitted revision.

Munich, 2008-04-18

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Certification Body "climate and energy"  
TÜV SÜD Industrie Service GmbH

Munich, 2008-04-18

A handwritten signature in blue ink, appearing to read "Assessment Team Leader", written over a light blue circular stamp.

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Assessment Team Leader