PoA Validation Report
The World Bank group

Validation of the
Punjab State Electricity Board: High Voltage Distribution System for Agricultural Consumers in the Rural Areas of the Punjab

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Summary:

Bureau Veritas Certification has conducted the validation of the "Punjab State Electricity Board : High Voltage Distribution System for Agricultural Consumers in the Rural Areas of the Punjab" project implemented in distribution network supplying electricity to agriculture pump sets in various villages across the state of Punjab, 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 validation scope is defined as an independent and objective review of the Program design document, the baseline study, monitoring plan and other relevant documents, and consisted of the following three phases: i) desk review of the program design and the baseline and monitoring plan; ii) follow-up interviews with relevant stakeholders; iii) resolution of outstanding issues and the issuance of the final validation report and opinion. The overall validation, from Contract Review to Validation Report & Opinion, was conducted using Bureau Veritas Certification internal procedures.

The first output of the validation process is a list of Clarification and Corrective Actions Requests (CL and CAR), presented in Appendix A. Taking into account this output, the project proponent revised its program design documents.

In summary, it is Bureau Veritas Certification's opinion that the program correctly applies the baseline and monitoring methodology AMS IIA, version 10, justifies the additionality criteria sufficiently, establishes appropriate and sufficient eligibility criteria for CPA inclusion, provides sufficient information on local stakeholder consultation process, calculates emission reductions on transparent and conservative basis and meets all the relevant UNFCCC requirements for the CDM and the relevant host country criteria.

Report No.: INDIA-val/281.49/2011	Subject Group: CDM
Project title: Punjab State Electricity Board: High Voltage Distribution System for Agricultural Consumers in the Rural Areas of the Punjab	
Work carried out by: R S Premkumar – Team Leader Hitesh Karandikar - Team Member M T Shah – Technical Specialist Karthikeyan and Jayaram Associates – Financial Expert	
Internal Technical Review carried out by: H B Muralidhar – Internal Technical Reviewer	

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Indexing terms

Work Approved by

Mr Flavio Gomes

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Abbreviations

AP Consumer	Agricultural Pump Consumer
CAR	Corrective Action Request
CDM	Clean Development Mechanism
CEA	Central Electricity Authority
CER	Certified Emission Reductions
CL	Clarification Request
CO_2	Carbon Dioxide
CPA DD	CDM Project Activity Design Document
DOE	Designated Operational Entity
GHG	Green House Gas(es)
HVDS	High Voltage Distribution System
I	Interview
IETA	International Emissions Trading Association
INR	Indian Rupees
LVDS	Low Voltage Distribution System
MoV	Means of Verification
NGO	Non Government Organization
PCN	Project Concept Note
PPA	Power Purchase Agreement
PCF	Prototype Carbon Fund
POA DD	Program of Activities Design Document
PO	Purchase Order
PSEB	Punjab State Electricity Board
PSPCL	Punjab State Power Corporation Ltd.
REC	Rural Electricity Corporation
UNFCCC	United Nations Framework Convention for Climate Change
VVM	Validation and Verification Manual

Table of Contents *Page*

1 INTRODUCTION 5
1.1 Objective 5
1.2 Scope 5
1.3 Validation team 6

2 METHODOLOGY 6
2.1 Review of Documents 7
2.2 Follow-up Interviews 9
2.3 Resolution of Clarification and Corrective Action Requests 11
2.4 Internal Technical Review 11

3 VALIDATION CONCLUSIONS 12
3.1 Approval (49-50) 12
3.2 Participation (54) 13
3.3 Project design document (57) 13
3.4 Changes in the webhosted PDD vis-à-vis the final PDD 14
3.5 Project description (64) 15
3.6 Baseline and monitoring methodology 17
3.6.1 General requirement (76-77) 17
3.6.2 Project boundary (80) 18
3.6.3 Baseline identification (87-88) 19
3.6.4 Algorithms and/or formulae used to determine emission reductions (92-93) 21
3.7 Additionality of a project activity (97) 34
3.7.1 Prior consideration of the clean development mechanism (104) 34
3.7.1.1 Historical information on project timeline 37
3.7.2 Prevailing practice barrier (118) 37
3.7.3 Financing Barrier (118) 38
Barrier analysis (118) 38
3.7.4 Common practice analysis (121) 40
3.8 Monitoring plan (124) 40
3.9 Sustainable development (127) 42
3.10 Local stakeholder consultation (130) 43
3.11 Environmental impacts (133) 44
3.12 CPA Eligibility criteria 44

4 COMMENTS BY PARTIES, STAKEHOLDERS AND NGOS..... 44

5 VALIDATION OPINION 44

6 REFERENCES 46

7. CURRICULA VITAE OF THE DOE'S VALIDATION TEAM MEMBERS 49

APPENDIX A: COMPANY CDM PROJECT VALIDATION PROTOCOL.... 51

1 INTRODUCTION

The World Bank Group has commissioned Bureau Veritas Certification to validate its POA project "Punjab State Electricity Board: High Voltage Distribution System for Agricultural Consumers in the Rural Areas of the Punjab" (hereafter called "the project") implemented on distribution network supplying electricity to agricultural pump sets at various villages across the State of Punjab, India.

This report summarizes the findings of the validation of the project, performed on the basis of UNFCCC criteria, as well as criteria given to provide for consistent project operations, monitoring and reporting.

1.1 Objective

The validation serves as project design verification and is a requirement of all projects. The validation is an independent third party assessment of 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 meet the stated requirements and identified criteria. Validation is a requirement for all CDM projects and is seen as necessary to provide assurance to stakeholders of the quality of the project and its intended generation of certified emission reductions (CERs).

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.

1.2 Scope

The validation scope is defined as an independent and objective review of the POA DD, a generic CPA DD and a specific CPA DD, 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.

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 Validation team

The validation team consists of the following personnel:

FUNCTION	NAME	CODE HOLDER*	TASK PERFORMED
Lead Verifier	R S Premkumar	☐Yes ☒ No	☒DR ☒SV ☐RI
Verifier	Hitesh Karandikar	☒Yes ☐ No	☒DR ☒SV ☐RI
Technical Specialist	Mr M T Shah	☒Yes ☐ No	☒DR ☒SV ☐RI
Financial Specialist	Karthikeyan and Jayaram Associates	☐Yes ☒ No	☒DR ☐SV ☐RI
Internal Technical Reviewer (ITR)	H B Muralidhar	☒Yes ☐ No	☒DR ☐SV ☐RI
Specialist Supporting ITR	Not Applicable	☐Yes ☐ No	☐DR ☐SV ☐RI
Report Approval	Flavio Gomes	☐Yes ☒ No	☒DR ☐SV ☒RI

* DR – Document Review, SV – Site Visit, RI – Report Issuance

2 METHODOLOGY

The overall validation, from Contract Review to Validation Report & Opinion, was conducted using Bureau Veritas Certification internal procedures.

In order to ensure transparency, a validation protocol was customized for the project, according to the version 01.2 of the Clean Development Mechanism Validation and Verification Manual, issued by the Executive Board at its 55th meeting on 30/07/2010. The protocol shows, in a transparent manner, criteria (requirements), means of validation and the results from validating the identified criteria. The validation protocol serves the following purposes:

- It organizes, details and clarifies the requirements a POA project activity is expected to meet;
- It ensures a transparent validation process where the validator will document how a particular requirement has been validated and the result of the validation.

The completed validation protocol is enclosed in Appendix A to this report.

The validation of the POA consisted of the following steps viz;

- Contract Review
- Validation team appointment
- Publication of the following DD's for global stakeholder comments;

- The CDM-SSC-POA-DD (POA-DD)
- The generic CDM-SSC-CPA-DD (gCPA-DD)
- The specific CDM-SSC-POA-DD (sCPA-DD)

A desk review of all above mentioned DD's and additional supporting documents included;
• Validation planning,
• A desk review of the DDs (PoA-DD/, gCPA-DD/, sCPA-DD) submitted by the Project Participant and additional supporting documents with the use of customized validation protocol according to the Validation and Verification Manual;
• Site visits;
• Background investigation and follow-up interviews with personnel of the project developer and its contractors;
• Draft validation report (DVR);
• Resolution of corrective actions (if any);
• Final validation reporting;
• Internal Technical review;
• Final approval of the validation;

2.1 Review of Documents

The published CDM-SSC-POA-DD (Ref /1/), gCPA-DD (Ref /2/) and sCPA-DD (Ref /3/) submitted by the Project Participant and additional background documents related to the project design and baseline, i.e. country Law, Guidelines for Completing the POA Design Document (POA-DD), Approved methodology, Kyoto Protocol, Clarifications on Validation Requirements to be Checked by a Designated Operational Entity were reviewed.

Bureau Veritas Certification validates the following information provided by the client in the PoA-DD:

- the correct application of the baseline and monitoring methodology (ies) and tools,
- coordinating/managing entity, host party/ies and PoA Participants
- geographical boundaries of the PoA including all national and/or sectoral policies and regulations;
- policy, measure or stated goal of the PoA;
- confirmation about voluntary action by the coordinating/managing entity;
- the programme's baseline study;
- demonstration of additionality of the PoA;
- description of a typical CPA (including technology or measures, baseline and monitoring methodology justification and application, demonstration of additionality, and accounting for leakage);

- eligibility criteria designed for the inclusion of CPAs in the PoA, including criteria to be used for demonstration of additionality of a CPA;
- starting date and length of the PoA;
- operational and management arrangements established by the coordinating/ managing entity for the implementation of the PoA, including
  - a record keeping system for each CPA under the PoA,
  - a system/procedure to avoid double accounting e.g. to avoid the case of including a new CPA that has been already registered either as CDM project activity or as a CPA of another PoA,
  - the provisions to ensure that those operating the CPA are aware and have agreed that their activity is being subscribed to the PoA;
- monitoring plan for a CPA with record-keeping system;
- indicators/data to be monitored and reported;
- statistically sound sampling method to be used for verification;
- environmental impacts and analysis;
- Stakeholder Consultation Procedure as required under the CDM Rules;
- public funding;
- Letter(s) of Approval as required under the CDM Rules.

Bureau Veritas Certification validates the following information provided by the client in the gCPA-DD:

- unique identification of the CPA by location or if applicable by registration code;
- contact details of persons responsible for each CPA;
- host party;
- starting date and duration of the crediting period;
- eligibility criteria;
- demonstration of additionality;
- baseline greenhouse gas emissions;
- estimated emission reductions;
- environmental impacts and analysis;
- stakeholder consultation procedure;
- confirmation regarding no prior CDM registration or inclusion in another PoA;
- consistency between POA-DD and the gCPA-DD.

Bureau Veritas Certification validates the Real-Case CPA-DD (sCPA-DD) with regard to

- consistency with the PoA-DD;
- consistency with the generic CPA-DD;
- additionality;

- eligibility criteria fulfillment;
- emission reduction calculation;
- monitoring plan;
- environmental impacts;
- local stakeholder commenting process.

Based on the review of PoA documents and to address Bureau Veritas Certification's corrective action and clarification requests, the Project Participant revised the DD's and resubmitted it in September 2011.

The validation findings presented in this report relate to the project as described in the POA-DD, version 1.4.

2.2 Follow-up Interviews

On 22/02/2010 to 24/02/2010, and on 31/03/2011 and 01/04/2011, the validation team of Bureau Veritas Certification conducted site visits and performed interviews with project stakeholders to confirm selected information and to discuss issues identified in the document review. Representatives of the Project Participant, The World Bank Group, Emergent Ventures India (Project Consultants) and Local stakeholders were interviewed (see References). The main topics of the interviews are summarized in Table 1.

Table 1 Interview topics

Interviewed organization	Interview topics
Punjab State Electricity Board (now Punjab State Power Corporation Limited)	Chronological description of the programme activity along-with key steps of the implementation. Current status of programme design Technical details of the programme realization, programme feasibility, designing, operational life time, monitoring of the programme Host Country Approval Monitoring and measurement equipment and System (including monitoring of CPAs) Financial aspects (Additionality) Programme activity starting date Start date of CPA

	CER allocation / ownership Baseline study assumptions Sustainable development issues, Analysis of local stake holder consultation Roles & responsibilities of the project participants w.r.t. programme management, monitoring and reporting National Legislation Editorial issues of the PoA-DD, gCPA-DD & sCPA-DD
Local Stakeholders	Views and concerns about the Project Activity Confirmation of the local stakeholder meeting conducted by Punjab State Electricity Board (Punjab State Power Corporation Limited)
The World Bank Group	Methodology application Baseline determination & emission factor Additionality Monitoring Plan GHG Calculations Supporting data, evidences and documentation Resolution of CAR's and CL's
Emergent Ventures India (Project Consultants)	Methodology application Baseline determination & emission factor Additionality Monitoring Plan GHG Calculations Supporting data, evidences and documentation Resolution of CAR's and CL's

2.3 Resolution of Clarification and Corrective Action Requests

The objective of this phase of the validation is to raise the requests for corrective actions and clarification and any other outstanding issues that needed to be clarified for Bureau Veritas Certification positive conclusion on the program design.

Corrective Action Requests (CAR) are issued, where:

(a) The project participants have made mistakes that will influence the ability of the project activity to achieve real, measurable additional emission reductions;
(b) The CDM requirements have not been met;
(c) There is a risk that emission reductions cannot be monitored or calculated.

The validation team may also use the term Clarification Request (CL), if information is insufficient or not clear enough to determine whether the applicable CDM requirements have been met.

To guarantee the transparency of the validation process, the concerns raised are documented in more detail in the validation protocol in Appendix A.

2.4 Internal Technical Review

The validation report underwent an Internal Technical Review (ITR) before requesting registration of the project activity.

The ITR is an independent process performed to examine thoroughly that the process of validation has been carried out in conformance with the requirements of the validation scheme as well as internal Bureau Veritas Certification procedures.

The Lead Verifier provides a copy of the validation report to the reviewer, including any necessary validation documentation. The reviewer reviews the submitted documentation for conformance with the validation scheme. This will be a comprehensive review of all documentation generated during the validation process.

When performing an Internal Technical Review, the reviewer ensures that:

The validation activity has been performed by the team by exercising utmost diligence and complete adherence to the CDM rules and requirements.

The review encompasses all aspects related to the project which includes program design, baseline, additionality, monitoring plans and emission reduction calculations, internal quality assurance systems of the project participant as well as the project activity, review of the stakeholder comments and responses, closure of CARs, CLs and FARs during the validation exercise, review of sample documents.

The reviewer compiles clarification questions for the Lead Verifier and Validation Team and discusses these matters with Lead Verifier.

After the agreement of the responses on the 'Clarification Request' from the Lead Verifier as well as the PP(s) the finalized validation report is accepted for further processing such as uploading on the UNFCCC webpage..

3 VALIDATION CONCLUSIONS

In the following sections, the conclusions of the validation are stated.

The findings from the desk review of the original project design documents and the findings from interviews during the follow up visit are described in the Validation Protocol in Appendix A.

The Clarification and Corrective Action Requests are stated, where applicable, in the following sections and are further documented in the Validation Protocol in Appendix A. The validation of the program resulted in 26 Corrective Action Requests and 34 Clarification Requests covering both PoA-DD and CPA-DD.

The numbers between brackets at the end of each section correspond to the VVM paragraph.

3.1 Approval (49-50)

Punjab State Power Corporation Limited is the coordinating and managing entity of the POA. Government of India and Government of Denmark are the parties involved in the project activity at this stage, India being the host party. Project participants, M/s Punjab State Power Corporation Limited and International Bank for Reconstruction and Development (IBRD) as Trustee of the Danish Carbon Fund (DCF) and the Government of Denmark, the Danish Ministry of Climate and Energy/The Danish Energy Agency have obtained approval from the respective DNAs and have provided a copy of the approval letters (Ref /7/ & /8/) to the validation team. The letter of approval clearly states that the host country has ratified the Kyoto Protocol and the approval is for voluntary participation in CDM project activity. The DNA approval mentions the project title as mentioned in POA-DD. Also, the letter of approval mentions that project contributes to sustainable development. The letter is

unconditional with respect to party to the Kyoto Protocol, voluntary participation, contribution to sustainable development and title of project activity. The HCA approvals refer to same project activity title as stated in the PoA DD and confirms the coordinating and managing entity of the program as Punjab State Electricity Board (presently Punjab State Power Corporation Ltd). The validation team confirms that this letter is in accordance with paragraphs 45 – 48 of VVM version 1.2.

Bureau Veritas Certification received this letter from the project participant and does not doubt its authenticity since the validation team verified the original copy of the HCA approval.

The title and contents of the letter of approval refer to the precise proposed CDM project activity title in the PDD being submitted for registration.

CL 1 was raised since the HCA were not provided by the project participant to the validation team. The same was provided to the validation team for both the project participants of the project activity and hence the CL was closed.

3.2 Participation (54)

The participation of the project participant's has been approved by the respective DNA's viz; India and Denmark who are parties of the Kyoto Protocol. This was checked from UNFCCC website http://maindb.unfccc.int/public/country.pl?country=IN.

The participation is approved by the respective DNAs and is accepted. The participation for project participants has been approved by a Party of the Kyoto Protocol. The validation team concluded this by reviewing the original Host Country Approval (HCA) (Ref /7/ & /8/) which describes the participation of the project participant's being approved by the respective host parties, which are parties to the Kyoto Protocol.

The project was webhosted on the UNFCCC for global stakeholder's comments as per CDM requirements. The project was webhosted from 27/12/2009 to 25/01/2010. No comments were received from global stakeholders for the project activity.

3.3 Project design document (57)

The validation team confirms that the POA-DD, CPA-DD complies with the latest forms and guidance documents for completion of the DD. The POA-DD is as per Guidelines for Completing the Simplified Project Design Document (CDM-SSC-POA-PDD) (Version 01, EB 33, Annex 43,)

3.4 Changes in the Project Activity

The final POA-DD, Ver. 1. 5 has the following changes with respect to version 01 (Ref /1/) which was webhosted.

1. The proposed POA project activity is implemented by the Punjab State Electricity Board which is presently known as Punjab State Power Corporation Ltd. (PSPCL). The validation team noted that PSPCL is a statutory body fully owned by the Government of Punjab with an autonomous status. The validation team reviewed the Memorandum of Association issued by the Government of Punjab (Ref /9/) dated 15/04/2010 which states that the PSPCL has taken over the entire operations of Punjab State Electricity Board (PSEB)with respect to electricity generation, distribution, and supply/trade of power in the State of Punjab.
2. Description of the proposed programme and the scenario existing prior to the it has been transparently described for better clarity in Section A.2.
3. Eligibility criteria defined for inclusion of the SSC-CPA in the POA has been revised in Section A.4.2.2 for better clarity.
4. The algorithms to calculate the baseline and project emissions have been revised to be in line with the applied methodology.
5. Description on the aspect of leakage emissions has been revised for better clarity.
6. Values of the benchmark DSCR has been revised for conservativeness.
7. Explanation of the CDM consideration process and the chronology of events has been detailed out in Section A.4.3
8. Monitoring plan revised to transparently describe the process of metering and monitoring at site. Archiving methods are also clearly stated.

CAR 2 was raised since the webhosted POA-DD did not describe properly the scenario existing prior to the implementation of the project activity. The same has now been described in the revised POA-DD by the Project Participant and hence the CAR was closed.

The validation team hereby confirms that the POA-DD & CPA-DD complies with the latest POA template (http://cdm.unfccc.int/Reference/PDDs_Forms/PoA/PoA_form02_v01.doc) & CPA-DD format (http://cdm.unfccc.int/Reference/PDDs_Forms/PoA/PoA_form01_v01.doc) for completion of the POA & CPA-DD.

3.5 Project description (64)

The process undertaken to validate the accuracy and completeness of the project description is as follows:

The proposed POA project activity is implemented by the Punjab State Electricity Board which is presently known as Punjab State Power Corporation Limited. The validation team noted that PSPCL is a statutory body fully owned by the Government of Punjab with an autonomous status. The validation team reviewed the Memorandum of Association issued by the Government of Punjab (Ref /9/) dated 15/04/2010 which states that the PSPCL has taken over the entire operations of Punjab State Electricity Board (PSEB). PSPCL is responsible for the electricity generation, distribution, and supply/trade of power in the State of Punjab.

The proposed PoA involves the reduction of technical line losses by upgrading the existing 3-phase 400V Low Voltage Distribution System (LVDS) feeding Agricultural Pumps (AP), with an 11kV High Voltage Distribution System (HVDS) in the identified distribution divisions in the state of Punjab. The conversion of LVDS to HVDS reduces line losses due to reduced current flow in the lines. The energy savings would thus contribute to reduction of GHG emissions corresponding to equivalent amount of energy saved as electricity generation in India is primarily dominated by fossil fuel based thermal power plants.

The major change that would take place as a result of implementation of the project activity, apart from change in the voltage applied across the lines, is that the number and rating of transformers connected with agricultural pumps. There would be no change in other components of the distribution system viz; type of conductors, sub-station location, feeder supply condition, operation methodology etc. In the baseline, the ratio of length of low voltage to high voltage lines was higher as the bigger size transformer of rating (25/63/100/200 kva) was providing electricity at 400v to more than one agricultural pump sets (i.e after 11kv/400v transformation). In the project scenario, high voltage is applied across lines near to the consumer end and the bigger size transformers are replaced with a number of small ‘consumer dedicated’ transformers (of the size 6.3/10/16/25 kva) based on the load. Since, the transformers would be shifted nearer to the load/pump set, the length of HV lines (11 kv) would increase, and length of 400v is reduced. However, the total line length of the transmission line does not change. Only the HV line is now extended up to the smaller transformer; which is near or in close proximity to agricultural pump set. Due to this increased length of HV line, current in the extended HV line gets reduced and as a consequence the I^2R loss of this section also gets reduced. The project activity thus leads to the reduction in this line loss due to conversion of LV lines to HV lines.

The power distribution system in the State of Punjab is divided into five Distribution Zones (North, Central, South, West and Borders zones). Each Distribution Zone is further segregated into several Distribution Circles. Circles are further divided into Divisions and Sub-Divisions. PSPCL is implementing the proposed PoA in all five electricity Distribution Zones of Punjab and is the coordinating and managing entity of the PoA.

The aforesaid programme proposes to convert lines supplying power to all existing AP consumers from LVDS to HVDS. These AP consumers are presently being served by 3-phase 3-wire system (segregated feeders supplying exclusively to the agriculture load). The implementation of the PoA started in October 2007. A total of 19 circles covering a total of 89 Divisions are initially considered for the conversion from HVDS to LVDS..

The initial schemes are being implemented with loan assistance from Rural Electrification Corporation (REC). REC has funded the project under the PoA as individual" schemes" – and a separate scheme code has been provided to a division or a group of divisions. The validation team reviewed the loan sanction letters issued by the REC for funding the project activity (Ref /10/ to /12/) which describes the list of schemes approved by the REC under the proposed programme activity and noted that the name, location and REC identification code for each scheme as mentioned in Appendix 1 of the revised POA-DD is available.

Eventually the proposed PoA project activity is expected to cover all the remaining of the AP consumers in the State of Punjab.

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Validation team validated the accuracy of the project description through a combination of steps consisting of review of contract and purchase orders (Ref /13/, /14/ & /15/) related to the 1st CPA of the proposed project activity, site visit and interviews with the project participant and their representatives.

The validation team reviewed the final report prepared by CRISIL and ICRA Limited and submitted to the Ministry of Power, Government of India (Ref /16/) and noted from its page 101 that the PSPCL supplies free electricity to the agricultural consumers, however, it gets compensated in lieu of the same from the Government of Punjab. However, for the proposed project activity viz.; loss reduction program, such as electricity supply on High Voltage Distribution system, PSPCL does not get any compensation from the state government.

CL 2 was raised by the validation team since the description of how the GHG emissions are effected as a result of the implementation of the project activity was not properly described in the webhosted POA DD. The

same has now been included in the POA DD and hence the clarification request is closed.

CL 3 was raised since a transparent description of the economic well being that the proposed programme brings in the region was not observed. The Project Participant has now provided a detailed explanation of the economic well being of the programme and hence the CL is closed.

Based on site visits, document review and interviews conducted, the validation team hereby confirms that the project description in the revised POA-DD (Ref /4/) is accurate and complete in all respects.

3.6 Baseline and monitoring methodology

3.6.1 General Requirements (76-77)

The steps taken to assess the relevant information contained in the POA-DD against each applicability condition are described below.

The proposed Project Activity "Punjab State Electricity Board: High Voltage Distribution System for Agricultural Consumers in the Rural Areas of the Punjab" uses the approved methodology AMS II.A version 10 (Ref /33/).

1. The proposed programme involves measures to reduce the technical energy losses by improving the energy efficiency of the electricity transmission / distribution system for all the agricultural pumps in the State of Punjab, India. The savings in electricity from each of the CPA under the POA is less than 60 GWh per year. The project activity involves the up gradation of the voltage levels from LVDS to HVDS in the transmission/distribution system for all agricultural pumps in the State of Punjab.
2. The proposed programme involves the conversion of the existing LVDS system to HVDS system for the transmission/distribution system for all the agricultural pumps in the State of Punjab. Hence the programme is not a measure to reduce technical line losses by improving operations or maintenance practices. Also the proposed programme does not involve the introduction of capacitor banks and tap changing transformers for line loss reduction in electricity distribution system.

The validation team therefore agrees that the project activity meets all the applicability conditions of the selected approved methodology AMS II.A, version 10 (Ref /33/).

CAR 20 was raised by the validation team since the electrical savings indicated in the webhosted POA-DD was described as 1540 GWh which was more than the limit of 60 GWh for small scale projects. Project Participant has responded to state that the electrical savings indicated in

the webhosted POA-DD was expected for the entire POA and not for a single CPA. The electrical savings estimated for the 1st CPA was less than the limit of 60 GWh and hence the same was accepted by the validation team. Hence CAR was closed.

The validation team hereby confirms that the selected baseline and monitoring methodology, AMS II.A, Version 10 is previously approved by the CDM Executive Board, and is applicable to the project activity, which complies with all the applicability conditions therein. The small scale methodology AMS II.A version 10 (Ref /33/) is applied in conjunction with the latest version of General Guidance to SSC CDM methodologies

The validation team hereby confirms that, as a result of the implementation of the proposed CDM programme, there are no greenhouse gas emissions occurring within the proposed CDM project activity boundary, which are expected to contribute more than 1% of the overall expected average annual emissions reductions, which are not addressed by the applied methodology.

3.6.2 Project boundary (80)

The applied methodology viz; AMS IIA, Version 10 describes the project boundary as the physical, geographical boundary of the segment of the transmission/distribution system where the energy efficiency measures are implemented.
The validation team validated the project boundary by assessing that the power distribution system in the State of Punjab is distributed amongst five distribution zones viz; North, Central, South, West and Border zones (Ref /17/). Each of these distribution zones are further sub-divided into distribution circles which are further divided into divisions and sub-divisions. The validation team assessed that the POA boundary comprises the entire state of Punjab viz; all the 5 distribution zones which covers approximately 12,000 villages of the State. The project boundary hence, covers the whole Punjab state's grid, which is part of NEWNE grid.

As per the PoA Guideline, lifetime of the PoA is 28 years and the Project Participant has chosen a fixed crediting period of 10 years for the first CPA.

Thus the validation team confirms that the project boundary described under Section A.4.1.2 of the revised POA-DD correctly represents the project boundary as mandated by the applied methodology.

The validation team confirms that the only greenhouse gas relevant to the project activity is CO_2. This gas is addressed by the applied methodology. Based on the above assessment, the validation team hereby confirms that the identified boundary and the selected sources and gases are justified for the project activity.

3.6.3 Baseline identification (87-88)

The proposed project activity is the supply of electricity at High Voltage (at 11 KV), instead of Low Voltage Distribution system (400V) to agricultural pump consumers in the baseline through individual/dedicated small size transformers to the consumers. hence, in the programme only higher capacity transformers (25/63/100/200 kVA) are replaced with small capacity transformers (6.3/10/16/25 kVA transformer), but conductors will not be changed. Hence, the project activity is classified as an energy efficiency project activity.

The steps taken to assess the requirement given in paragraph 80 and 81 of the VVM are described below:

Validation team assessed the baseline identification done by the project participant using the provisions of the applied methodology. As per the applied methodology AMS II.A, version 10, the baseline for retrofit projects is the technical energy loss within the project boundary calculated using either Option 1 or Option 2.

Project Participant has chosen Option 2 (ii) to describe the baseline for the project activity. As there are no national or international standards available to measure the technical loss of the existing system, the project participants proposed revision to the methodology AMS II.A, This was approved from the EB prior to its application (Refer clarification from UNFCCC : **F-CDM-SSCwg ver 01 SSC_310**). As per option 2, calculation of losses can be performed using a well established peer reviewed method included in the guidelines of a relevant national level Government agency. In India, the Rural Electrification Corporation (REC) provides the guidelines to calculate the technical losses in the rural and radial distribution network as that of project activity system. The programme uses basic engineering formulae for calculation of I^2R losses, which is also adopted in the REC guideline. The PP has also referred the technical paper peer reviewed in IEEE publication[*]. The validation team observed that overall approach of loss reduction calculation complies with the Peer Reviewed method. The validation team accepted the same since the proposed programme is supply of power to agricultural pumps in the State of Punjab and hence is included in the rural distribution network, hence, the approach is in line with the requirements of the methodology..

The baseline emission calculations, as per the applied methodology, are the energy baseline multiplied by an emission factor.

[*] The Peer reviewed literature referred by PP is “Energy Loss Estimation in Distribution Feeders by P. S. Nagendra Rao and Ravishankar Deekshit” IEEE TRANSACTIONS ON POWER DELIVERY, VOL. 21, NO. 3, JULY 2006

As per AMS II.A version 10, the Emission Factor can be calculated in a transparent and conservative manner in either of the following two options:

(a) A combined margin (CM), consisting of the combination of operating margin (OM) and build margin (BM) according to the procedures prescribed in the 'Tool to calculate the emission factor for an electricity system', Version 2.2.0.
OR
(b) The weighted average emissions (in Kg CO_2/kWh) of the current generation mix. The data of the year in which the project generation occurs must be used.

Project participant has adopted the first option for all CPAs and will use the official published data on operating and build margin emission factors (Ref /37/) which is calculated as per the "Tool to calculate emission factor for an electricity system" by the Central Electricity Authority (CEA) in India. Central Electricity Authority (CEA) is the sole authority for the publication of such data in India. Project participant has applied weight factors for the OM and BM [50% & 50% respectively] as specified in the tool to arrive at the emission factor for the combined margin.

Validation team agrees to this approach since the emission factor would be determined based on the official background data published by CEA. The validation team further notes that the emission factor is not provided by DNA but by the competent authority. The provisions of para 64 of EB 43 in this regard therefore are not applicable.

It is noted that the selected baseline scenario is in line with the selected approved methodology. Validation team therefore confirms that the selected baseline scenario reasonably represents what would happen in the absence of the project activity

Based on the above assessment, the validation team hereby confirms that:
(a) All the assumptions and data used by the project participants are listed in the POA-DD, including their references and sources;
(b) All documentation used is relevant for establishing the baseline scenario and correctly quoted and interpreted in the PoA-DD;
(c) Assumptions and data used in the identification of the baseline scenario are justified appropriately, supported by evidence and can be deemed reasonable;
(d) The investment in the proposed project activity is not a mandatory obligation on any project owner in India. The validation team confirms this on referring to the Electricity Act 2003 (http://www.cercind.gov.in/08022007/Act-with-amendment.pdf) and National Electricity Policy

2005(http://www.powermin.nic.in/whats_new/national_electricity_policy.htm) which do not restrict or empower any authority to restrict the fuel choice for power generation.
(e) The approved baseline methodology has been correctly applied to identify the most reasonable baseline scenario and the identified baseline scenario reasonably represents what would occur in the absence of the proposed CDM project activity.

3.6.4 Algorithms and/or formulae used to determine emission reductions (92-93)

The steps taken to assess the requirement outlined in paragraph 88 of the VVM are described below:

As defined in AMS-II.A for retrofit projects, the energy baseline is the technical energy loss within the project boundary calculated using one of the two options provided

PP has opted for option 2(ii), which is "*For existing radial electricity distribution systems (e.g., rural distribution network), for which no national or international standards are available to measure the performance (e.g., technical loss) of the existing system, the technical losses are determined using a well established peer reviewed method included in the guidelines of a relevant national Government agency (e.g. rural electrification corporation/agency in the public sector or standards bureau/organizations in the region/country).*"

The validation team noted that the PSPCL rural feeders could be perfectly assimilated to a radial electricity grid. Besides, there are no national or international standards in India to measure technical losses. The method(s) selected for this project are the guidelines of the REC, India, basic engineering formulae and calculation approach from Peer Reviewed literature in IEEE[*]. The guidelines provide a step-wise approach for calculating technical loss for different transmission/distribution systems based on recorded loads, grid parameters and cable characteristics for rural feeders. Hence, the REC formulae can directly be applied for technical loss calculations. This is based on the sectoral knowledge of the validation team and the fact that REC (Rural Electrification Corporation) which is a Government of India enterprise, and is responsible for rural electrification programmes, hence validation team finds this as appropriate.

[*] The Peer reviewed literature referred by PP is "Energy Loss Estimation in Distribution Feeders by P. S. Nagendra Rao and Ravishankar Deekshit" IEEE TRANSACTIONS ON POWER DELIVERY, VOL. 21, NO. 3, JULY 2006

The Project Participant has estimated the percentage technical loss of the energy sent out in the baseline as well as in the proposed project activity scenario by correctly applying the step wise calculations presented in the REC guidelines. The losses both in the baseline scenario and in the project scenario have been calculated in terms of percentage (i.e. percentage of energy required to be sent out). The loss percentage has been determined for a sample group of feeders and the average loss percentage obtained from this sample group is proposed to be applied to all the feeders to be included in different CPAs under this PoA. The validation team agrees to this approach considered by the Project Participant in calculating losses in the CPAs by applying the loss percent derived from the sample group using the REC guidelines. Moreover, the feeders which would be converted to HVDS, are homogenous in characteristics as they supply power to only one category of consumers (i.e. dedicated agriculture pumps) in a radial distribution system using a uniform voltage (400 V in case of baseline and 11 KV in case of project), and therefore the losses are not expected to show substantial variation. Analysis of results derived from the sample group confirms this. The validation team has verified that the losses determined in percentage term do not show much variation across the feeders even with different lengths (km) and different connected loads (kW), therefore the results obtained from the sample group are representative and can be applied to all the feeders. Further assessment of the adequacy of the sampling and its compliance with UNFCCC guidelines on sampling is provided below.

The estimation of the percentage loss of the energy sent out in the baseline and project activity is performed for a sample group of feeders and the same will be applied to calculate losses in all CPAs to be included in the PoA.

The project participant has calculated the sample size based on the EB guideline “General Guidelines for Sampling and Surveys for Small-Scale CDM Project Activities” Version 01, EB 50 and Standard for Sampling and Surveys for CDM Project Activities and Programme of Activities, EB 65, Annex 2 has also been referred to while determining the sample size. The PP has followed the Simple Random sampling technique, in line with the above guidance. The validation team accepted the use of the simple random sampling technique for the proposed project activity since the observation (feeders in the case of the project activity) is chosen randomly from a population of more than 3000 feeders and each element (viz; feeders of the project activity) of the population being selected had an equal probability of being selected in the sample. Also, since the load pattern of the agricultural pump sets is uniform and would be same the validation team accepted that the simple random sampling technique is best suited for the project activity. Also, the feeders to be included in the SSC-CPAs are homogenous in characteristics as all of them supply power to one category of consumers (i.e. dedicated agriculture pumps) in a

radial distribution system using a uniform voltage profile (400 V in case of baseline and 11 KV in case of project), and therefore the average percentage losses are expected to be within acceptable variation range (as also evidenced in sample line loss percentage calculations described in PoA-DD). This is also considering the total energy required and sent out from each rural agriculture feeder depends on the load connected and the technical losses in the lines. Considering single category of loads and less variation in operating load profile, type of conductors (and their resistance), the line loss percentage out of total energy required to be sent for each feeder for these homogenous and radial feeders are with little variation. It is also considered here that the supply hours for the agricultural feeders are regulated, fixed and same throughout the state.

Thus in conclusion, the validation team accepted the simple random sampling technique since, the agriculture feeders of the project activity are supplying power to dedicated agriculture pumps, the distribution is radial, and all the feeders use the same supply voltage viz; 400 V. ,

The PP has used the following algorithm (Reference: Cochran, W.G. (1977), 3rd Edition, John Wily & Sons, New York) (Ref. /33/) to determine the sample size.

$$n = \frac{Z^2 \times \left(\sigma / mean \right)^2}{e^2}$$

where;

n = sample size
Z = 1. 96 for 95% confidence level (Reference : Cochran, W.G. (1977), 3rd Edition, John Wily & Sons, New York) (Ref. /33/). The 95% confidence level is as per (as per EB 65, Annex 2 STANDARD FOR SAMPLING AND SURVEYS FOR CDM PROJECT ACTIVITIES AND PROGRAMME OF ACTIVITIES (Version 02.0))
σ = standard deviation mean = sample mean (used as an estimator of population mean = desired level of precision; 0.10

The validation team accepted the use of the above algorithm since the same has been considered from a publicly available source for sampling (Reference : Cochran, W.G., (1977): Sampling Techniques, 3rd Edition, John Wiley & Sons, New York, pp 74-76). (Ref. /33/)

Calculation of sample size using the above formulae requires prior information on the mean and standard deviation of the parameter in question, which in this case is the loss. Since such information was not available, the PP has followed an iterative process to determine the sample size. Initially the PP picked up 7 feeders randomly and determined

the loss for each of these feeders following the step wise calculations proposed in REC guidelines. The feeder data for various values were taken from the DPR(s). The percentage of losses calculated did not show much variation across these 7 feeders, even though the length and load of each feeder was different. The mean and standard deviation of losses observed from these 7 feeders were then plugged into the above formulae to determine the sample size, which turned out to be 9. In order to be conservative the PP considered additional 7 feeders (total 14 against the requirement of 9) to determine the losses. The mean and standard deviation of losses observed from the 14 feeders when plugged into the above formulae gives a sample size of 5 (confirming the initial assumption). The PP has therefore considered the final sample size of feeders to be 14nos. The validation team considers the process of determining the sample size to be reasonable and the final sample size to be adequate and conservative as it is higher than the required number.

The validation team has reviewed the mathematical working (Ref /19/) to deduce the above mentioned values and observed that commonly used basic statistical formulae has been used. Hence, the same is accepted by the validation team. Given that there is a very little variation in the loss percentage across feeders, the proposal of the PP to fix the loss reduction percentage, based on losses derived from a sample group of feeders, for all the CPAs is considered reasonable.

The technical line loss calculation for the baseline and project activity scenario has been deduced from the formula which is peer reviewed method and adopted by REC in India:-

$$kW_{losses,BL} = P^2 * R * L * (10^{-3}/ V^2)$$

P = Load (kVA),
R = Resistance (Ohms/km),
L = Length of the line/feeder (km),
V = Voltage (kV) (400 KV)

The validation team accepted the use of this algorithm since the same is based on basic electrical engineering formulae, which has also been used in the REC guidelines. (Ref /18/). The validation team based on its sectoral knowledge and in reference to REC guidelines confirms that the algorithm used for the method of calculations of losses is appropriate.

The validation team has reviewed the sketches of the feeders included in the sample group and has verified their section wise calculations to determine the technical line loss for both baseline and project scenarios. The following paragraphs provide further commentaries on the loss calculations.

The Project Participant has calculated a weighted average value of resistance in the feeders as 1.040 Ohm/km. The validation team reviewed the calculation and noted that the resistance for the 14 feeders, selected as the sample size, is calculated for 4 different sizes of conductors for each feeder. The validation team accepted the calculation based on 4 different sizes since the entire project activity feeders are comprised of these sizes only. Based on the sizes of the conductors considered, in the calculations, the resistance, as provided in the Standard Conductor specifications was deduced and thereafter a weighted average value was worked on, which deduces to 1.040 ohm/km..The validation team accepted the calculation of weighted average value of resistance as appropriate.

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The quantum of time for which electricity is supplied to the agricultural pumps in the proposed project activity is considered as 1740 hours per annum. The validation team noted that the power supply time of 1740 hours is sourced from the website of Punjab State Electricity Regulatory Commission (PSERC) (Ref /20/) which is available in public domain and available at the time of investment decision. The validation team reviewed Table 3.3 (Ref /20/) which indicates the quantum of electricity supplied by PSEB to the agricultural pumps for the years 2000 – 2005 and the average value comes out to be 1740 hours. Hence the same was accepted by the validation team.

Baseline loss percentage

The yearly feeder-wise baseline loss is calculated as

$kWh_{loss,BL,i} = \sum kWh_{loss,s,BL}$

where, $kWh_{loss,BL,il}$ = total energy loss in a particular feeder, and,
$\sum kWh_{loss,s,BL}$ = summation of energy losses of all the sub-sections of a feeder

Thus the energy loss for all the feeders connected to a SSC-CPA is calculated as :

$$\%E_{loss,BL} = avg\left(\frac{kWh_{loss,BL,i}}{kWh_{required}}\right)_{Sample} \%$$

Where,
$kWh_{loss,BL,i}$ = total energy loss in a particular feeder,
$KWh_{required}$ = Energy required to be sent to serve the connected load, which is calculated based on the connected load (kW) and supplied hours.

Based on the above algorithm, the average baseline energy loss in percentage, for the selected sample of 14 feeders, was calculated as

3.605%. The validation team accepts the approach followed by the project participant as all the feeders considered under SSC-CPA of the proposed project activity are radial feeders and connected only to agriculture pumps. The validation team has also cross-checked the baseline technical loss percentage from the page 2 of the weblink http://www.teriin.org/upfiles/pub/papers/ft33.pdf, the report published by TERI, a research institute in India that publishes various reports after exhaustive study. This describes the distribution losses as 3-7%. The document referred by the validation team is hence, a third party, publicly available document, hence, the validation team accepts the source as credible and concludes that the loss percentage estimation in baseline by the PP as. 3.605% is acceptable. The same average value, in percentage of energy sent out, shall be applied to all the feeders of the SSC-CPA which will be included in the POA.

Project loss percentage

The loss for a full SSC-CPA is to be calculated based on the average percentage loss similar to that of the baseline loss.

$$\%E_{loss,PE} = avg\left(\frac{kWh_{loss,CPA,i}}{kWh_{required}}\right)_{Sample} \%$$

In order to determine the project emissions arising from technical losses in the HVDS scenario, the PP has calculated the technical loss for the same sample group of feeders (14 feeders for which the baseline loses are calculated) using the same loss formulae presented above. The average energy losses due to the implementation of the project activity, for the sample of 14 feeders, is deduced to be 0.005% of the total energy sent out in the project activity. The validation team has reviewed the sketches of the feeders included in the DPR (Ref /22/), which are included in the sample group and has verified their section wise calculations and thus confirm the technical loss in the project scenario to be 0.005%. The validation team through its own sources investigated to cross verify the %age loss due to HVDS, but due to prevalent practice of LVDS in agriculture sector in India, it could not found out the same. However, the validation team confirms that the PP has used the same formulae for baseline losses and project losses. Since the base line losses could be cross verified from 'TERI' as explained above, and REC being the source of these formule, the % age loss reduction in HVDS iterated as 0.005% is appropriate.

Baseline Emissions

According to the methodology AMS-II A Version 10, the energy baseline is the technical energy loss within the project boundary, and the baseline emissions is the energy baseline multiplied by an emission factor.

Baseline line loss emission is thus represented by the following equation.

$$BE_y = (E_{loss,BL,y}) \times (EF_{grid,CM} / 1000)$$

However, as the project also involves installation of large number of small capacity transformers, such installation of large number of small transformers might lead to additional transformer losses that need to be accounted for in the emission calculations. Additional transformer losses to be incurred in the project activity, if any, over and above the transformer losses in the baseline, have also been accounted for in the calculation of emission reductions by the PP.

With the consideration of transformer losses in the scope of calculation of total losses, the baseline emission of a SSC-CPA is represented by the below formulae:

$$BE_y = (E_{loss,BL,y} + TR_{BL,y}) \times (EF_{grid,CM} / 1000)$$

Transformer losses in the baseline shall be calculated using the following formulae.

$$TR_{BL,y} = \sum_i N_{TF,BL,i} \; x \; (NL_i + FL_i) \, x \, h$$

Where,

$TR_{BL,y}$	=Transformer losses in baseline
$N_{TF,BL,i}$	= Number of baseline transformers of category, i
NL_i	= No load losses of transformer of category, i
FL_i	= Load losses of transformer of category, i
i	= For baseline case: 25/50/63/100/200 kVA
h	=No. of hours of power supply

In order to calculate the transformer losses in the baseline, the PP has proposed to monitor the number of the transformers used in the baseline ($N_{TF,BL,i}$), but to keep the no load and load loss of transformers (NL_i and FL_i) fixed ex-ante based on design loss values obtained from the suppliers. The PP's proposal to fix the values of no load loss (NL) and full load losses (FL) of the transformers was considered appropriate as PP has demonstrated through tender documents for baseline transformers (Ref /13a/) that the specification of the transformers in respect of these parameters (NL and FL) procured by PSEB have not changed over last several years. This is also considering that there is no design change to the transformers in use in PSEB and are using conventional transformers for the application. Validation team agrees to the justification given by PP as described above because, based on the sectoral knowledge of the validation team, it confirms that the transformer losses arising out of the transformers used in the baseline have no significant change, hence accepted.

The following NLi and FLi values were thus accepted.

Type of transformer	No load losses(NL_i)	Full Load Losses (FL_i)
25 kva	85 W	685 W
50/63 kva	155 W	1235 W
100 kva	220 W	1760 W
200 kva	400 W	3135 W

Following the methodology guidance, the baseline line loss emissions ($E_{Loss,BL,y}$) for each feeder will be calculated using both estimated energy sent out ($EG_{estimated,y}$) and actual monitored energy sent out ($EG_{monitored,y}$) and multiplying the same with baseline losses percentage ($\%E_{Loss,BE}$) and grid emission factor and conservative of these two will be considered for final emission reduction.

Project Emissions

The validation team noted that the proposed project activity involves the conversion of LVDS to HVDS system in agricultural pumps in the State of Punjab. There are no equipments in the project activity that contains GHG's like SF6 and hence no project emissions are envisaged to be considered in the proposed project activity, which is in line with the applied methodology. However the Project Participant has considered project emissions from two sources viz;

a) Project emissions accounted due to the conversion of LVDS to HVDS – The project activity is expected to incur inherent technical losses even after the conversion from LVDS (400 V) to HVDS (11 kV).
b) the losses due to the replaced transformers in the project activity – In case the transformer loss of the replaced transformers exceed losses

of the baseline transformers, then the same would be accounted in the emission reduction calculations as project emissions. Further in case the losses due to the replaced transformers are lower than the losses due to the baseline transformers, the same would not be accounted for in the emission reduction calculations and hence no emission reductions would be claimed. The validation team accepted this as a conservative approach.

Following the same approach as discussed in the baseline, the project emissions in a SSC-CPA is calculated as per the following equation.

$$PE_y = (E_{loss,PE,y} + TR_{PE,y}) \times (EF_{grid,CM} / 1000)$$

$$TR_{PE,y} = \sum_i N_{TF,PE,i} \ x \ (NL_i + FL_i) \ x \ h$$

Where,

$TR_{PE,y}$	Project Transformer losses in the SSC-CPA
$N_{TF,PE,i}$	Number of project transformers of category, i
NL_i	No load losses of transformer of category, i
FL_i	Load losses of transformer of category, i
i	For project case: 6.3/10/16/25 kVA
h	No. of hours of power supply

In order to calculate the transformer losses in the project scenario, the PP has proposed to monitor the number of the transformers used in the project scenario ($N_{TF,PE,i}$), but to keep the no load and load loss of transformers (NL_i and FL_i) fixed ex-ante based on design loss values obtained from the suppliers, which are also evident in the tender documents floated by the PP and same is confirmed from the Work order cum contract agreements issued by the PP(Ref /13/, /13b/and /14/). The PP's proposal to fix the values of no load loss (NL) and full load losses (FL) of the transformers was considered appropriate as PP has demonstrated through evidences that the specification of the transformers in respect of these parameters (NL and FL) procured by PSEB (=PSPCL, the PP) would be the same for all transformers procured for the program. This is also considering that there is no design change to the transformers in use in PSEB and are using conventional transformers for the application. Based on the above referred tender and work orders, validation team confirms the values of no load and full load losses of transformers consistent and is of the opinion that it can be fixed ex-ante.

The following NLi and FLi values were thus accepted.

Type of transformer	No load losses(NL_i)	Full Load Losses (FL_i)
6.3 kVA	35 W	210 W
10 kVA	45 W	270 W

16 kVA	60 W	360 W
25 kVA	85 W	685 W

Following the methodology guidance, the project line loss emissions ($E_{loss,PE,y}$) for each feeder will be calculated using both estimated energy sent out ($EG_{estimated,y}$) and actual monitored energy sent out ($EG_{monitored,y}$) and multiplying the same with project losses percentage ($\%E_{Loss,PE}$) and grid emission factor and conservative of these two will be considered for calculation of emission reduction.

Leakage

As per the applied methodology, leakage emissions are to be considered in case equipments with an energy efficiency technology is transferred from another project activity. There is no transfer of equipment envisaged from another activity in the proposed project activity. Therefore, leakage is considered to be zero.

In line with para 14 of the applied methodology, the project activity is the conversion of LVDS to HVDS which involves the replacement of high capacity transformers with low capacity transformers. Some transformers used in the LVDS system could continue to be used in the HVDS system (25 kVA transformers only). The use of these replaced transformers elsewhere would not lead to any leakage emissions because, if these replaced transformers were not available for use elsewhere, same rating of transformers would anyway have been used there leading to similar theoretical transformer losses.

The validation team has checked that the specifications and design losses of the transformers that are being procured recently by PSPCL are the same as those that have been used in the LVDS system previously. Therefore the argument for zero leakage is accepted by the validation team".

The algorithm to calculate the emission reductions from the project activity are described as;

$ER_y = BE_y – PE_y – LE_y$ where,

ER_y = emission reductions from the project activity

PE_y = project emissions from the project activity

LE_y = leakage emissions from the project activity

The proposed project activity is connected to the NEWNE grid of India and the emission factor is deduced to be 0.840 tCO2/MWH. The emission factor is fixed ex-ante for the entire crediting period of first CPA.

However, for other CPAs the emission factor would be calculated based on data available at the time of inclusion of CPA in the PoA. Hence, for all CPAs to be included emission factor would be fixed ex ante which would be at the time of inclusion of CPA.

As mentioned above, the validation team observed that the estimation of the emission reductions from the CPAs would be based on the minimum value of the actual monitored data and estimated data. This is in line with para 13 of the applied methodology and hence accepted by the validation team. Therefore the algorithm to calculate the emission reductions from the individual CPA would be;

$$ER_y = \min(BE_{y,monitored} - PE_{y,monitored}, BE_{y,estimated} - PE_{y,estimated}) - LE_y$$

Where,

ER_y	Emission reductions in tCO2 for year "y" due to technical energy loss within the SSC-CPA boundary.
$BE_{y,monitored}$	Baseline emissions in tCO2 for the SSC-CPA in year y calculated based on monitored parameters
$PE_{y,monitored}$	Project emissions in tCO2 for the SSC-CPA in year y calculated through the monitored parameters
$BE_{y,estimated}$	Baseline emissions in tCO2 for the SSC-CPA in year y calculated through the estimation approach
$PE_{y,estimated}$	Project emissions in tCO2 for the SSC-CPA in year y calculated based on monitored parameters
LE_y	Leakage emissions in tCO2 for year "y".

The validation team noted that while estimating emission reduction for the crediting period for the first CPA, the Project Participant has not considered any growth in annual energy demand. However, it is described that it will be considered during the monitoring and verification, supported by the evidences in each CPA. The validation team reviewed this and accepted since; increase in the agricultural consumers is possible in future, which would have any way happened even in baseline. Validation team therefore concluded that the new loads that may be connected to feeders included in a given CPA would be eligible to be included in the scope of calculation of emission reductions. It shall however be ensured that the claim for the annual emission reduction from any CPA should not exceed 60 GWh of electricity saving in a year, as described in section A.4.2.2 of PoA "Eligibility criteria for inclusion of a SSC-CPA in the PoA However, for each CPA during verification, if actual emission reduction increases due to growth in energy demand than the estimated emission reduction in the registered CPA, an additionality check would not be required as each new load to be connected to the HVDS system would result in proportional increase in investments due to the need for dedicated transformers, poles and connecting lines.

The detailed algorithms for calculating the baseline emissions, project emissions and leakage emissions are transparently described under sections B.6.2 of the revised PoA-DD (Ref /4/)

The validation team has assessed the calculations of the estimated Emission Reductions as provided by project participant in a spreadsheet (Ref /21/). The assumptions in this spreadsheet were validated as follows -

Parameter, Value	**Source of information**	**Validation justification**
Load of 14 feeders	Detailed Project Report (DPR) (Ref /22/)	The load of the 14 sample feeders has been considered from the DPR, which is prepared for various divisions of PSEB.
Length of the feeders (14 nos.)	Detailed Project Report (DPR) (Ref /22/)	The length of the 14 sample feeders has been considered from the DPR, which is prepared for various divisions of PSEB.
Resistance of the 14 feeders (Individual feeder wise resistance)	Detailed Project Report (DPR) (Ref /22/)	Calculated value, which is based on size and the lengths of the sample 14 feeders , as provided in the DPR prepared for various divisions of PSEB.
LT voltage = 400v	Present electricity supply condition.(LVDS)	Verified at the site by the validation team, also based on substation data observed at the site by the validation team
Project electricity supply voltage = 11kv	Project supply conditions (HVDS)	Observed at the Central Monitoring Station at Head Office, PSPCL and also at the substation.
Power Factor = 0.88	http://www.pserc.nic.in/pages/tariff_order_2k4_2k5_9.html	The power factor is based on the information provided on the website of the Punjab State Electricity Regulatory Commission, for the year 2004-05
Baseline	CEA database Version 5	CEA database is an

EF, 0.840 tCO_2e/MWh for NEWNE Grid		official source of data and hence acceptable.

The estimated annual average of emission reductions has been explained in the first real CPA viz. Dhuri, which is less than 60 GWh. All the assumptions for this estimates come from the assumptions used for investment analysis and the grid emission factor is taken from CEA website. These have been already validated in section 3.6.3 of this report. The validation team confirms that the estimates of baseline emissions can be replicated using the spreadsheet (Ref /21/) for calculations of Emission Reductions.

CAR 20 was raised since the algorithm used in the calculation of the load loss reduction from the project activity upto 60 GWh was not provided. The Project Participant has clarified that the algorithm for the calculation of savings, and thus the emission reductions has been provided in the section E.6.1 of the PoA DD. The emission reduction will be calculated based on the energy sent. The monitoring plan has also been updated and revised and the energy sent value will be monitored as per the monitoring plan described in the PoA DD., hence the CAR is closed.

CAR 11 & CAR 23 were raised by the validation team since the estimation of emission reduction calculation did not seem reasonable since the transformer losses due to the inclusion of new transformers were not included. The validation team noted that the Project Participant has used no load and full load losses of the transformer, in the baseline and in the project activity for the calculation of emissions from transformer losses. It is also mentioned that if there are emission reductions out of reducing transformer losses as a result of project activity, these emission reductions will not be claimed however, if there is an increase in transformer losses due to project activity (by virtue of increase in number of small transformers), the same will be accounted as project emissions. The validation team observed that this approach is conservative and hence CAR is closed.

CL 27 was raised by the validation team since the basis for the baseline and project technical losses of 8.68 % and 0.02% was not justified. The Project Participant has now justified the same by reassessing the losses using corrected input values and corrected the baselines losses as 3.605% and project losses as 0.005%. The same was observed to be correct by the validation team and hence the CL was closed.

Based on the above assessment, the validation team hereby confirms that:

(a) All assumptions and data used by the project participants are listed in the POA-DD, including their references and sources;
(b) All documentation used by project participants as the basis for assumptions and source of data is correctly quoted and interpreted in the POA-DD;
(c) All values used in the POA-DD are considered reasonable in the context of the proposed CDM project activity;
(d) The baseline methodology has been applied correctly to calculate project emissions, baseline emissions, leakage emissions and emission reductions;
(e) All estimates of the baseline emissions can be replicated using the data and parameter values provided in the POA-DD.

3.7 Additionality of a project activity (97)

The steps taken and sources of information used, to cross-check the information contained in the PDD on this matter are described below:

The steps taken by the validation team to assess the additionality of the Project Activity include review of documents indicated in the assumptions in the financial working excel sheet (Ref /23/). The detailed steps are described in Sections 3.7.1 through 3.7.5 below.

3.7.1 Prior consideration of the clean development mechanism (104)

The validation team validated the project activity start date provided in the PDD as follows;

Project participant provided copies of all the Work Contracts/Purchase orders placed (Ref /13/ to /15/) for the first CPA of the proposed POA project activity. Based on the review of all the work contracts, the validation team accepted 25/10/2007 as the start date for the proposed project activity as this was the earliest date on which real action with respect to implementation of the project activity began.

Since the start date of the project activity is before 02 Aug 2008, the serious consideration of CDM for the project activity was assessed in line with the guidelines as specified in EB 62, Annex 13 (Ref /39/) as under;

The manner in which the validation team validated the prior awareness and serious consideration of CDM is explained below;

The validation team during the interaction with the Project Participant representatives noted that since Punjab State Electricity Board (Punjab State Power Corporation Ltd) (PSEB) is a government organization, an in-principle approval for funding the project is required to be sought prior to making a request for approval to the Board members, for any major investment project. In line with this laid-down procedure, the Project

Participant made an application to the Rural Electrification Corporation (REC) (Ref /24/), which is also a government funding agency providing funds for rural electrification schemes in India, on 1/12/2005 seeking an in-principle approval for funding the existing approximate 3000 rural feeders from LVDS to HVDS Based on this application, REC provided an in-principle approval to the PSEB on 20/12/2005 (Ref /25/) for funding the project subject to technical feasibility and viability of the project. REC subsequently informed the Project Participant vide a letter dated 25/01/2006 (Ref /26/) that the project activity is also eligible for claiming carbon credits and that REC could provide assistance in developing the project as a CDM project activity. Thus the Project Participant was made aware of CDM prior to the investment decision.

Based on the above letter from REC (Ref /26/), the Project Participant representatives from the distribution department submitted a memorandum dated 13/03/2006 to the Board Members seeking an in-principle approval for the project activity considering CDM benefits (Ref /27/). The Board members in their meeting dated 07/04/2006 (Ref /28/) granted the in-principle approval, based on the memorandum submitted but further directed the representatives to prepare an arithmetic model (DPR) and invite parties through the tendering process. The validation team observed that the in-principle approval by both, the REC and the Board of PSEB does not constitute the final approval for the project activity. The Project Participant representatives based on the in-principle approval from the Board (Ref /28/) prepared the DPR for the first CPA of the project activity viz; the Dhuri scheme and submitted the same to the funding agency viz; REC for loan approval. One of the requirements mandated by the REC for the final loan approval is for the Project Participant to provide a bulk security guarantee by the State Government for the funding of the project activity. The Project Participant made an application seeking the bulk security guarantee from the State Government on 27/07/2006 (Ref /31/) which was subsequently approved by the State Government on 15/01/2007 (Ref /31/). The validation team observed through interviews and discussions with the management of the Project Participant that a request for bulk security guarantee is sought from the State government, only after the PSEB has internally taken a final decision to implement the project activity. Thus 27/07/2006 is considered as the date of final investment decision of the Project Participant considering CDM benefits.

Based on the above, the validation team confirms that CDM benefits were a decisive factor in the decision to proceed with the Project Activity.

The validation team verified all the evidences related to the project implementation and CDM implementation steps and observed that the project participant had initiated real action in parallel to the implementation of the project activity and that there is less than 2 years

of a gap between the documented evidence. All the evidences related to the detailed chronology of events as described in the revised POA-DD were verified and found to be correct.

From the above discussions, it is observed that the benefits of CDM were a decisive factor in the decision to proceed with the project activity. Further, continuing and real actions were taken by project participant to secure CDM status in parallel with the implementation of the project activity. This is in line with para 8 of Annex 13 of EB 62 (Ref /39/).

The validation team therefore agrees that project participant has proven that CDM was seriously considered in the decision to proceed with the implementation of the project activity.

Based on the above assessment, the validation team hereby confirms that the proposed CDM project activity complies with the requirements of EB62 Annex 13. The validation team would further like to confirm that as per para 3 of the guidelines specified under EB 60, Annex 26, the “Guidelines for the Demonstration and Assessment of Prior Consideration of CDM” do not apply to POA’s.

CAR 25 was raised by the validation team since the copies of some of the documents used in the decision to invest in the project activity was not provided to the validation team. Further the detailed chronology of events for the project activity implementation and CDM implementation was not provided in the POA DD. The same has been provided by the Project Participant and hence the CAR is closed.

CAR 26 was raised since the supporting evidence to prove prior awareness of CDM was not provided to the validation team and neither was the same explained in the POA DD. The same has now been provided by the Project Participant and hence the CAR is closed.

CL 8 & CL 20 was raised since the description of how the start date has been determined was not mentioned in the POA DD. The Project Participant has now provided the description of the same and hence the CL is closed.

3.7.1.1 Historical information on project timeline

There is no historical information on the project activity timeline since all the activities have begun after the start date of the CDM project activity.

As per Attachment A to Appendix B of Simplified modalities and procedures for small scale CDM project activities, Project participant has used prevailing practice barrier and financing barrier to demonstrate additionality as described below.

3.7.2 Prevailing practice Barrier (118)

The validation team has checked that there are only a few schemes, being proposed/ implemented in the country on a test/pilot basis, unlike this programme which is state wide. The validation team checked that Bangalore Electricity Supply Company Limited implemented conversion of LVDS to HVDS in one of the towns near Bangalore and also the State of Haryana which has also recently initiated up-gradation of distribution system, but these are not specific for the agricultural feeders. Conversion of LVDS to HVDS for Agricultural Pumps, similar to the proposed PoA, is being carried out only in the state of Andhra Pradesh which is also seeking carbon revenues (http://cdm.unfccc.int/Projects/Validation/DB/GBU8TRY12JWQL188147UDJLXNTO1EF/view.html). Apart from these, validation team, through its own research did not find evidences for implementation of any projects of similar scale and nature in the country and hence concluded that the programs like these face prevailing practice barriers. Moreover, the team has also validated that most states in the country supply free power to all agriculture consumers and get compensated by respective state governments and hence providing less/no incentive for utilities for implementing these kind of programs.

The validation team checked that the power supplied to the agricultural consumer in India is free. The same has been validated from the document "Wide Spread Free Power for Agriculture in India.pdf" The article published in India Infrastructure Report 2007 based on work made possible by the support of the American People through the United States Agency for International Development (USAID) through the Water Energy Nexus Activity, Phase II (WENEXA II) Project, under contract no. GS-10F-0052P, Order no. 386-O-OO-04-00189 written by James M. Hogan, "PA Consulsting" a research firm. The article titled "Using Groundwater to Create Electricity Agricultural Demand Side Management in India" on page 1 describes that *"Widespread free power policies for the agricultural sector mean that power used for irrigation s mostly unpaid".* This being a third party R & D document validation team accepts this as credible. Also, based on validation team's sectoral knowledge about 'free power distribution in India for agricultural sector" validation team accepts that this criteria is met with. An appropriate eligibility criteria to check the supply of free power to agricultural consumers has been introduced for CPA inclusion.

3.7.3 Financing barrier (118)

The validation team validated the appropriateness of the financing barriers faced by the project entity for implementation of these kinds of programs. The validation team assessed the scale of investments needed and the financial capacity of the project entity to undertake these kinds of investments.

The lack of financial capacity of PSPCL was assessed through documented financial information and the validation team confirmed, from the report "State Power Sector Performance Ratings", page 103, published in June 2006, the financial under performance of the power sector in Punjab. The report clearly states the unhealthy financial condition. ThereforePSPCL is unlikely to take up such capital intensive project in the absence of financial incentives, and continue to rely on the LVDS system to service the agricultural customers.Financial underperformance makes it difficult for PSPCL to finance the projects. Appropriate eligibility criterion to check the applicability of financing barrier has been introduced for CPA inclusion.

In order to demonstrate the existence of the financial barrier in a more objective manner, the Project Participant has proposed to carry out a financial analysis at CPA level using an appropriate benchmark The validation team accepted this, because, the viability of any project's implementation mainly depends on PP's financial capacity to undertake such investments as well as the project's potential to service the loan, especially when there is no net revenue flow to the project entity

The validation team reviewed the final report prepared by CRISIL and ICRA Limited, submitted to the Ministry of Power, Government of India (Ref /16/) and noted from its page 101 of the report that the PSPCL supplies free electricity to the agricultural consumers, however, gets compensated in lieu of the same from the Government of Punjab for supply of electricity to agriculture consumers. The validation team has also verified that the rate (3.63 INR/KWh) at which PSEB purchases power is higher than the rate (2.14 INR/kWh) at which the State Government compensates to PSEB for the power it distributes to the agricultural sector. Therefore, PSEB has net revenue loss of 1.49INR/KWh. Hence, the financial gain for PSEB, by implementing this program, would be the power saved due to implementation of HVDS multiplied by the difference of power purchase price. The PP's proposal to use the difference of power purchase price in the calculation of revenues in the investment analysis is therefore considered appropriate.

The DSCR is the most appropriate and suited parameter for energy efficiency projects like this, which have no net revenues (from such a loss reduction measure while supplying the power to agriculture consumers), and are significantly funded through debts , as it reflects the project's ability to repay the loans. Hence, PP has chosen this as the benchmark value, which is appropriate and suitable. DSCR is commonly used by lenders as the benchmark to determine whether a cash flow from the project will support the loan request (and repayment capability) that the lender is considering for financing. The DSCR is a key criteria used by lenders to both determine the appropriate level of debt as well as assess the ability of the recipient to repay the loans (and hence the likelihood of the guarantee being called).

The Project Participant had considered a bench mark DSCR value of 1.5 in the webhosted POA-DD which was based on the Report of the Union Bank of India (Ref /29/). The validation team observed that the DSCR indicated in the report cannot be considered as the DSCR for the project activity as it was for funding any general type of project. The Project Participant then submitted a World Bank commissioned study report (Ref /30/), which the validation team noted; discusses about financing for energy efficiency projects and applicable DSCR values for energy efficiency projects in Brazil, China and India, and therefore appropriate to be used in the context of the project activity since the project activity is also an energy efficiency measure in the State of Punjab, India. A review of the report, Pg 40, indicates the average DSCR for energy efficiency projects in India to be at least 1.5. However, the same report also indicated on page 40 and 88 that the minimum DSCR values of 1.3. Hence, the validation team raised CAR 24 on the appropriateness of the use of 1.5 as the benchmark, since a minimum DSCR value of 1.3 is reported in the published report. The Project Participant in response has corrected the benchmark for DSCR for the project activity as 1.3. The validation team accepted the same as a conservative approach and hence CAR 22 was closed.

The validation team, along-with the financial expert engaged, also verified the correctness and authenticity of the data used for the benchmark calculation and found them to be correct and publicly available. The validation team therefore concluded that the benchmark DSCR adopted by the Project participant to establish the additionality is 1.3 and consequently the project's additionality, is correct and valid.

3.7.4 Common practice analysis (121)

Common practice analysis has not been used to demonstrate additionality. As per Attachment A to Appendix B of Simplified modalities and procedures for small scale CDM project activities, additionality can be demonstrated by any one of the four barriers listed. Project participant has demonstrated additionality using investment barrier only.

3.8 Monitoring plan (124)

The Project uses the approved consolidated monitoring methodology AMS II.A Version 10, wherein Option 2(ii) of para 4 has been applied..

The steps taken to assess whether the monitoring arrangements described in the monitoring plan are feasible and complying with the requirements of the applied methodology are described below.

1. The energy sent out by PSEB to individual feeder in year y ($EG_{Feeder(i)y}$) would be monitored and recorded continuously through a dedicated Automatic Meter Reading (AMR) System , installed at the Central

Monitoring Station which covers all the schemes of the POA. The AMR system which continuously monitors the electricity readings for individual feeders and through GPRS system, transmits the data such as energy sent out, energy supplied hours etc. at desired location. Apart from the automated continuous measurement and recording at the AMR system, there is also a manual recording of the energy sent out at the individual sub-stations. This would form the basis for cross-checking purpose and would also be used in the calculations, in case there is any maintenance in the AMR system.

2. The average number of hours of power supply to agricultural pumps for feeder i, in a CPA ($h_{Feeder(i),y}$) is monitored on an hourly basis on the AMR system, installed at the Central Monitoring Station.
3. The total connected load for all the feeders of the SSC-CPA for the year y ($TL_{CPA,y}$) would be monitored through reports prepared by PSEB personnel as and when the new connections are implemented. The total connected load on the feeder is required to be monitored since there is a possibility of increase in the energy demand growth of agricultural consumers.
4. The number of baseline transformers of category i (i:25/63/100/200 kVA) $\mathbf{N_{TF,\ BL,\ i}}$ would be monitored through PSPCL internal implementation records, as the work of CPA progresses till completion of work of the CPA. This parameter is required to account for adjustment in transformer losses if any due to difference in project activity and baseline transformer losses.
5. The number of project transformers in all the feeders of a particular SSC-CPA of category i (i= 6.3/10/16/25 kVA) ($N_{TF,CPA,i,y}$) would be monitored through the report prepared by PSEB personnel, as and when the transformers are added to a feeder. This parameter is required to be monitored for the estimation of transformer losses and hence project emissions.
6. The emission factor is fixed ex-ante for the entire crediting period for each CPA, and will be based on CEA database available during the inclusion process (Version 5).
7. Project participant has provided for archiving the data for 2 years after the end of the crediting period for each CPA.
8. The monitoring frequency for $\mathbf{EG_{Feeder(i)y}}$ matches with that of the applied methodology, viz. hourly measurement. The cross checking is provided with the records of the manual monitoring system, which will be maintained at the substation level. The same shall also be used in case of absence/inability of data retrieval) of data from the AMR system. The substation officer will be responsible for feeder wise record keeping in log sheets.
9. The monitoring plan includes requirements for calibrating the meters of the project activity once in every 3 years as per the requirements of

the local regulations. The validation team accepted the same since the frequency of calibration is also in line with the EB General Guidance, EB 61, Annex 21. The calibration of meters will be carried out by Laboratories accredited from NABL (National Accreditation Board for Testing and Calibration laboratories).

10. Procedures to deal with data uncertainties and to deal with emergency situations are described in the POA-DD.

The validation team validated the metering system at site as follows viz;

a. There are bi-directional tri-vector energy meters of accuracy class 0.2s installed at the substations from where feeders are further taken to load centers.
b. There are no check meters installed at the substations, however, meter readings will be cross checked manually at substation level for AMR system.

The validation team physically verified the Automatic meter Reading system installed at the site of the project activity.

Monitoring plan was not correctly described in the webhosted POA & CPA-DD and hence CAR 12, 13 and CL 16, 17 & 33 were raised. Project participant revised the monitoring plan in the POA and CPA-DD and has now described the metering system in details. Validation team confirms that the description now correctly represents the metering system available at the project activity site. Hence the CAR & CL's raised in respect of monitoring were satisfactorily resolved as stated in Appendix A.

The validation team therefore is of the opinion that the project participant is capable of implementing the monitoring plan in the context of the project activity. The validation team hereby confirms that the monitoring plan described in the revised PDD complies with the requirements of the methodology.

3.9 Sustainable development (127)

The host Party's DNA confirmed the contribution of the project activity to the sustainable development of the host Party. Refer to item 3.1 of this report. The project participant described the contribution of the project activity to sustainable development as per four indicators of sustainable development stipulated by Ministry of Environment & Forests in India.

The host country legislation does not require any environmental impact assessment to be carried out for similar type of projects. Project participant has obtained approval (Ref /7/ & /8/) from the respective DNA and it is confirmed by the Authority that the project contributes to sustainable development in the respective regions. The project activity is in compliance with all current applicable legislations. As the project

activity does not lead to generation of liquid or gaseous effluents and it will partly displace fossil fuel based electricity generation, there are only benefits derived out of the project and no adverse effects are envisaged. Moreover, the location of the project activity is in remote and economically backward region and hence largely contributes to the social well being of the region.

During site visit it was noticed that the project activity provided employment to local people. The host Party's DNA confirmed the contribution of the project to the sustainable development of the host Party. Please refer to section 3.1 of this report.

3.10 Local stakeholder consultation (130)

The steps taken to assess the adequacy of the local stakeholder consultation are described below.

Local stakeholder consultation meeting to discuss stakeholder concerns on the Project Activity was held on 24/04/2009 at the local office of the PSEB at Patiala, Punjab State, India (Ref /42/). The method of invitation to the local stakeholders was through an advertisement in the daily newspaper, The Tribune, dated 07/02/2009 (Ref /41/) inviting local stakeholders to provide their comments on the project activity. Also the POA-DD and the Environment, Health and Safety bulletin of the project activity was webhosted on the official website of the PSEB inviting comments from the stakeholders for a period of 4 weeks.

The validation team feels that the time provided to the local stakeholders for providing comments on the Project Activity is adequate.

The attendance list of participants, newspaper cutting -inviting participation to interested stakeholders, and minutes of the stakeholder meeting proceedings, maintained by the project participants (Ref /42/) were verified by the validation team. The stakeholders viewed this project as contributing to local environmental benefits and socio-economy. Overall, there was agreement that the project activity was a beneficial project from the local sustainable development.

During the validation site visit, the validation team also interviewed few of the local stakeholders for their views about the project activity. The villagers confirmed that the earlier local stakeholder consultation meeting was held at the office of PSEB at Patiala. The villagers expressed satisfaction over the proposed project activity in the region and confirmed that due to the project, there is no adverse effect or damage to land, vegetation etc. It was expressed that the project activity gives employment opportunity for the local public and thus contributes to the economic growth of the region. The validation team also observed that the local people have been provided employment as security guards and helpers in the site office.

CAR 4, 5, 6 & CL 10, 11 was raised by the validation team since the webhosted POA DD did not transparently describe the entire local stakeholder process as mandated by the POA DD Completeness guideline. Further the identity of the local stakeholders that made comments were not described in the webhosted POA DD. The CAR was closed based on the corrections made by the Project participant in the revised POA DD. The validation team hereby confirms that the process of local stakeholder consultation is observed to be adequate.

3.11 Environmental impacts (133)

As per the Schedule of the EIA notification (Ref /40/), given by the Ministry of Environment and Forests (Government of India) EIA is not a regulatory requirement in India for similar type of projects. Thus the project activity doesn't require EIA. The project activity does not involve any negative environmental impacts, as the project activity involves the replacement of the existing transformers and cables with new ones.

Project participant has obtained HCA approval (Ref /7/ & /8/) from the respective DNA and it is confirmed by the Authority that the project contributes to sustainable development in the respective regions. The project activity is in compliance with all current applicable legislations.

3.12 CPA Eligibility Criteria

A complete list of CPA Eligibility Criteria has been set up in section A.4.2.2 of the PoA-DD and section B.2 of the generic CPA-DD, and is deemed appropriate and sufficient in line with EB 55, Annex 38 and described in line with EB 63, Annex 3 by the validation team. The eligibility criteria also include appropriate criteria related to additionality demonstration.

4 COMMENTS BY PARTIES, STAKEHOLDERS AND NGOS

The POA-DD, gCPA-DD and sCPA-DD using methodology AMS IIA, version 10 was webhosted on the UNFCCC for global stakeholder's comments as per CDM requirements. The project was webhosted from 27/12/2009 to 25/01/2010. No comments were received from the global stakeholders for the proposed project activity.

5 VALIDATION OPINION

Bureau Veritas Certification has performed a validation of the "Punjab State Electricity Board (Punjab State Power Corporation Limited): High Voltage Distribution System for Agricultural Consumers in the Rural Areas of the Punjab" Project in India. The validation was performed on the basis

of UNFCCC criteria and host country criteria and also on the criteria given to provide for consistent project operations, monitoring and reporting.

The validation consisted of the following three phases: i) a desk review of the project design and the baseline and monitoring plan; ii) follow-up interviews with project stakeholders; iii) the resolution of outstanding issues and the issuance of the final validation report and opinion.

Project participant/s used the Attachment A to Appendix B for demonstration of the additionality. In line with this guidance document, the PDD provides analysis of investment to determine that the project activity itself is not the baseline scenario.

By synthetic analysis of the description of the project, the project is likely to result in reductions of GHG emissions. An analysis of the investment 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. Given that the project is implemented and maintained as designed, the project is likely to achieve the estimated amount of emission reductions.

The review of the revised project design documentation (Ref /4/ to /6/) and the subsequent follow-up interviews have provided Bureau Veritas Certification with sufficient evidence to determine the fulfillment of stated criteria. In our opinion, the project correctly applies and meets the relevant UNFCCC requirements for the CDM and the relevant host country criteria.

In summary, Bureau Veritas Certification confirms that

- The baseline has been appropriately identified as per the applied methodology.
- The PoA additionality is sufficiently justified in the PoA-DD.
- The eligibility criteria established for CPA inclusion are deemed appropriate and sufficient.
- The monitoring plan is transparent and adequate.
- The calculation of the emission factors and the CPA emission reductions is carried out in a transparent and conservative manner.
- Information on the local stakeholders" consultation by the project participants prior to submitting the PoA for validation is sufficiently provided in the PoA-DD.
- All information has been also consistently applied in the generic CPA-DD form.

Bureau Veritas Certification thus requests registration of "Punjab State Electricity Board (Punjab State Power Corporation Limited): High Voltage Distribution System for Agricultural Consumers in the Rural Areas of the Punjab" as a POA project activity.

6 REFERENCES

Category 1 Documents:
Documents provided by Type the name of the company that relates directly to the GHG components of the project.

/1/	Webhosted POA DD, Version 01, dated 23/12/2009
/2/	Webhosted Generic CPA- DD, Version 1.0, dated 23/12/2009
/3/	Webhosted Specific CPA-DD, Version 1.0, dated 23/12/2009
/4/	Final POA DD, Version 1.5, dated 05/06/2012
/5/	Final Generic CPA- DD, Version 1.5, dated 05/06/2012
/6/	Final Specific CPA-DD, Version 1.5, dated 05/06/2012
/7/	Host Country Approval issued by the DNA of India vide reference no. 4/6/2010-CCC dated 06/08/2010 for the proposed project activity.
/8/	Host Country Approval issued by the DNA of Denmark vide reference no. KAR Climate Division dated 09/06/2011 for the proposed project activity.
/9/	Memorandum of Association issued by the Government of Punjab to Punjab State Power Corporation Limited vide reference no. 1/9/08 EB (PR) 1185-86 dated 15/04/2010
/10/	Loan Sanction letter issued by REC for 15 schemes of the proposed POA under P:SI (Distribution) Category for HVDS to PSEB during 2006-07 vide letter no REC/PO/CH/PB/S-9/2006-07/1736 dated 29/09/2006 – Indicates the scheme code numbers provided by the REC
/11/	Loan Sanction letter issued by REC for 19 schemes of the proposed POA under P:SI (Distribution) Category for HVDS to PSEB during 2006-07 vide letter no REC/PO/CH/PB/S-9/2006-07/2070 dated 13/10/2006 - Indicates the scheme code numbers provided by the REC
/12/	Loan Sanction letter issued by REC for 06 schemes of the proposed POA under P:SI (Distribution) Category for HVDS to PSEB during 2006-07 vide letter no REC/PO/CH/PB/S-9/2006-07/2305 dated 07/11/2006 - Indicates the scheme code numbers provided by the REC
/13/	Work Order cum Contract Agreement vide reference no 3611/RCZ-293/Vol.VII dated 25/10/2007 issued to M/s Maha-Shakti Conductors Pvt Ltd for material procurement of the 1st CPA of the project activity. /13 a/ Tender documents issued to various contractors showing the no-load and full load loss of base line transformers /13 b/ Tender documents issued to various contractors showing the no-load and full load loss of project transformers
/14/	Work Order No 12 issued vide memo no. 3656/RCZ-293/Vol VII dated 25/10/2007 issued to M/s Mahesh Kumar Singla for supply of material

	connected to erection, testing and commissioning of transformers connected to the 1st CPA of the project activity
/15/	Amendment to the Work Order No 12 issued vide memo no. 3656/RCZ-293/Vol VII dated 25/10/2007 issued to M/s Mahesh Kumar Singla through memo no 7841/55/RCZ-293 Vol VIII dated 10/09/2010, indicating the change in the Bill of Quantities (BOQ)
/16/	Final report dated June 2006 prepared by CRISIL and ICRA Limited and submitted to the Ministry of Power, Government of India indicating that PSPCL supplies free electricity to Agricultural consumers.
/17/	www.pspcl.in/pseb/docs/south_zone.htm
/18/	http://www.rggvy.gov.in/rggvy/rggvyportal/link_files/guide1.pdf - Please refer Annex 4
/19/	Excel sheet working of the mean length and mean load of the feeders, deduced from the DPR prepared for the project activity.
/20/	http://www.pserc.nic.in/pages/tariff_order_2k5_2k6_0_main.html
/21/	Emission reduction calculation excel sheet for the 1st CPA
/22/	Snap-shots of the Detailed Project Report for the 14 feeders of the project activity
/23/	Financial working sheet for the 1st CPA of the project activity viz; Dhuri CPA
/24/	Letter vide reference DO No. 1072/PS/M/D from Member Distribution, PSEB to the Chairman-cum-Managing Director, Rural Electrification Corporation dated 01/12/2005 seeking an in-principle approval of loan for the project activity
/25/	In-principle approval from REC to PSEB indicating an in-principle approval for loan for the project activity, dated 20/12/2005
/26/	Letter from REC to PSEB dated 25/01/2006 vide letter no REC/IC&D/CDM/05 informing the project participant regarding CDM benefits of the proposed project activity.
/27/	Memorandum No 213/CE/RE&APDRP dated 13/03/2006 submitted to the Board of Directors of PSEB seeking in-principle approval for considering the project activity under CDM.
/28/	In-principle approval from the Board of Directors for the project activity considering CDM benefits approved on 07/04/2006
/29/	Report of the Union bank of India indicating the average DSCR of 1.5 and 1.3 for funding projects.
/30/	Report on the "Developing Financial Intermediation mechanisms for Energy Efficiency Projects in Brazil, China and India – India Country Report" prepared by the World Bank and UNEP dated May 2006
/31/	Bulk Security Guarantee document by the State Government dtd. 15/01/2007 indicating that the application for the bulk security guarantee was made by the Project participant (viz; PSEB) to the State Government on 27/07/2006

Category 2 Documents:

Background documents related to the design and/or methodologies employed in the design or other reference documents.

/32/	POA DD completion guidance - Guidelines for completing the simplified project design document (CDM-SSC-PDD) and the form for proposed new small scale methodologies (CDM-SSC-NM), version 05
/33/	AMS II.A, Version 10 - Indicative simplified baseline and monitoring methodologies for selected small-scale CDM project activity categories – Supply side energy efficiency improvements – transmission and distribution
/34/	Guidelines On Assessment Of Debundling For SSC Project Activities, version 3, EB 54, Annex 13
/35/	Emission Factor tool - Tool to calculate the emission factor for an electricity system, version 2.2.0, EB 61, Annex 12
/36/	Validation and Verification Manual, version 1.2, EB 54; [VVM]
/37/	CEA baseline database, version 05 dated November 2009 [http://www.cea.nic.in/reports/planning/cdm_co2/cdm_co2.htm]
/38/	Guidance on the Assessment of Investment Analysis, Version 05, EB 62, Annex 05
/39/	Guidelines on the Demonstration and Assessment of Prior Consideration of the CDM, Version 04, EB 62
/40/	EIA notification, S.O. 1533 dated 14th September, 2006
/41/	Notice in local newspaper dated 07/02/2009 inviting local stakeholder comments on the Project Activity.
/42/	Minutes of meeting of local stakeholder consultation process, attendance sheet and photographs of the local stakeholder meeting conducted by the Project Participant.

Persons interviewed:

List persons interviewed during the validation or persons that contributed with other information that are not included in the documents listed above.

/1/	Mr. S L Bhatt, Chief Engineer, PSPCL
/2/	Mr. Ashok Garg, Dy. Chief Engineer, PSPCL, Energy Audit and Accounting Centre
/3/	Mr. Jammu, Executive Engineer, PSPCL, Data Monitoring System
/4/	Mr. Nishant Singla, Jr. Engineer, PSPCL
/5/	Mr. Kirtan Sahoo, Carbon Finance Specialist, The World Bank
/6/	Mr. Hari Gadde, Carbon Finance Specialist, The World Bank
/7/	Mr. Atul Sanghal, Emergent Ventures India Ltd
/8/	Mr. Vikas Menghwani, Emergent Ventures India Ltd
/9/	Mr. Niranjan Singh Dhaula , Bhartiya Kisan Sangh
/10	Mr. Jarnail Singh, Bhartiya Kisan Sangh

7. CURRICULA VITAE OF THE DOE'S VALIDATION TEAM MEMBERS

R S Prem Kumar:

Bureau Veritas Certification, Team Leader, Climate Change Verifier

Lead auditor in Bureau Veritas Certification for Environment Management System, Quality Management System and Occupational Health and Safety Management System. Graduate in the field of Environmental Engineering and has more than 14 years of Industrial work experience in the field of environmental and occupational safety management systems. He has undergone training on Clean Development Mechanism. He is involved in the Validation/verification for more than 35 CDM/VCS projects.

Hitesh Karandikar (Team Member)

Hitesh Karandikar is B.E. (Bachelor of Engineer) in Electrical Engineering. (1991 batch). He is an MBA in Marketing and Finance. He has worked in Gujarat Electricity Board of Gujarat state in various departments. He has worked at world renowned Hydro Power project viz. "Sardar Sarovar Narmada Nigam Limited". The power station has total capacity of 1450 MW generation capacity of which 250 MW from Canal Head Power House and 1200 MW from River Bed Power House. He has an experience of Designing switch Yard Structures, foundation for the 220 kv and 400 kv switchyard structures.

He is a certified Energy Manger from Bureau of Energy Efficiency, and has wide experience of preliminary energy audit of more than 200 industries. He was also a team mate from Gujarat Electricity Board, in carrying out thermal power energy audit carried out by NPC, Hyderabad and ERDA, Vadodara. He has been faculty in many "Energy Conservation" seminars/conferences. His other professional qualification includes : He is a ISO 9001, 14001 and OHSAS 18001 Lead Auditor. (more than 200 manday audit experience). He is also a certified Six Sigma Black Belt. He has successfully undergone training of CDM verifier organised by Bureau Veritas.

M T Shah (Technical Expert)

Mr. M. T Shah is an electrical engineer (1980 batch), who has a vast experience in various fields of electricity board. He has worked in Transmission & Distribution department of Gujarat State Electricity Board for more than 25 years. He has worked for various portfolios including maintenance in distribution to 400 kv transmission line designs, construction of new sub-stations ranging from 33 kv to 400 kv. He has also worked at Load Distribution/Despatch Centre for economic operation of the transmission and distribution grid.

Karthikeyan and Jayaram Associates (Financial Expert)

Services from Jayaram & Karthikeyan Associates was delivered by Mr. Jayaram, who is a Chartered Accountant, for the validation of the benchmark calculations. He possesses in depth understanding and experience in Assurance services relating to financial appraisals & analyses, those specially related to CDM projects. He is empanelled with other DOE's for scrutinizing the financial additionality aspects of the CDM projects handled by them and expressing opinions on the financials of the project participant. Has appraised over 50 CDM projects for financial additionality on behalf of CDM validators of repute.

H B Muralidhar (Internal Technical Reviewer)

Graduate in Electrical engineering with 25 years of experience power generation and distribution related fields as well as in management system auditing. He is the Lead auditor for Environmental Management System, Quality Management system and Occupational Health and Safety Management System. He has undergone intensive training on Clean Development Mechanism. He is the technical expert & conducted Validation / Verification for more than 50 CDM Projects.

APPENDIX A: THE WORLD BANK GROUP CDM PROJECT VALIDATION PROTOCOL

VALIDATION PROTOCOL

Table 1 Validation requirements based on paragraph 37 of the CDM/POA modalities and procedures

CHECKLIST QUESTION	Ref.	§	COMMENTS		Draft Concl	Final Concl
1. Approval			*COUNTRY: (1) India*	*COUNTRY: (2) Denmark*		
a. Have all Parties involved approved the project activity?	VVM	44	The Project Participant description under Section A.3 of the POA DD indicates that PSEB is the Project Participant However the DNA approval for the Project Participant is not provided to the validation team. As indicated under Section A.3 of the POA DD, the International Bank for Reconstruction and Development is indicated as a Project Participant. Please provide the copy of the DNA approval.		CL 1	--
b. Has the DNA of each Party indicated as being involved in the proposed CDM/POA project activity in section A.3 of the PDD provided a written letter of approval? (If yes, provide the reference of the letter of approval, any supporting documentation, and specify if the letter was received from the project participatn or directly from the DNA)	VVM	45	Refer 1a above	Refer 1a above	--	--

CHECKLIST QUESTION	Ref.	§	COMMENTS		Draft Concl	Final Concl
c. Does the letter of approval from DNA of each Party involved:	VVM	45	Refer 1a above	Refer 1a above	--	--
i. confirm that the Party is a Party of the Kyoto Protocol?	VVM	45.a	Refer 1a above	Refer 1a above	--	--
ii. confirm that participation is voluntary?	VVM	45.b	Refer 1a above	Refer 1a above	--	--
iii. confirm that, in the case of the host Party, the proposed CDM/POA project activity contributes to the sustainable development of the country?	VVM	45.c	Refer 1a above	Refer 1a above	--	--
iv. Refers to the precise proposed CDM/POA project activity title in the PDD being submitted for registration?	VVM	45.d	Refer 1a above	Refer 1a above	--	--
d. Is(are) the letter(s) of approval unconditional with respect to (i) to (iv) above?	VVM	46	Refer 1a above	Refer 1a above	--	--
e. Has(ve) the letter(s) of approval been issued by the respective Party's designated national authority (DNA)?	VVM	47	Refer 1a above	Refer 1a above	--	--
f. If there is doubt with respect to (e) above, was verified with the DNA that the letter of approval is valid for the proposed CDM/POA project activity under validation?	VVM	47	Refer 1a above	Refer 1a above	--	--
g. Is there doubt with respect to the authenticity of the letter of approval?	VVM	48	Refer 1a above	Refer 1a above	--	--
h. If yes, was verified with the DNA that the letter of approval is authentic?	VVM	48	Refer 1a above	Refer 1a above	--	--
2. Participation			*PP1 (insert PP1 name)*	*PP2 (insert PP2 name)*		
a. Have all project participants been listed in a consistent manner in the project documentation?	VVM	51	1. The Project Participant listed under Section A.3 of the POA DD and under Annex 1 of the		CAR 1	--

CHECKLIST QUESTION	Ref.	§	COMMENTS		Draft Concl	Final Concl
			POA DD do not match. E.g There are 2 Project Participant's listed under A.3 whereas there are 3 Project Participant names listed under Annex 1. 2. The title of the POA as mentioned in the POA DD and in the CPA DD do not match --			
b. Has the participation of the project participants in the project activity been approved by a Party to the Kyoto Protocol?	VVM	51	Refer above 2.a		Refer CAR 1	--
c. Are the project participants listed in tabular form in section A.3 of the PDD?	VVM	52	Yes		OK	--
d. Is the information in section A.3 consistent with the contact details provided in annex 1 of the PDD?	VVM	52	No, the Project Participant listed under Section A.3 of the POA DD and under Annex 1 of the POA DD do not match. E.g There are 2 Project Participant's listed under A.3 whereas there are 3 Project Participant names listed under Annex 1. --		Refer CAR-1	--
e. Has the participation of each of the project participants been approved by at least one Party involved, either in a letter of approval or in a separate letter specifically to approve participation? (Provide reference of the approval document for each of the project participants)	VVM	52	Refer to comments made in CAR 1	Refer to comments made in CAR 1	--	--
f. Are any entities other than those approved as project participants included in these sections of the PDD?	VVM	52	No		OK	
g. Has the approval of participation issued from the relevant DNA?	VVM	53	Refer 1 a above		--	--

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
h. Is there doubt with respect to (g) above? I	VVM	53	Refer 1 a above	--	--
i. If yes, was verified with the DNA that the approval of participation is valid for the proposed project participant?	VVM	53	Refer 1 a above	--	--
3. Project design document – POA DD					
a. Is the PDD used as a basis for validation prepared in accordance with the latest template and guidance from the CDM/POA Executive Board available on the UNFCCC CDM/POA website?	VVM	55	Yes, the latest guideline on CDM-PoA DD and CPA- DD is used	OK	OK
b. Is the PDD in accordance with the applicable CDM/POA requirements for completing the PDD?	VVM	56	No, refer the comments made in the below sections.	--	--
c. In CDM/POA-SSC-PDD section A.1 are following provided?					
i. Title of project			Yes	OK	OK
ii. Current version number and date of document			Yes	OK	OK
d. In CDM/POA-SSC-PDD section A.2 are following provided?					
i. A brief description of the project activity covering purpose which includes the scenario existing prior to the start of project, present scenario and baseline			No, the detailed description of the scenario existing prior to the project activity and the baseline is not explained transparently.	CAR 2	--
ii. Explanation how the GHG emission reductions are effected			The explanation of how the project activity would help in GHG emission reductions is not explained clearly in Section A.2 of PoA-DD.	CL 2	--
iii. The PP's view on the contribution of project activity to sustainable development			1) Yes, the description of how the Project Activity would contribute to the sustanable parameters of the host country is explained.	CL 3	--

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
			However the following is not transparently described viz; Economic well-being discusses issues related to disparity in the power supply and power demand. Please provide supproting evidences for the same and refer the same in the PDD also. 2) Provide supporting evidences for the other comments on social, technological well-being.		
iv. Are the following information provided viz;					
1. General operating and implementing framework of PoA 2. Policy/measure or stated goal of the PoA 3. Confirmation that the proposed PoA is a voluntary action by the coordinating/managing entity			Yes	OK	OK
e. In CDM/POA-SSC-PDD section A.3 are following provided in the tabular format?					
i. Coordinating or managing entity of the PoA as the entity which communicates with the Board.			Yes, however there are 2 names of Project Participant indicated in this Section whereas there are names of 3 entities listed in Annex 1. Please clarify	CL 4	--
ii. Identification of host party			Yes, provide the copy of the HCA of both the countries.	--	--
iii. Indication whether the Party wishes to be considered as project participant			Yes	OK	OK
iv. Project participants being registered in relation			Yes	OK	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
to PoA					
f. In CDM/POA-SSC-PDD section A.4. are following provided?					
i. Location of the POA ?			Yes	OK	OK
ii. Detailed physical location with unique identification of the project activity (eg. Longitude/latitude)			Yes	OK	OK
iii. In Section A.4.1.2, is the physical / geographical boundary described ?			Yes	OK	OK
g. In CDM/POA-SSC-PDD section A.4.2 are following provided					
i. In Section A.4.2.1 , is the description of the technology or the measures to be employed by the SSC-CPA provided ?			Yes	OK	OK
ii. In Section A.4.2.2, is the eligibility criteria for inclusion of a SSC-CPA in the POA described ? (Only description of the criteria for enrolling the CPA to be described)			The eligibility criteria for the inclusion of a SSC-CPA is not completely defined in the PDD i.e all the criteria are not discussed whereas other criteria are discussed. E.g The criteria “CPA shall be located in the State of Punjab” is not an eligibility criteria for a SSC-CPA.	CL 5	--
In CDM/POA-SSC-PDD section A.4.3 has it been demonstrated that: 1. The proposed PoA is a voluntary coordinated action; 2. If the PoA is implementing a voluntary coordinated action, it would not be implemented in the absence of the PoA;			It has been demonstrated in section A.4.3 that : The Project Activity is not a part of any policy mandate or regulation..	OK	

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
3. If the PoA is implementing a mandatory policy/regulation, this would/is not enforced; 4. If mandatory a policy/regulation is enforced, the PoA will lead to a greater level of enforcement of the existing mandatory policy/regulation.					
a. In CDM/POA-SSC-PDD section A.4.4 have an acceptable and credible description of the operational and management arrangements established by the coordinating/managing entity for the implementation of the PoA, been provided in Section 4.4.1 which includes: (i) A record keeping system for each CPA under the PoA, (ii) A system/procedure to avoid double accounting e.g. to avoid the case of including a new CPA that has been already registered either as a CDM project activity or as a CPA of another PoA, (iii) The SSC-CPA included in the PoA is not a de-bundled component of another CDM programme activity (CPA) or CDM project activity. (iv) The provisions to ensure that those operating the CPA are aware of and have agreed that their activity is being subscribed to the PoA;			1. Please provide supporting evidences for all the records / documents indicated in this section of the POA PDD. 2. The system / procedure described to avoid double accounting is not clear / transparent. Further provide the information of all the divisions and feeders as indicated in the PDD.	CL 6	--

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
h. In CDM/POA-SSC-PDD in Section A.4.4.2 are following provided?					
(i) Description of the proposed statistically sound sampling method/procedure to be used by DOEs for verification of the amount of reductions of anthropogenic emissions by sources or removals by sinks of greenhouse gases achieved by CPAs under the PoA.			The Project Participant has provided sampling for the loss reduction calculation for feeders, pl. refer CL 27.	OK	--
(ii) In case the coordinating/managing entity opts for a verification method that does not use sampling but verifies each CPA (whether in groups or not, with different or identical verification periods) a transparent system is to be defined and described that ensures that no double accounting occurs and that the status of verification can be determined anytime for each CPA;			Yes, however the procedure to avoid double counting is not transparent. Pl. refer CL -6	Refer CL 6	--
i. In CDM/POA-SSC-PDD Section 4.5 has information on public funding been provided?			PP is requested to provide the break-up of the debt:equity ratio for the Project Activity, alongwith supporting evidences.	CL 7	--
j. In CDM/POA-SSC-PDD section B.1 has the Starting date of the POA been provided?			Yes, however PP is requested to provide the copy of all the contracts/P.O/Work Orders signed for this project.	CL 8	--
k. In CDM/POA-SSC-PDD section B.2 has the Length of the programme of activities (PoA) been provided?			The length of the POA has not been provided in the DD/MM/YYYY format.	CAR 3	--
l. In CDM/POA-SSC-PDD section C1:			1. The environmental analysis is conducted at the POA level. Please provide the copy of the ESR as	CL 9	--

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
Is it indicated at what level environmental analysis is conducted ?. Is it at POA level or SSC CPA level.?			indicated in the PDD. 2. Also the schedule of the Indian legislation which indicates that EIA is not required for this kind of projects is not referenced in the PDD.		
Has the choice of level at which the environmental analysis is undertaken been justified ?					
m. In CDM/POA-SSC-PDD section C2: Does documentation on the analysis of the environmental impacts, including transboundary impacts exist and are they credible/acceptable ?			Section C.2 of the POA DD does not describe the analysis of the environmental impacts rather it describes the process of inviting stakeholder comments.	CAR 4	--
In CDM/POA-SSC-PDD section C3: Whether in accordance with the host Party laws/regulations, is an environmental impact assessment required for a typical CPA, included in the programme of activities (PoA)and has been been stated/explained:			The schedule of the Indian legislation which indicates that EIA is not required for this kind of projects is not referenced in the PDD.	Refer CL 9	--
1. In CDM/POA-SSC-PDD section D1: a. Has the level at which local stakeholder comments are invited been described ?			The choice at which local stakeholder comments are received is indicated to be at the POA level.	OK	OK
b. If yes, is the choice justified ? (**Note:** If local stakeholder comments are invited at the PoA level, include information on how comments by local stakeholders were invited, a summary of the comments received and how due account was taken of any comments received, as applicable.)			No, the justification of the choice of the level selected by the Project Participant is not acceptable since the local stakeholders at each of the SSC CPA level are different and hence the comments could also be different from each other. (**Auditor Note :** The validation team would like to	CAR 5	--

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
			interview all the local stakeholders who fall under the divisions as per the sampling plan)		
1. In CDM/POA-SSC-PDD section D2,D3 & D4: a. Were local stakeholders (public, including individuals, groups or communities affected, of likely to be affected, by the proposed CDM/POA project activity or actions leading to the implementation of such an activity) invited by the PPs to comment on the proposed CDM/POA project activity prior to the publication of the PDD on the UNFCCC website?			Yes, the local stakeholder meeting has been conducted by the Project Participant. As per the POA DD, stakeholder comments were invited through newspaper advertisements dated 07.02.2009 and also through the PSEB website. Provide the original copies of the newspaper cutting clearly indicating the date as indicated in the PDD. Also provide supproting evidences for the website inviting comments from stakeholders. Further it is stated that the stakeholder meeting was conducted on April 24, 2009. However it is not clear as to when was the invitation for this meeting given. During the validation site visit to Dhuri sub-division, the validation team was informed from local stake holders that all the transformer replacement work of Dhuri division is not complete, whereas PP has mentioned during the visit, that the work is complete.	CL 10	--
b. Have comments by local stakeholders that can reasonably be considered relevant for the proposed CDM/POA project activity been invited?			PP to provide all relevant supporting evidences for the stakeholder consultation process.	CL 11	--
c. Is the summary of the comments received as provided in the PDD complete?			The identity of the sakeholder who have made comments is not clearly defined in Section D.3 of	CAR 6	--

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
			the POA DD.		
d. Have the project participants taken due account of any comments received and described this process in the PDD?			The description of how due account was taken of the comments received from the local stakeholders is not described transparently.	CAR 7	--
e. In Section E.1, is the title and reference of the approved SSC baseline and monitoring methodology described ?			The title of the approved methodology is not stated.	CL 12	--
f. Is the version of the applied methodology, the latest ?			Yes, version 10 of AMS IIA	OK	OK
g. Are the title and the version status of the other tools / methodologies used in the PDD described ?			Yes, AMS ID Version 15 is referred.	OK	OK
h. In Section E.2 of the PDD, is the justification for the choice of the methodology and why it is applicable to the SSC-CPA explained ?			Yes, however PP is requiested to provide the copy of the emission reduction excel sheet.	CL 13	--
• In CDM/POA-SSC-PDD section E.3 has the sources and gases in the SSC – CPA been provided?			Yes	OK	OK
l. In CDM/POA-SSC-PDD section E4 are following provided?				OK	OK
i. The baseline for the proposed project activity with reference to the chosen project category			Yes	OK	OK
ii. Justification of key assumptions and rationales			NA	OK	OK
iii. Transparent illustration of all data used to determine the baseline emissions (variables, parameters, data sources etc)			NA	OK	OK
m. In CDM/POA-SSC-PDD section E.5 are following provided?					

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
i. Under Section E.5.1, is it assessed and demonstrated that the typical SSC-CPA is additional as per the procedure described in the applied methodology ?			The additionality for the Project Activity is not assessed and demonstrated in Section E.5.1, rather it is incorrectly described in Section A.4.3 of the POA DD	CAR 8	--
ii. Under Section E.5.2, are the key criteria and data for assessing additionality of an SSC-CPA provided ?			1. The criteria for assessing additionality of an SSC-CPA is described. However the same is not based on the analysis in Section E.5.1 2. The justification of the choice of the additioanlity criteria is not demonstrated in the PDD. E.g For the 1st criteria, it is indicated that "PSEB shall provide documents to show that the power for agricultural consumers is availabke for free". Hiwever the documentation to provide evidence for the same is not referenced in the PDD nor is the copy of the evidence provided to the validation team. 3. Similar is the case for the other additionality criterion. 4. The appropriateness of the DSCR as the benchmark for the Project Activity and the value of the DSCR considered is not justified.	CAR 9	--
iii. Under Section E.5.2, is it demonstrated as to how these criteria would be applied to assess the additionality of a typical CPA at the time of inclusion ?			Refer to above comments	--	--
iv. National policies and circumstances relevant to the baseline of the proposed project activity			No, description of national policies and circumstances relevant to the baseline of the proposed Project Activity is not stated in the PDD.	CL 14	--

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
v. Evidence that the incentive from the CDM/POA was seriously considered in the decision to proceed with the project activity, if the starting date of the project activity is before the date of validation.			The POA DD indicates of the CDM consideration and the chronology of events. Provide all supporting documentation.	--	--
n. In CDM/POA-SSC-PDD section E.6 are following provided?					
i. In Section E.6.1, is the explanation of the methodological choices selected for the typical SSC-CPA provided ?			Yes	OK	OK
ii. In Section E.6.2, are the equations to be used in the calculations of the emission redcutions described ?			Yes, algorithms to calculate the baseline emissions, emission reductions, project emissions and leakage are provided. However the following is not clear viz; 1. Project emissions on account of all the new transformers being put into use is not considered since the individual new transformers would also have some transmission losses. 2. Leakage effect is considered to be zero in the PDD. However during the site visit , it was given to undersand by the Project Participant representatives that the replaced old transformers are put back in service at other locations and some of the transformers are sold to third parties through auction. In such a case, why leakage effects are not considered is not justified, since the methodology requires	CAR 10	--

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
			consideration of leakage in such cases. The above conditions are not explained in the PDD. Also provide all supporting evidences.		
iii. In Section E.6.3, are the details provided in the tabular format ?			Yes	OK	OK
iv. Are all the fields included in the table ?			Yes, refer CAR-11 below.	--	--
v. The actual value applied			The actual value applied is not indicated in the tables in Section E.6.3. Also provide all the supporting documents for values mentioned therein.	CAR 11	--
vi. Clear and transparent references or additional documentation in Annex es			No, PP referred Annex 6 (page 21), which is not evident	CL 15	--
vii. Where values have been measured, a description of the measurement methods and procedures (e.g. which standards have been used), indicated the responsible person/entity having undertaken the measurement, the date of measurement(s) and the measurement results			Provide the calibration records of the meters available at the Dhuri site.	CL 16	--
a. Where data or parameters are supposed to be measured, specify the measurement methods and procedures, including a specification which accepted industry standards or national or international standards will be applied, which measurement equipment is used, how the measurement is undertaken, which calibration procedures are applied, what is the accuracy of the measurement method,			There is no specific mention about frequency of calibration, also no specific procedure if there is anomaly in readings of metering instruments	CAR 12	--

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
who is the responsible person/entity that should undertake the measurements and what is the measurement interval; (i) A description of the QA/QC procedures (if any) that should be applied; (ii) Where relevant: any further comment. Provide any relevant further background documentation in Annex 4.					
viii. A detailed description of the monitoring plan in Section E 7.2.			1. Procedures for data monitoring as described in the POA DD and actual at site is different. 2. Procedures for handling data uncertainties in data measurement is not clear. 3. Daily log books maintained at the sub-stations are not authenticated by a higher authority. 4. Procedures for data apportioning is not discussed. 5. The procedures to be followed in case there are damages to monitoring equipments (pg 39 of the POA DD) is not explained.	CAR 13	--
a. Relevant further background information in Annex 4			The POA DD indicates 46 divisions only in Annex 4 as against 89 divisions mentioned in A.2 of the POA DD.	CL 17	--
o. In CDM/POA-SSC-PDD section E.8 are following provided					
i. Date of completion of the application of the methodology to the project activity study in DD/MM/YYYY			Yes	OK	OK
ii. Contact information of the person(s)/entity(ies) responsible for the application of the baseline			Yes	OK	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
and monitoring methodology to the project activity					
iii. Indicated if the person/entity is also a project participant listed in Annex 1			No, the identity of the person / entity as a Project Proponent or not is not described.	CAR 14	--
iv. Is the contact information of the Project Participant provided in Annex 1 ?			Yes	OK	OK
v. Is relevant information in Annex 2 filled in ?			Yes	OK	OK
vi. Is any information provided in Annex 3 ?			Yes, however the baseline information seems to be derived from AMS ID. This is incorrect since only the emission factor is to be taken from AMS ID, as per the applied methodology.	CAR 15	--
vii. Is relevant information provied in Annex 4 of the POA DD ?			Annex 4 does not provide any monitoring information. Project Proponent to please clarify the significance of the information provided in Annex 4 of the PDD.	CL 18	--
4. Project design document – Specific DD					
a. In Section A.1, is the title of the Project Activity alongwith the version number and the date (in DD/MM/YYYY format) indicated ?			Yes	OK	
b. In Section A.2, is the description of the small scale CPA included ?			Yes, however the pre-project scenario is not described transparently. a) The description of how the Project Activity would contribute to the sustainable parameters of the host country is explained. However the following is not transparently described viz; Economic well-being discusses	CL 3	--

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
			issues related to disparity in the power supply and power demand. Please provide supproting evidences for the same and refer the same in the PDD also. b) Provide supporting evidences for the other comments on social, technological well-being.		
c. In Section A.3, is the entity /individual responsible for the small scale CPA described ?			Yes, PSEB is indicated as the CPA implementer for the SSC CPA.	OK	OK
d. In Section A.4.1.2, is the geographic reference or other means of ientification of the SSC CPA indicated ?			The geographic reference up-to the seconds parameter in Section A.4.1.2 is not provided.	CL 19	--
e. Is the above information restricted to one page ?			Section A.4.1.2 exceeds one page which does not meet the requirements of the guidelines.	CAR 16	--
f. In CPA-PDD, section A.4.2 are the following provided?					
i. The starting date of a CDM/POA project activity is the earliest of the date(s) on which the implementation or construction or real action of a project activity begins/has begun (EB33, Para	EB 41	67	Yes, however refer CL-20	Refer CL 20	--

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
76/CDM/POA Glossary of terms/EB41, Para 67)					
ii. A description of how this start date has been determined, and a description of the evidence available to support this start date	EB 41	67	No, a description of how this start date has been determined is not discussed.	CL 20	--
g. In CDM/POA-SSC-PDD section A 4.2.2 is the expected operational lifetime of the project activity in years and months provided?			No., the operational lifetime of the project activity is not stated in years and months	CL 21	--
h. In CDM/POA-SSC-PDD section A 4.3 is it stated whether the project activity will use a renewable or a fixed crediting period and completed C.2.1 or C.2.2 accordingly?			Yes, the project activity will use fixed crediting period.	OK	OK
i. In CDM/POA-SSC-PDD section A 4.3 are the dates in the following format: (DD/MM/YYYY) provided?	C.2. 11		No, the date in Section A.4.3 of Specific DD is not described in the required format.	CL 22	--
j. In Section A.4.3.1, is the starting date of the crediting period indicated ?			No, the starting date of the crediting period is not indicated.	CL 23	--
k. In Section A.4.3.2, is the length of the crediting period indicated in DD/MM/YYYY format ? Further is it ensured that the duration of the crediting period of any CPA does not exceed the end date of the POA.			No, the length of the crediting period is not in the required date format. Yes, it is ensured that the crediting period pf the CPA does not exceed the end date of the POA.	CL 24	--
l. Is information provided in Section A.4.6 to confirm that the SSC CPA is not a de-bundled component ?			The information on the de-bundling aspect needs to be discussed since it is not transparently discussed in the PDD	--	--
m. In Section A.4.7 , is a confirmation provided that the SSC CPA is neither registered as an individual CDM Project Activity or part of another			Yes	OK	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
registered POA ?					
n. In Section B.1, is the title and reference of the registered POA to which the SSC CPA is added, provided ?			Yes	OK	OK
o. In Section B.2, is justification provided on why the SSC CPA is eligible to be included in the registered POA ?			Some of the criteria chosen and their justifications are not appropriate.	CL 25	--
p. In Section B.3, is the assessment and demonstartion of additionality provided ?			Yes, however the input values considered in the investment analysis are post the decision making date and hence not acceptable. Further appropriateness of the benchmark and the benchmark value is not proven.	Refer CAR 24	--
q. -In Section B.4, is the description of the sources and gases detailed ? Further is it proven that the SSC CPA is located within the geographical boundary of the registered POA?			Yes, however provide the copies of the DPR, as referenced in this section.	--	
r. In Section B.5.1, are the data and parameters that are available at validation provided ?			Yes, however for the calculation of emission factor how is ACM 0002 relevant is not clear. Please clarify.	CL 26	--
s. In Section B.5.2, is an transparent ex-ante calcuation of all the parameters of basleine emissions, project emissions and leakage provided ?			No, refer to the comments on project emissions and leakage under CAR 10 above. The basis for the losses of 8.68 % and 0.02% is not justified with supporting evidences.	CL 27	--
t. In Section B.5.3, is the information provided in the tabular format ?			How the project activity emissions of 33 tCO2e is arrived at is not clear.	--	--
u. In Section B.6.1, is the description of the monitoring plan provided ?			Yes, however refer to comments made under CAR 13 above.	--	--

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
v. In Section C.1, is the level at which environmental analysis is carried out described ?			Yes, at the POA level	OK	OK
w. In Section D.1, is the level at which local stakeholder consultation process conducted indicated ? Is the choice justified ?			Yes, local stakeholder consultation process is at the POA level. However the choice is not justified.	OK	OK
x. Is the contact information of the Project Participant provided in Annex 1 ?			Yes	OK	OK
y. Is relevant information in Annex 2 filled in ?			Yes	OK	OK
z. Is any information provided in Annex 3 ?			Yes, however the baseline information seems to be derived from AMS ID. This is incorrect since only the emission factor is to be taken from AMS ID, as per the applied methodology.	--	
æ. Is relevant information provied in Annex 4 of the POA DD ?			Yes, however the references of the appendices are not provided in the cover page of the CPA PDD.	CL 28	--
5. Project description					
In the POA DD, the generic and specific CPA DD , a. Does the PDDs contain a clear description and scope of the project activity that provides the reader with a clear understanding of the precise nature of the project activity and the technical aspects of its implementation?	VVM	58	1. The description of the pr-project and the project activity is not transparently described in the POA DD. E.g line length of conductors, total no. of transformers in the pre-project and the project activity not mentioned. 2. The copy of the DPR[i] reviewed at the PSEB office (during the site visit) does not include the pre-project and project transformer losses. 3. Also it is not clear as to how many old transformers were replaced with the new transformers.[ii]	CAR 17	--
b. Does the description and scope of the proposed CDM/POA project activity as	VVM	59			

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
contained in the PDD:					
i. sufficiently covering all relevant elements?	VVM	59	Refer to CAR above	--	--
ii. acurate?	VVM	59	Refer to CAR above	--	--
iii. providing the reader with a clear understanding of the nature of the proposed CDM/POA project activity?	VVM	59	1. During the site visit, it was observed by the validation team that an old 100 KVA transformer was replaced with smaller new transformer capacities totaling to almost 170 KVA. The baseline for the same is not clear. E.g In one of the CLR (Connected load Register) sheet of Babanpur –1 feeder, (Ref. No. – Transformer Sr. no. DT as per Annex-D//BBN-I/M-03/100kva T/F) pre-project transformer rating is 100 KVA, whereas project scenario shows 170 KVA rating transformer installed. Project participant to clarify on the Addition of such load. 2. During the site visit, it was also observed that there are provisions being made for additional connections to agricultural pump-sets. It is not clear as to how many such new connections would replace an old transformer of 100 KVA. The effect of the same on the baseline and on the emission reduction calculations is not clear. 3. Provide supporting evidence to prove that all the transformers installed in the project activity are new and are not transferred.[iii] [iv] 4. During the site visit, at Babanpur-1 Feeder, no traceability record was evidenced for new 16 KVA transformer (the validation team had	CAR 18	--

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
			checked Babanpur feeder, in which there were 3 transformers, of which for following transformer records were not available. a. Tr. 1 : Sr no. 1299 –16 KVA Transformer– no records /traceability of installation were seen by the validation team. 5. Project Proponent to clarify whether permission from the Chief Electrical inspector / Electrical inspector is not mandated before charging the line i.e. after converting it to HVDS. Kindly justify the reason and provide appropriate supporting evidences. 6. The PDD does not transparently describe the bifurcation of commercial and technical losses viz. theft and actual technical losses due to LV system. 7. Calculation of base line and project loss are taken as 8.68% an 0.02%. Basis for the same are not described. 8. It is not clear from the PDD as to how many subdivisions, feeders no. etc are there in the project activity. Further the feeder length / feeder sketch is not submitted to the validation team. 9. It is not clear from the PDD as to what were the designed transmission line losses ?		
c. Is the proposed CDM/POA project activity in	VVM	60	The proposed Project Activity involves the	OK	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
existing facilities or or utilizing existing equipments?			reduction of the transmission lines and replacement of LV transformers with HV transformers.		
d. Is the CDM/POA project activity one of the following types:	VVM	60			
iv. Large scale?	VVM	60	No	OK	OK
v. Non-bundled small scale projects with emission reductions exceeding 15,000 tonnes per year?	VVM	60	No	OK	OK
vi. Bundled small scale projects, each with emission reductions not exceeding 15,000 tonnes?	VVM	60	Yes	OK	OK
e. If yes to (c) and (d) above, was a physical site inspection conducted to confirm that the description in the CPA/PDDs reflects the proposed CDM/POA project activity, unless other means are specified in the methodology?	VVM	60	Yes, a site visit was conducted by a 2 member validation team and also included an observer and a technical expert. The visit was conducted from 22nd February to 25 February 2010.	OK	OK
f. If yes to (d.iii) above, was the number of physical site visits base on samping?	VVM	60	The number of site visits planned for the complete POA / CPA validation would be based on a sampling plan. However during the current site visit of 22nd to 25th Feb 2010, the Dhuri sub-station was covered and a random sample of 3 agricultural pumps were covered.	OK	OK
g. If yes is the sampling size appropriately justified through statistical analysis?	VVM	60	To achieve the same, the validation team referred to the Guidance on Sampling and Surveys for Small Scale CDM Project Activity (EB 50, Annex 30 and EB 65, Annex 2) and also downloaded the software indicated at the end of the guidance to calculate the sample size.	OK	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
h. For all other proposed CDM/POA project activities not referred to in paragraphs 59 – 60, and for other individual proposed small scale CDM/POA project activities with emission reductions not exceeding 15,000 tonnes per year, was a physical site inspection conducted?	VVM	62	Refer above comments	--	--
i. If no:	VVM	62			
vii. Was the validation undertaken by reviewing available designs and feasibility studies, conducting comparison analysis to equivalent projects, as appropriate?	VVM	62	NA	OK	OK
viii. Was it appropriately justified?	VVM	62	NA	OK	OK
j. Does the proposed CDM/POA project activity involve the alteration of an existing installation or process?	VVM	63	Yes, the proposed POA involves the alteration of the existing transmission line lengths and the replacement of the older Low Voltage (LV) transformers with High Voltage (HV) transformers.	OK	OK
k. If yes, does the project description clearly state the differences resulting from the project activity compared to the pre-project situation?	VVM	63	No, the project description in the PDD does not state the essential differences resulting in the project activity scenario vis-à-vis the pre-project situation. Pl. refer CL 3	Refer CL 3 and CL-33	--
ix. A description of how environmentally safe and sound technology and know how is being applied by the project activity interalia technology transfer to the Host Party(ies) for application in the project activity			The PDD does not describe as to how environmentally safe and sound technology has been applied by the project activity.	CAR 19	--
x. Has a description of criteria for enrolling the CPA been described (the criteria for			No, refer to comments in CAR 10 above	---	--

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
demonstrating additionality of CPA should be described in section E.5)					
6. Baseline and monitoring methodology					
a. General requirement					
a. Do the the baseline and monitoring methodologies selected by the project participants comply with the methodologies previously approved by the CDM/POA Executive Board?	VVM	65	Yes, the proposed Project Activity has selected the approved small scale methodology AMS II A, Version 10, which has been previously approved by the CDM EB.	OK	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
b. Is the selected methodology applicable to the project activity? **1.** This category comprises technologies or measures which reduce technical energy losses through improving the energy efficiency of either (a) An electricity transmission/distribution system resulting in electricity savings of up to 60 GWh per year, or (b) A thermal energy (e.g., steam or hot water) distribution system resulting in fossil fuel savings of up to 180 GWh per year. 2. This category does not include: (i) Measures that reduce technical losses solely by improving operations and/or maintenance practices. For example low-voltage conditions in the network, uneven distribution of loads, loose connections, etc. (ii) The introduction of capacitor banks and tap changing transformers for reducing losses in an electricity distribution; this is because technical loss reductions due to such measure can not be determined using the simplified approaches defined in this methodology.	VVM	66	The proposed project activity comprises replacement of the existing transmission lines and LV transformers with HV transformers to reduce the technical line losses in electricity distribution. The electrical savings from the proposed project activity exceeds 60 GWh. Please clarify the applicability of the methodology to the project activity.	CL 29	-
c. Had the selected methodology been correctly applied with respect to project boundary?	VVM	67	Yes	OK	-
d. Had the selected methodology been correctly applied with respect to baseline identification?	VVM	67	Yes, the selected methodology has been correctly applied with respect to baseline identification.	OK	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
e. Had the selected methodology been correctly applied with respect to Algorithms and/or formulae used to determine emission reductions?	VVM	67	The algorithm used in the calculation of load loss reduction upto 60 GWH is not provided. Also for net power saving of 1540GWh/annum. The total CERs generated are saving of energy multiplied by an emission factor, however the CERs are calculated on total energy exported. Please clarify. Total energy supplied (for the year 2005-06) = 195,846 MWh. However details of metering this parameter is not indicated in the PDD.	CAR 20	-
f. Had the selected methodology been correctly applied with respect to additionality?	VVM	67	Yes	OK	OK
j. Had the selected methodology been correctly applied with respect to monitoring methodology?.	VVM	g.	Yes	OK	OK
b. Applicability of the selected methodology to the project activity					
a. Is the selected baseline and monitoring methodology, previously approved by the CDM/POA Executive Board, applicable to the project activity?	VVM	68	Yes	OK	OK
b. Is the methodology correctly quoted?	VVM	69	Yes, the methodology AMS IIA , Version 10 is correctly quoted.	OK	OK
c. Are the applicability conditions of the	VVM	70	Yes	OK	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
methodology met?					
d. Is the proeject activity expected to result in emissions other than those allowed by the methodology?	VVM	70	No	OK	OK
e. Is the choice of the methodology justified?	VVM	70	Yes	OK	OK
f. Have the project participants shown that the project activity meets each of the applicability conditions or the approved methodology?	VVM	70	Yes,	OK	OK
g. Have the project participants shown that the project activity meets each of the applicability conditions of any tool or other methodology component referred to the methodology?	VVM	70	No, the POA DD does not indicate that the project activity meets the applicability conditions of the tools referred to under E.1 of the POA DD.	CAR 21	
h. Is the DOE, based on local and sectoral knowledge, aware that comparable information is available from sources other than that used in the PDD?	VVM	70	There are sources used which refer to REC guidelines, however, p.f. data used is 0.88, which is not relevant, neither PDD has support for it.	CL 30	--
i. If yes, was the PDD cross checked against the other sources to confirm that the project activity meets the applicability conditions of the methodology? (provide the reference to these choices)	VVM	70	Yes.	OK	OK
j. Can a determination regarding the applicability of the selected methodology to the proposed CDM/POA project activity be made?	VVM	71	Yes	OK	OK
k. If no, clarification of the methodoloy was requested, in accordance with the guidance provided by the CDM/POA Executive Board?	VVM	71	NA	OK	OK
l. If answer to (5.b.c) above is “no”, revision or	VVM	72	NA	OK	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
deviation from the methodology was requested, in accordance with the guidance provided by the CDM/POA Executive Board?					
m. If yes to (5.b.k) and (5.b.l) above, a request for registration was submited before the CDM/POA Executive Board has approved the proposed deviation or revision?	VVM	73	NA	OK	OK
c. Project boundary					
a. Does the PDD correctly describe the project boundary, including the physical delineation of the proposed CDM/POA project activity included within the project boundary for the purpose of calculating project and baseline emissions for the proposed CDM/POA project activity?	VVM	77	Yes	OK	OK
b. Is the delineation in the PDD of the project boundary correct?	VVM	78	Yes	OK	OK
c. Does the delineation in the PDD of the project boundary meet the requirements of the selected baseline?	VVM	78	Yes	OK	OK
d. Have all sources and GHGs required by the methodology been included within the project boundary?	VVM	78	Yes	OK	OK
e. Does the methodology allow project participant to choose whether a source or gas is to be included within the project boundary?	VVM	78	No	OK	OK
f. If yes, have the project participants justified that choice?	VVM	78	NA.	OK	OK
g. If yes, is the justification provided reasonable?	VVM	78	NA	OK	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
(provide reference to the supporting documented evidence provided by the project participants)					
d. Baseline identification					
a. Does the PDD identify the baseline for the proposed CDM/POA project activity, defined as the scenario that reasonably represents the anthropogenic emissions by sources of GHGs that would occur in the absence of the proposed CDM/POA project activity?	VVM	80	1. The baseline description under Section E.4 of the POA DD, indicates of alternatives identified for the proposed Project Activity. Project Participant to clarify as to which tool, referred to in the methodology, is being used for the identification of the alternatives. 2. Project Participant to clarify and justify as to why the Project Activity is not considered as a capacity addition (as mentioned in para 7 of the applied methodology and also since that an old 100 KVA transformer has been replaced with a 170 KVA transformer) 3. As per para 8 of the methodology, provide supporting evidence for the remaining lifetime of the replaced equipments (i.e old LV transformers) 4. Provide the details of all the old transformers that have been removed and also of all the new HV transformers that have been installed. The PDD indicates that Annex 6 shows the detail of the transformer replacements. However there are no Annex 6 attached. 5. Footnote 3 of the applied methodology indicates that the relevance of and the justification for using the REC guidelines for determining the baseline determination needs	CAR 22	

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
			to be provided in the PDD. The same is not described.		
b. Has any procedure contained in the methodology to identify the most reasonable baseline scenario, been correctly applied?	VVM	81	Refer to above comments	--	--
c. Does the selected methodology require use of tools (such as the "Tool for the demonstration and assessment of additionality" and the "Combined tool to identify the baseline scenario and demonstrate additionality") to establish the baseline scenario?	VVM	81	Not required .	OK	OK
d. If yes, was the methodology consulted on the application of thes tools? (In such cases, the guidance in the methodology shall supersede the tool.)	VVM	81	NA	OK	OK
e. Does the methodology require several alternative scenarios to be considered in the identification of the most reasonable baseline scenario?	VVM	82	Not required. , however the PDD indicates of 2 alternatives to the proposed Project Activity..	--	--
f. If yes, are all scenarios that are considered by the project participants and are supplementary to those required by the methodology reasonable in the context of the proposed CDM/POA project activity?	VVM	82	Refer to above comments	--	--
g. Has any reasonable alternative scenario been excluded?	VVM	82	NA	OK	OK
h. Is the baseline scenario identified reasonably supported by:	VVM	83		OK	OK
i. Assumptions?	VVM	83	NA	OK	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
ii. Calculations?	VVM	83	NA	OK	OK
iii. Rationales?	VVM	83	NA	OK	OK
i. Are the documents and sources referred to in the PDD correctly quoted and interpreted?	VVM	83	Refer CL 29 above	--	--
j. Was the information provided in the PDD cross checked with other verifiable and credible sources, such as local expert opinion, if available? (idendify the sources)	VVM	83	Yes, the validation team would be cross-checking the information provided in the PDD from an expert in electricity trasmission and distribution, who is a part of the validation team as an Expert.	--	--
k. Have all applicable CDM/POA requirements been taken into account in the identification of the baseline scenario for the proposed CDM/POA project activity?	VVM	84	Yes	OK	OK
l. Have all relevatn policies and circumstances been identified and correctly considered in the PDD, in accordance with the guidance by the CDM/POA Executive Board?	VVM	84	No, all relevant national policies and guidelines appropriate to the Project Activity have not been discussed transparently in the PDD.	--	--
m. Does the PDD provide a verifiable description of the identified baseline scenario, including a description of the technology that would be employed and/or the activities that would take place in the absence of the proposed CDM/POA project activity?	VVM	85	Yes	OK	OK
e. Algorithms and/or formulae used to determine emission reductions					
a. Do the steps taken and equations applied to calculate project emissions, baseline emissions, leakage and emission reductions comply with the requirements of the selected baseline and	VVM	88	Calculation of base line and project loss are taken as 8.68% an 0.02%. The algorithm and the basis for arriving at the same is not mentioned in the PDD.	Refer CAR 20 and CL 27	

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
monitoring?			Calculation of load loss reduction upto 60 GWH not given. Further all the algorithms described in the POA DD would be checked by the validation team only after receipt the copy of the peer reviewed literature[v].		
b. Have the equations and parameters in the PDD been correctly applied with respect those in the select approved methodology?	VVM	89	The equations are not provided in the selected methodology but all the algorithms being used in the PDD have been derived from the REC literature, which is in accordance with approved methodology AMS II A version 10.	OK	OK
c. Does the methodology provide for selection between different options for equations or parameters?	VVM	89	No	OK	OK
d. If yes, has adequate justification been provided (based on the choice of the baseline scenario, context of the proposed CDM/POA project activity and other evidence provided)?	VVM	89	NA	OK	OK
e. If yes, have correct equations and parameters been used, in accordance with the methodology selected?	VVM	89	NA	OK	OK
f. Will data and parameters be monitored throughout the crediting period of the proposed CDM/POA project activity?	VVM	90	Yes, there are certain data parameters which are available at the time of validation and which are indicated in Secion E.6.3 of the specific PDD. Further there are other data parameters that are monitored and reported during the monitoring / verification period and reported in Section B.7.1	OK	OK
g. If no, and these data and parameters will remain fixed throughout the crediting period, are all data	VVM	90	NA	OK	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
sources and assumptions:					
i. Appropriate and correct?	VVM	90	NA	OK	OK
ii. Applicable to the proposed CDM/POA project activity?	VVM	90	NA	OK	OK
iii. Resulting in a conservative estimate of the emission reductions?	VVM	90	NA	OK	OK
h. Will data and parameters be monitored on implementation and hence become available only after validation of the project activity?	VVM	90	Yes, these parameters are indicated in Section B.7.1 of the PDD.	OK	OK
i. If yes, are the estimates provided in the PDD for these data and parameters reasonable?	VVM	90	The estimates provided in the PDD does not seem reasonable, as new transformer losses are not calculated, also hourly monitoring energy sent out is not made available, also the project DPR is not submitted.	CAR 23	--
7. Additionality of a project activity					
a. Does the PDD describe how a proposed CDM/POA projet activity is additional?	VVM	93	Pl. clarify following : The benchmark is based on the DSCR. The appropraiateness of using this benchmark for this Project Activity scenario is not justified in the PDD. 1. The DSCR considered for the Project Activity is 1.5. The appropriateness for using this value is not discussed in the PDD. It was also not clear as to why the DSCR value of 1.5 has been considered even during the site visit discussions with the concerned persons.	CAR 24	--

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
			2. The basis for assuming the value of 1.5 for the DSCR benchmark for this Project Activity is apparently from a credit appraisal project report of Union Bank of India (UBI). Project Participant to justify as to how the DSCR value indicated in this report would form an appropriate benchmark for the Project Activity. 3. All the input values / assumptions used in the investment analysis are taken from documents which are post the decision making. Hence cannot be accepted.[vi] 4. Provide a copy of the IRR sheet in the xls format.. 5. REC sanction letter copies provided are incomplete – It doesn't have the interest rates and moratorium indicated. 6. Why is the sensitivity analysis for the change in lending rates only applied to 10 % whereas the actual fluctuations indicated in the PDD is much more than that. 7. Barriers due to prevailing practice – In line with the guidance on Non-binding examples, it is not proven that the project activity is one of the first of its kind in terms of technology/region.etc. 8. It apparently seems that there are similar installations in Karnataka, Haryana and AP. However whether similar projects are		

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
			implemented across the country are not discussed transparently in the PDD. Also provide all supporting evidences.		
b. Specific questions per additionality tool and specific complementary or alternative requirements included in the approved CDM/POA methodology.	VVM	94	Refer above comments in section 7.a	Refer CAR 24	
c. For small scale project activities, specific questions per the specific requirements on demonstration of additionality for small scale project activities in chapter V, section E subsection 7 (Attachment A to Appendix B of the simplified modalities and procedures for small-scale CDM/POA project activities) and the "Non-binding best practice examples to demonstrate additionality for SSC project activities (<http://CDM/POA.unfccc.int/EB/035/eb35_repan34.pdf>.) 8. The coordinating/managing entity shall, within the CDM/POA-SSC-POA-DD, apply the additionality provisions to a typical CPA. The outcome of this assessment shall also specify the precise eligibility criteria that each of the CPA should satisfy to be considered additional. 9. For small-scale PoAs it is not expected that the eligibility criteria would require CPA specific retesting of either the decisive barrier which is used to demonstrate additionality or a CPA specific			Refer above comments	Refer CAR 24	

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
investment analysis. 10. If each of the independent subsystems/measures (e.g. biogas digester, solar home photovoltaic or thermal system, improved cook stove, CFL etc.) included in the CPA of a PoA is no greater than 1% of the small-scale thresholds defined by the methodology applied, then that CPA of PoA is exempted from performing additionality demonstration. If each CPAs of a PoA are exempted from additionality demonstration at CPA level then additionality demonstration will not be a part of eligibility criteria for CPA inclusion in a specific PoA. 11. If one or more of the sub-system/measure included in a CPA exceeds 1% of the small-scale threshold and each CPA of a small scale PoA are within the threshold defined by the methodology applied, coordinating/managing entity shall establish the eligibility criteria which are sufficiently specific to ensure that the core rationale which demonstrates the additionality for the PoA will be applicable to each CPA proposed for later inclusion.					
a. Prior consideration of the clean development mechanism					
a. Is the project ativity start date prior to the date of publication of the PDD for stakeholder comments?	VVM	96	Yes	OK	
b. If yes, were the CDM/POA benefits considered necessary in the decision to undertake the	VVM	96	1. The Board decision is in the form of In-Principle approval – Based on the copy of the In-	CAR 25	

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
project as a proposed CDM/POA project activity?			Principle approval, there are certain documents referred to, in this approval. Provide the copies of all the documents referred to in the approval. E.g HVDS system were studied in 1998 and later on implemented etc, etc.. 2. The decision seems to be made by considering the 25 KVA range only. 3. All supporting evidences for the chronology is not provided. 4. The PDD indicates appointment of an DOE. Please provide detailed justification for the discontinuation of the DOE for the Project Activity validation with all supporting evidences. 5. The chronology is incomplete – doesn't indicate the date of DOE appointment, the HCA approval etc..		
c. Is the start date of the project activity, reported in the PDD, in accordance with the "Glossary of CDM/POA terms", which states that "The starting date of a CDM/POA project activity is the earliest date at which either the implementation or construction or real action of a project activity begins."?	VVM	97	Yes, however provide the copies of all the work orders / purchase orders placed on the vendors for the various activities related to the Project Activity.	CL 31	--
d. Does the project activity require construction, retrofit or other modifications?	VVM	97	Yes, the Project Activity would require modifications.	OK	OK
e. If yes, is it ensured that the date of commissioning cannot be considered as the project activity start date?	VVM	97	Yes	OK	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
f. Is it a new project activity (project activities with staring date on or after 02 August 2008) or an existing project activity (project activities with a start date before 02 August 2008)?	VVM	98	The project activity is an existing project.	OK	OK
g. For a new project, for which PDD has not been published for global stakeholder consultation or a new methodology proposed to the Executive Board before the project activity start date, had the PP informed the Host Party DNA and/or the UNFCCC secretariat in writing of the commencement of the project activity and of their intention to seek CDM/POA status? (Provide reference to such confirmation from Hos Party DNA and/or UNFCCC secretariat).	VVM	99	NA	OK	OK
h. For an existing project activity, for which the start date is prior to the date of publication of the PDD for global stakeholder consultation, are the following evidences provided:	VVM	100			
i. evidence that must indicate that awareness of the CDM/POA prior to the project activity start date, and that the benefits of the CDM/POA were a decisive factor in the decision to proceed with the project, including, inter alia:	VVM	100	The evidence to prove prior awareness of CDM is not provided nor is stated in the PDD.	CAR 26	--
a. minutes and/or notes related to the consideration of the decision by the Board of Directors, or equivalent, of the project participant, to undertake the project as a proposed CDM/POA project activity?			Refer to comments made in CAR 25 above	--	--
ii. reliable evidence from project participants that	VVM	100	Refer to comments made in CAR 25 above	--	--

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
must indicate that continuing and real actions were taken to secure CDM/POA status for the project in parallel with its implementation, including, inter alia:					
a. contract with consultants for CDM/POA/PDD/methodology services?	VVM	100	Refer to comments made in CAR 25 above	--	--
b. Emission Reduction Purchase Agreements or other documentation related to the sale of the potential CERs (including correspondence with multilateral financial institutions or carbon funds)?	VVM	100	Refer to comments made in CAR 25 above	--	--
c. evidence of agreements or negotiations with a DOE for validation services?	VVM	100	Refer to comments made in CAR 25 above	--	--
d. submission of a new methodology to the CDM/POA Executive Board?	VVM	100	Refer to comments made in CAR 25 above	--	--
e. publication in newspaper?	VVM	100	Refer to comments made in CAR 25 above	--	--
f. interviews with DNA?	VVM	100	Refer to comments made in CAR 25 above	--	--
g. earlier correspondence on the project with the DNA or the UNFCCC secretariat?	VVM	100	Refer to comments made in CAR 25 above	--	--
b. Identification of alternatives					
a. Does the approved methodology that is selected by the proposed CDM/POA project activity prescribe the baseline scenario and hence no further analysis is required?	VVM	103	Yes, the baseline scenario is prescribed by the applied methodology and hence does nt require any further analysis.		--
b. If no, does the PDD identify credible alternatives to the project activity in order to determine the most realistic baseline scenario?	VVM	103	NA	OK	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
c. Does the list of alternatives given in the PDD esure that:	VVM	104	NA	OK	OK
i. the list of alternatives includes as one of the options that the project activity is undertaken without being registered as a proposed CDM/POA project activity?	VVM	104	NA	OK	OK
ii. the list contains all plausible alternatives that the DOE, on the basis of its local and sectoral knowledge, considers to be viable means of supplying the outputs or services that are to be supplied by the proposed CDM/POA project activity?	VVM	104	NA	OK	OK
iii. the alternatives comply with all applicable and enforced legislation?	VVM	104	NA	OK	OK
c. Investment analysis					
a. Has investment analysis been used to demonstrate the additionality of the proposed CDM/POA project activity?	VVM	106	Yes, investment analysis has been used to demonstrate additionality.	OK	OK
b. If yes, does the PDD provide evidence that the proposed CDM/POA project activity would not be:	VVM	106			
i. the most economically or financially attractive alternative?	VVM	106	Refer comments made under CAR 24 above.	Refer CAR 24	--
ii. economically or financially feasible, without the revenue from the sale of certified emission reductions (CERs)?	VVM	106	Refer comments made under CAR 24 above	Refer CAR 24	--
c. Was this shown by one of the following approaches?	VVM	107			
i. Demonstrate that the proposed CDM/POA	VVM	107	Refer comments made under CAR 24 above	Refer	--

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
project activity would produce no financial or economic benefits other than CDM/POA-related income. Document the costs associated with the proposed CDM/POA project activity and the alternatives identified and demonstrate that there is at least one alternative which is less costly than the proposed CDM/POA project activity.			Pl. refer CAR 24	CAR 24	
ii. The proposed CDM/POA project activity is less economically or financially attractive than at least one other credible and realistic alternative.	VVM	107	Refer comments made under CAR 24 above	Refer CAR 24	
iii. The financial returns of the proposed CDM/POA project activity would be insufficient to justify the required investment.	VVM	107	Refer comments made under CAR 24 above	Refer CAR 24	
d. Was a thorough assessment of all parameters and assumptions used in calculating the relevant financial indicator, and determine the accuracy and suitability of these parameters using the available evidence and expertise in relevant accounting practices conducted?	VVM	109	Refer comments made under CAR 24 above	Refer CAR 24	
e. Were the parameters cross-checked agains third-party or publicly available sources, such as invoices or price indices?	VVM	109	---	Refer CAR 24	
f. Were feasibility reports, public announcements and annual financial reports related to the proposed CDM/POA project activity and the	VVM	109	Refer comments made under CAR 24 above	Refer CAR 24	

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
project participants reviewed?					
g. Was the correctnes of computations carried out and documented by the project participants assessed?	VVM	109	Refer comments made under CAR 24 above	Refer CAR 24	
h. Was the sensitivity analysis by the project participants to determine under what conditions variations in the result would occur, and the likelihood of these conditions assessed?	VVM	109	Refer comments made under CAR 24 above	Refer CAR 24	
i. Is the type of benchmark applied is suitable for the type of financial indicator presented?	VVM	110	Refer comments made under CAR 24 above	Refer CAR 24	
j. Do any risk premiums applied determining the benchmark reflect the risks associated with the project type or activity?	VVM	110	Refer comments made under CAR 24 above	Refer CAR 24	
k. To determine this, was it assessed whether it is reasonable to assume that no investment would be made at a rate of return lower than the benchmark by:					
i. assessing previous investment decisions by the project participants involved?	VVM	110	Project Participant to clarify and provide justification alongwith all supporting evidences regarding the previous investment decisions and the benchmark considered for these investments..	CL 32	--
ii. determining whether the same benchmark has been applied?	VVM	110	Refer above comments	--	--
iii. determining if there are verifiable circumstances that have led to a change in the benchmark?	VVM	110	To be verified based on the response of the above clarification.	--	--
l. Did the project participants rely on values from Feasibility Study Reports (FSR) that are approved by national authorities for proposed	VVM	111	PP has carried out DPR prior to decision, pl. rovide copies of all the DPR's. Refer CAR 23.	Refer CAR-23	--

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
project activities?					
m. If yes:	VVM	111		--	--
i. has the FSR been the basis of the decision to proceed with the investment in the project, i.e. that the period of time between the finalization of the FSR and the investment decision is sufficiently short for the DOE to confirm that it is unlikely in the context of the underlying project activity that the input values would have materially changed?	VVM	111	The DPR values for investment are used in the investment analysis. While reviewing the same, it has been found that the actual value has increased to that of estimated value	OK	OK
ii. Are the values used in the PDD and associated annexes fully consistent with the FSR?	VVM	111	Yes	OK	OK
iii. If not, was the appropriateness of the values validated?	VVM	111	NA	OK	OK
iv. On the basis of its specific local and sectoral expertise, is confirmation provided, by cross-checking or other appropriate manner, that the input values from the FSR are valid and applicable at the time of the investment decision?	VVM	111	The DOE has verified the DPR values, and confirm that they are consistent and found correctly considered while carrying out investment analysis, and were applicable at the time of the investment decision.	OK	OK
d. Barrier analysis					
a. Has barrier analysis been used to demonstrated the additionality of the proposed CDM/POA project activity?	VVM	113	Yes, barriers due to prevailing practice has been discussed in the PDD.	OK	OK
b. If yes, does the PDD demonstrate that the proposed CDM/POA project activity faces	VVM	113	Barriers due to prevailing practice – In line with the guidance on Non-binding examples, it is not proven that the project activity is one of the first of its kind	Refer CAR 24	-

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
barriers that:			in terms of technology/region.etc.. It apparently seems that there are similar installations in Karnataka, Haryana and AP. However whether similar projects are implemented across the country are not discussed transparently in the PDD. Also provide all supporting evidences.		
i. prevent the implementation of this type of proposed CMD project activity?	VVM	113	Refer comments made under CAR 24 above	--	--
ii. do not prevent the implementation of at least one of the alternatives?	VVM	113	Refer comments made under CAR 24 above	--	--
c. Are there any issues that have a clear direct impact on the financial returns of the project activity, other than: risk related barriers, for example risk of technical failure, that could have negative effects on the financial performance; or barriers related to the unavailability of sources of finance for the project activity? {If yes, these issues cannot be considered barriers and shall be assessed by investment analysis. [Refer to (6.c) above]}	VVM	114	Refer comments made under CAR 24 above	--	--
d. Were the barriers determined as real by:	VVM	115	Refer comments made under CAR 24 above	--	--
i. assssing the available evidence and/or undertaking interviews with relevant individuals (including members of industry associations, government officials or local experts if necessary) to determine whether the barriers listed in the PDD exist?	VVM	115	Refer comments made under CAR 24 above	--	--
ii. ensuring that existence of barriers is	VVM	115	Refer comments made under CAR 24 above	--	--

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
substantiated by independent sources of data such as relevant national legislation, surveys of local conditions and national or international statistics?					
iii. Is existence of a barrier substantiated only by the opinions of the project participants? (If yes, this barrier cannot be considered as adequately substantiated)	VVM	115	Refer comments made under CAR 24 above	--	--
e. Were the barriers determined as preventing the implementation of the project activity but not the implementation of at least one of the possible alternatives by applying local and sectoral expertise to judge whether a barrier or set of barriers would prevent the implementation of the proposed CDM/POA project activity and would not equally prevent implementation of *at least one of* the possible alternatives, in particular the identified baseline scenario?	VVM	115	Refer comments made under CAR 24 above	--	--
e. Common practice analysis					
a. Is this a large-scale, or first-of-its kind small-scale project activity?	VVM	117	No, the proposed project activity is a SSC and hence do not require to prove common practice analysis. The PDD does not discuss Common Practice Analysis.	OK	OK
b. If yes, was common practice analysis carried out as a credibility check of the other available evidence used by the project participants to demonstrate additionality?	VVM	117	NA	--	--

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
c. Was it assessed whether the geograpphical scope (e.g. defined region) of the common practice analysis is appropriate for the assessment of common practice related to the project activity's technology or industry type? (For certain technologis the relevatn region for assessment will be local and for others it may be transnational/global.	VVM	118	NA	--	--
d. Was a region other than the entire host country chosen?	VVM	118	NA	--	--
e. If yes, was the explanation why this region is more appropriate assessed?	VVM	118	NA--		--
f. Using official sources and local and industry expertise, was it determined to what extent similar and operational projects (e.g., using similar technology or practice), other than CDM/POA project activities, have been undertaken in the defined region?	VVM	118	NA	--	--
g. Are similar and operational projects, other than CDM/POA project activities, already "widely observed and commonly carried out" in the defined region?	VVM	118	NA	--	--
h. If yes, was it assessed whether there are essential distinctions between the proposed CDM/POA project activity and the other similar activities?	VVM	118	NA	--	--
8. Monotoring plan					
a. Does the PDD include a monitoring plan?	VVM	120	The PoA-DD and CPA-DD includes monitoring	OK	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
			plan		
b. Is this monitoring plan based on the approved monitoring methodology applied to the proposed CDM/POA project activity?	VVM	120	Yes	OK	OK
c. Were the list of parameters required by the the selected methodology identified?	VVM	121	The list of parameters required by the selected methodology is appropriately identified, however there were some in adequacies obsereved in monitoring plan refer CAR -13	Refer CAR 13	--
d. Does the monitoring plan contains all necessary parameters?	VVM	121	Refer CAR-13	Refer CAR 13	--
e. Are the parameters clearly described?	VVM	121	Refer Car-13 and CL 32		
f. Does the means of monitoring described in the plan comply with the requirements of the methodology?	VVM	121	No, the methodology describes: the frequency of monitoring of parameters required to determine the energy losses in the distribution system shall be on hourly basis. During validation visit, it was observed that data for hourly monitoring was not available.	CL 32	--
g. Are the monitoring arrangements described in the monitoring plan feasible within the project design?	VVM	121	Yes, after having site visit, validation team confirms that the AMR system installed for monitoring is feasible for monitoring of project design.	OK	OK
h. Are the following means of implementation of the monitoring plan sufficient to ensure that the emission reductions achieved by/resulting from the proposed CDM/POA project activity can be reported ex post and verified:	VVM	121			
i. data management procedures?	VVM	121	Yes	OK	OK
ii. quality assurance procedures?	VVM	121	Yes, refer CL 16 and CAR 12 on Calibration	Refer CL 15 and CAR 12	--

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
iii. quality control procedures?	VVM	121	Yes, refer CL 16 and CAR 12 on Calibration	Refer CL 16 and CAR 12	--
9. Sustainable development					
a. Does the CDM/POA project activity assists Parties not included in Annex I to the Convention in achieving sustainable development?	VVM	123	Yes	OK	OK
b. Does the letter of approval by the DNA of the host Party confirm the contribution of the proposed CDM/POA project activity to the sustainable development of the host Party?	VVM	124	Yes	OK	OK
10. Local stakeholder consultation					
i. Were local stakeholders (public, including individuals, groups or communities affected, of likely to be affected, by the proposed CDM/POA project activity or actions leading to the implementation of such an activity) invited by the PPs to comment on the proposed CDM/POA project activity prior to the publication of the PDD on the UNFCCC website?	VVM	126	Refer CAR 5, 6 & 7 and CL 10 & 11 on local stakeholder comments	--	--
j. Have comments by local stakeholders that can reasonably be considered relevant for the proposed CDM/POA project activity been invited?	VVM	127	Refer CAR 5, 6 & 7 and CL 10 & 11 on local stakeholder comments	--	--
k. Is the summary of the comments received as provided in the PDD complete?	VVM	127	Refer CAR 5, 6 & 7 and CL 10 & 11 on local stakeholder comments	--	--
l. Have the project participants taken due account of any comments received and described this	VVM	127	Refer CAR 5, 6 & 7 and CL 10 & 11 on local stakeholder comments	--	--

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
process in the PDD?					
11. Environmental impacts					
a. Have the project participants submitted documentation on the analysis of the environmental impacts of the project activity?	VVM	129	Yes	OK	OK
b. Have the project participants undertaken an analysis of environmental impacts?	VVM	130	Yes	OK	OK
c. Does the host Party require an environmental impact assessment?	VVM	130	No, However, voluntarily, an environmental analysis has been undertaken at the PoA level by PSPCL named *Environmental and Social Review (ESR) on High Voltage Distribution Project for Agriculture Consumers in the State of Punjab* (prepared by Chief Engineer/RE & APDRP).	--	--
d. If yes, have the project participants undertaken an environmental impact assessment?	VVM	130	NA	OK	OK

Table 2 Specific validation activities *(delete this table if the project activity is not a small scale project activity)*

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
1. Project design of small-scale clean development mechanism project activities *(delete this table if the project activity is not a small scale project activity)*					
a. Does the proposed small-scale project activity meet the requirements of the simplified modalities and procedures for small-scale CDM/POA project activities?	VVM	133	To be proven.		
b. Does the project activity qualify within the thresholds of the three prossble types of small scale project activities? [Type (i) project activities: renewable energy project activities with a maximum output capacity equivalent to up to 15 megawatts; Type (ii) project activities: energy efficiency improvement project activities which reduce energy consumption, on the supply and/or demand side, by up to the equivalent of 15 gigawatt hours per year; Type (iii) project activities: other project activities that both reduce anthropogenic emissions by sources and directly emit less than 15 kilotonnesof carbon dixide equivalent annually.]	VVM	134	Yes, however PP is requested to provide the emission reduction excel sheet	CL 13	
c. Does the project activity conform to one of the approved small-scale categories?	VVM	134	Yes,	OK	OK
d. Does the project activity apply the relevant tool and methodology?	VVM	134	Yes	OK	OK
e. Are the small-scale methodologies applied in	VVM	134	To be proven	--	-

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
conjunction with the general guidance to the methodologies, which provides guidance on equipment capactiy, equipment performance, sampling and other monitoring-related issues?					
f. Is the project activity a debundled component of a large-scale project, i.e., is there a registered small-scael CDM/POA project activity or an application to register another CDM/POA project actifity: (a) with the same project participants; (b) in the same project category and technology/measure; and (c) registered within the previous 2 years; and (d) whose project boundary is within 1 km of the proposed boudary of the proposed small-scale activity at the closest point?	VVM	134	To be proven by the Project Participant .	--	
g. Is and assessment of the environmental impacts of the proposed CDM/POA project activity required by the host Party?	VVM	134	No	OK	OK
h. Is the project additional?	VVM	135	Refer to CAR 24 inTable 1 above	--	--

Table 3 Resolution of Corrective Action and Clarification Requests

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 1 and 2	Summary of project owner response	Validation team conclusion
CL 1 Host Country Approval The Project Participant description under Section A.3 of the POA DD indicates that PSEB is the Project Participant However the DNA approval for the Project Participant is not provided to the validation team. As indicated under Section A.3 of the POA DD, the International Bank for Reconstruction and Development is indicated as a Project Participant. Please provide the copy of the DNA approval.	Refer (1.a)	DNA approval from India has been submitted for DOE's kind perusal as Attachment 15. HCA from the DNA of Denmark has been provided to the validation team.	There are two Project participants as mentioned in Section A.3 of the revised PDD, viz. (1) Punjab State Power Corporations Ltd., and (2) International Bank for Reconstruction and Development (IBRD) as the Trustee of the Danish Carbon Fund. The PP has submitted the DNA approval. from India issued by Government of India, Ministry of Environment & Forests, vide letter no. 4/6/2010-CCC dtd. 6th August 2010. Also, DNA approval from Denmark has also been received by the validation team vide reference no. Kar Climate Division dated 09/06/2011 Based on the above

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 1 and 2	Summary of project owner response	Validation team conclusion
			observation the CL is closed.
CAR 1 **PoA-DD section A.3 and Annex 1** 1. The Project Participant listed under Section A.3 of the POA DD and under Annex 1 of the POA DD do not match. E.g There are 2 Project Participant's listed under A.3 whereas there are 3 Project Participant names listed under Annex 1. 2. The title of the POA as mentioned in the POA DD and in the CPA DD do not match	Refer (2.a)	1. The names of the PPs have been made consistent in Annex 1 and in section A.3 of the revised PoA DD.. 2. The title of POA has now been made consistent at all places in CPA DD and POA DD.	1) Annex 1 in the PoA-DD is now revised. The PP names indicated in section A.3 are (1) Punjab State Power Corporation Ltd. (PSPCL) (Public Entity) and (2) International Bank for Reconstruction and Development (IBRD) as a Trustee of Danish Carbon Fund, which is now consistent with Annex 1. 2) The validation team observed that title of the POA DD and CPA-DD are now matching. Based on the above observations, the **CAR is closed.**
CAR 2 **PoA-DD section A.2**	Refer (3.d.i)	A description of the scenario existing to the project activity (baseline) has been	The PP in the revised PoA-DD has clearly mentioned the

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 1 and 2	Summary of project owner response	Validation team conclusion
The detailed description of the scenario existing prior to the project activity and the baseline is not explained transparently		incorporated in the Section A.2 of the PoA DD.	scenario existing prior to the project activity and scenario in the baseline. In the revised PoA-DD, it is clearly mentioned that the CDM project activity is about distribution of electricity on High Voltage Distribution System i.e. 11 kv instead of existing 400 V. The higher capacity transformer (25kva-200 kva) will be replaced with the smaller size transformers (6.3 kva-25 kva) i.e. by providing a dedicated transformer to the agricultural consumers in the state of Punjab. The validation team, during the site visit from 22 to 24 Feb 2010,has also confirmed the same by means of document reviews and site observation, **hence, CAR is closed.**
CL 2 **PoA-DD**	Refer	The proposed program helps in reducing GHG emissions because of the energy	The explanation of how the project activity would reduce

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 1 and 2	Summary of project owner response	Validation team conclusion
The explanation of how the project activity would help in GHG emission reductions is not explained clearly in Section A.2 of PoA-DD.	(3.d.ii)	savings it generates due to reduced current flow (and hence reduced technical losses) as a result of usage of high voltage system in place of low voltage system. The explanation has been incorporated in the Section A.2 in the PoA DD.	GHG emissions is now transparently mentioned in section A.2 of the revised PoA-DD, under the section of "Environmental well being" It is mentioned that, the energy savings due to reduced current flow (and hence reduced technical losses) as a result of usage of high voltage system in place of low voltage system, helps in reducing the emission, hence, there is emission reduction, hence**, CL closed.**
<u>CL 3</u> **<u>Section A.2 PoA-DD and CPA -DD</u>** 1) The description of how the Project Activity would contribute to the sustainable parameters of the host country is explained. However the following is not transparently described viz; a) Economic well-being discusses issues related to disparity in the power supply and power demand. Please provide supproting	Refer (3.d.iii)	The comments related to the contribution of the project to the sustainable development describe the following – Social - Large manpower is involved in the implementation of the project. This is evident from the fact that PP has issued contracts to implementing agencies and it's obvious that there would be requirement of people in completing the	The validation team reviewed the revised PoA-DD and noted that the description of the 4 sustainable development parameter/indicators for the host country i.e India has now transparently been described. The validation team also reviewed HCA issued by DNA of India, which also states that

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 1 and 2	Summary of project owner response	Validation team conclusion
evidences for the same and refer the same in the PDD also. b) Provide supporting evidences for the other comments on social, technological well-being.		work. **Environmental –** any reduction in energy generation will effect in reduced emissions leading to better environmental conditions. **Economic –** the power savings in the state of Punjab will help, to an extent, in catering to the power demand more efficiently, thus providing better opportunities for the local economy. All other comments made related to technological well being are self explanatory.	the project activity supports in achieving sustainable development of the Host country. Further, the validation team during the site visit, also interacted with the representatives of the PP and it was given to understand that there were outside agencies involved in the work of installation, commissioning work for the project activity. This is evident from the work orders provided by the PP, **hence, CL is closed.** .
CL 4 **PoA-DD Sectoin A.3** There are 2 names of Project Participant indicated in this Section whereas there are names of 3 entities listed in Annex 1. Please clarify	Refer (3.e.i)	The names in Annex 1 and in section A.3 have been made consistent.	PP has now revised Annex 1 in the revised PoA DD. The PP names indicated in section A.3 are (1) Punjab State Power Corporation Limited (Public Entity and (2) International Bank for

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 1 and 2	Summary of project owner response	Validation team conclusion
			Reconstruction and Development (IBRD) as Trustee of the Danish Carbon Fund (DCF), which is now consistent with Annex 1**, hence CL is closed.**
CL 5 **<u>POA-Eligibility Criteria Sction A.4.2.2</u>** The eligibility criteria for the inclusion of a SSC-CPA is not completely defined in the PDD i.e all the criteria are not discussed whereas other criteria are discussed. E.g The criteria "CPA shall be located in the State of Punjab" is not an eligibility criteria for a SSC-CPA.	Refer (3.g.ii)	This PoA is limited to implementation of projects in the state of Punjab and that's why this is important that CPA meet this criteria. PP has listed the eligibility criteria in section A.4.2.2. These are applicability conditions which are to be validated at the time of inclusion of CPAs in this PoA.	The eligibility criteria for the inclusion of a SSC-CPA in the said PoA is now transparently described in the revised PoA-DD in section A 4.2.2, **hence CL is closed.**
<u>CL 6</u> **<u>PoA DD and Specific CPA-DD</u>** 1. Please provide supporting evidences for all the records / documents indicated in the section A.4.4.1 of the POA PDD for record keeping..	Refer (3.g.ii.1 .a).	1. The record keeping system/ monitoring plan has been revised in the PoA DD. The sample copy of the data record has been provided to the DOE as Attachment 20. The document is a one of the sample sheets which could be generated from the electronic monitoring system in place. It should be noted that the Automated Meter Reading (AMR) system will be able	1) The PP has provided document "Attachment 20 summary (9).xls". This shows the data generated from the AMR (Automatic Meter Reading) System, which shows energy sent to the agricultural consumers with time duration and actual time of supply, since this is possible

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 1 and 2	Summary of project owner response	Validation team conclusion
		to do monitoring and measurement on per minute basis or per hour basis or any other time period required. This is more conservative than the monitoring requirements of methodology AMS II A, which stipulates that at least hourly monitoring should happen. The copy provided shows the final and the initial readings between the two moments and the time of recording the final reading. The difference between the final and the initial reading provides the energy sent value for the time period. .	with AMR to continuously monitor energy, which is more than the methodological requirement of hourly monitoring, found appropriate, **hence, this point is closed.**
2. The system / procedure described to avoid double accounting is not clear / transparent. Further provide the information of all the divisions and feeders as indicated in the PDD.		2. The description to avoid double counting has been revised. The details of all the divisions covered initially in the programme have been provided in Appendix 1. The details of the feeders for all the sub-divisions in the Dhuri division have been submitted to the DOE as Attachment 18 for its kind perusal Every division considered under the PoA covers tens of feeders, the details of which shall be provided with the	(2) In the PoA-DD, PP has now revised the description to avoid double counting. Also, details of all the divisions covered initially in of the programme has been incorporated in appendix 1. It is also clarified by the PP that feeder details of each CPA are mentioned in individual CPA-DD, having reviewed this, validation team has agreed to

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 1 and 2	Summary of project owner response	Validation team conclusion
		respective CPAs. The feeder details for the CPA 1 – i.e. Dhuri division has been provided in the specific CPA DD.	close this point, **hence, CL is closed.**
CL 7 **PoA-DD** PP is requested to provide the break-up of the debt:equity ratio for the Project Activity, alongwith supporting evidences.	Refer (3.i)	The PoA is being implemented based on 100% debt mostly from Rural Electrification Corporation. There is no equity involved from the project participant or any other agency. The corresponding sections of the PoA DD have been revised appropriately. The initial sanction by the REC for any scheme under the PoA is for 90% of the project cost. The rest 10% of the cost is released after a third party evaluation of the project implementation.	It is clarified by PP that **the** PoA is being implemented based on 100% debt mostly by Rural Electrification Corporation. There is no equity involved from the project participant or any other agency. Based on the explanation from the PP and corrections incorporated in the revised PDD, validation team reviewed REC documents for approval of 46 schemes, DOE has reviewed following documents to confirm the same. 1) REC Letter no. REC/PO/CH/PB/S-9/2006-07/1736,

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 1 and 2	Summary of project owner response	Validation team conclusion
			dated: 29/06/2006 (For 15 schemes) 2) REC letter no. letter no. REC/PO/CH/PB/S-9/2006-07/2070, dated-13/10/2006 (19 schemes) 3) letter no. DCH/PB/S-9/2006-07/2305, dated-7/09/2006 (6 schemes) After reviewing these documents, validation team has confirmed that REC is indeed providing 100% loan to the PP for the HVDS schemes, hence,. **closed the CL.**
<u>CL 8</u> **<u>Starting date : Section B.1 _ PoA DD</u>** PP is requested to provide the copy of all the contracts/P.O/Work Orders signed for this project.	Refer (3.j)	The signed copy of the work order for the Dhuri division have been provided to the DOE as Attachment 36 for its kind reference, as an evidence to the start	The PP has submitted soft copy of WORK ORDER CUM CONTRACT AGREEMENT NO.__/RCZ-293/Vol-VII/EIC/RE

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 1 and 2	Summary of project owner response	Validation team conclusion
		date of the PoA/CPA. Work orders for all the subdivisions under the Dhuri CPA have submitted to the DOE as Attachment 21 for its kind reference.	&APDRP/ 2007- 08 DATED 25/10/2007. The work order is for Dhuri and Bhalwan subdivision, which are under Dhuri Division. The PP has considered this as a start date of the project activity, as mentioned in the revised PoA-DD. The validation team has reviewed this, **hence, CL is closed.**
CAR 3 **<u>PoA-DD Section B.2</u>** The length of the POA has not been provided in the DD/MM/YYYY format	Refer (3.k)	The length of PoA has been correctly mentioned in the PoA DD as per the PoA guidelines and is in XX years format. The life time the CPA is revised as 28 years though there is no specific life time available for elements in the distribution system. Considering the transformers as major elements apart from transmission line and they having a lifetime beyond 30 years in the system, to avoid any	The PP has revised the format of length of the PoA in section B.2 of revised POA-DD ver 1.1 The length of PoA, this is mentioned as 28 years 00 months. The Lifetime of the CPA DD is mentioned as 28 years in the section A.4.2.2 of the revised CPA DD. **hence, this CAR is closed**

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 1 and 2	Summary of project owner response	Validation team conclusion
		inconsistency, the lifetime of CPA is also considered as lifetime of PoA i.e. 28 years. It has been mentioned consistently and in the correct format.	
<u>CL 9</u> **<u>PoA DD : Environmental Impact Analysis</u>** 1. The environmental analysis is conducted at the POA level. Please provide the copy of the ESR as indicated in the PDD. 2. Also the schedule of the Indian legislation which indicates that EIA is not required for this kind of projects is not referenced in the PDD.	Refer (3.l)	1. A copy of the ESR has been provided for DOE's kind perusal. 2. The "*Environmental Impact Assessment Notification"* dated 14.09.06 has been referenced in the PoA DD and the same reference has been provided here.	1. The copy of the ESR report (*Environmental and Social Review (ESR) on High Voltage Distribution Project for Agriculture Consumers in the State of Punjab* (prepared by Engineer-in-Chief/RE & APDRP), ("attachment 22.pdf)) is provided by PP. This is carried out by the voluntarily, at the PoA level. DOE has reviewed the same and **hence, this point is closed.** 2. The revised PoA-DD mentions "*Environmental Impact Assessment Notification"* dated 14.09.06 and the same

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 1 and 2	Summary of project owner response	Validation team conclusion
		http://envfor.nic.in/legis/eia/so1533.pdf The page no. 10 of the notification mentions that list of activities required to undergo an environmental clearance prior to implementation.	reference has been provided here. The PP has provided link for the same, http://envfor.nic.in/legis/eia/so1533.pdf . The validation team has reviewed the weblink, which mentions on (age 10) the list of activities required to undergo an environmental clearance prior to implementation. The proposed PoA activity is not listed here. Since, the above points are closed, **hence,CL is closed.**
CAR 4 **PoA-DD Section C.2** Section C.2 of the POA DD does not describe the analysis of the environmental impacts rather it describes the process of inviting stakeholder comments.	Refer (3.l)	It is clarified that the description provided in the section C.2 do not describe the process for inviting stakeholder comments, rather it describes the process of *Environment and Social Review* (ESR) report development. Comments were invited from the public for the ESR. The PoA does not result into any negative environmental impact. Same is already	The section C.2 of the PoA-DD is describing about invitation for comments on environmental and Social Review report development published by PP, where public comments were invited from PP. This is evident from the document, viz. “The Tribune” news paper dtd. 21/03/2009. Validation team has reviewed

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 1 and 2	Summary of project owner response	Validation team conclusion
		described in PoA DD. The ESR report has been provided to the DOE as Attachment 22 for its kind perusal. The safety manual is also attached along with it.	this and found appropriate, **hence, CAR is closed**
CAR 5 **PoA-DD + CPA DD Stakeholder invitation** PP has provided justification for the choice of the level selected by the Project Participant. It is not acceptable since the local stakeholders at each of the SSC CPA level are different and hence the comments could also be different from each other. (**Auditor Note :** The validation team would like to interview all the local stakeholders who fall under the divisions as per the sampling plan)	Refer (3.I.b)	The distribution system for all the agricultural consumers in the Punjab state spreads uniformly, and it caters to the similar kinds of demands all across the state. The conversion of the distribution system from LVDS to HVDS is independent of the region, technologically as well as operationally. This provides justification for the Project Participant to conduct the stakeholder meeting at the PoA level. The distribution system that connects to the agriculture consumers is a uniform technical arrangement spread all over the state of Punjab. Moreover, the beneficiaries (or main stakeholders) are also a unique set of population - the farmers. For the stakeholder meeting, farmers from the Kisan Union,, were invited, as described by the invitation	It is explained by the PP that, the project is related to agricultural sector". The PP has invited the local stake holders comments in which farmers from Kisan union were invited. (reference document "Attachment 4 - Invitation to local stakeholders" submitted by PP). This mentions invitation to Bhartiya Kisan Union, also, intimation was published in the state level newspaper i.e. "The Tribune" dtd. 07/02/2009 (refer document "Attachment 3 Re scanned"). Having reviewed this, the validation team understands that, efforts were

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 1 and 2	Summary of project owner response	Validation team conclusion
		letter submitted. Though the meeting happened physically at one location, it does not mean the broader aspect of the PoA was not considered appropriately. All efforts were also made to invite comments/opinions from the general public of Punjab. The intimation was published in the state level newspaper inviting comments and the documents were webhosted on the PP's website.	made to invite comments/opinions from the general public of Punjab. The intimation was published in the state level newspaper inviting comments **hence, CAR is closed.**
<u>CL 10</u> **<u>PoA DD + CPA DD</u>** 1. As per the PoA DD, stakeholder comments were invited through newspaper advertisements dated 07.02.2009 and also through the PSEB website. Provide the original copies of the newspaper cutting clearly indicating the date as indicated in the PDD. 2. Further it is stated that the stakeholder meeting was conducted on April 24, 2009. However it is not clear as to when was the invitation for this meeting given.	Refer– section - : -(3.I.- In CDM/POA-SSC-PDD section D2,D3 & D4 point - a)	1 The full newspaper cuttings having the advertisement for the stakeholder consultation has been provided as Attachment 3 clearly indicating the date. 2. The invitation for the stakeholder meeting was sent on 16/04/2010. The invitation letter regarding the same has been provided as Attachment 4.	1. The PP has provided the scanned copy of newspaper cutting dtd. February 7, 2009 "The Tribune", which mentions advertisement for the stakeholder consultation to be held on 24/04/2009, **hence, this point is closed.** 2. The PP has provided attachment no. 4, which is an invitation for the stakeholder meeting viz. memo no. 217/RCZ-346 dtd. 16/04/09 to all related offices of PSEB,

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 1 and 2	Summary of project owner response	Validation team conclusion
3. During the validation site visit to Dhuri sub-division, the validation team was informed from local stake holders that all the transformer replacement work of Dhuri division is not complete, whereas PP has mentioned during the visit, that the work is complete.		3. The work for the Dhuri division is complete but a formal closure of the implemented scheme is yet to happen. *"DAILY MONITORING REPORT IN RESPECT OF HVDS WORKS dated 22.10.09"* is provided (Attachment 5) which shows the implementation status of the HVDS schemes. The work for Dhuri division has been deemed to be complete. The quantum of work allocated depends on the analysis performed by the PP in the DPRs and for which the work orders are released. However, as the work is started by the contractors, there is a possibility of minor changes in the actual conditions or the number of connections required to be made under the scope of work. For example, if a 20BHP motor is already present in LVDS on a 25kVA transformer, that particular transformer is	which is also sent to various stake holders by SE/REP, PSEB, Patiala –on 16/04/2009 hence, this point 2 is closed.- o.k. 3. It is explained by the PP that, the work of Dhuri division is complete but a formal closure is not done. PP has provided document viz. Attachment 37 it provides the list of implementation requirements for the Dhuri division. The same is as follows: Base line transformers, Dhuri CPA 25 kVA: 862 63 kVA: 949 100 kVA: 587

<table>
<tr><th>Draft report clarifications and corrective action requests by validation team</th><th>Ref. to checklist question in table 1 and 2</th><th>Summary of project owner response</th><th>Validation team conclusion</th></tr>
<tr><td></td><td></td><td>neither dismantled, nor replaced or relocated, due to which the scope of work gets revised. In the particular case cited the 6228 becomes the scope of work finally and the work orders are accordingly amended. A sample copy of such amended scope of work is submitted to the DOE as Attachment 23 for its kind reference.

The following table details out the number of transformers considered in the project case and in the baseline for the Dhuri CPA:

<table><tr><th>New TF capacity</th><th>No.s</th></tr><tr><td>6.3 kVA</td><td>1677</td></tr><tr><td>10 kVA</td><td>8235</td></tr><tr><td>16 kVA</td><td>2075</td></tr><tr><td>25 kVA</td><td>131</td></tr><tr><td>Total TFs</td><td>12118</td></tr></table></td><td>mentions project activity transformer as follows :

<table><tr><th colspan="2">Project Transformers for Dhuri CPA</th></tr><tr><th>New TF capacity</th><th>No.s</th></tr><tr><td>6.3 kVA</td><td>1677</td></tr><tr><td>10 kVA</td><td>8235</td></tr><tr><td>16 kVA</td><td>2075</td></tr><tr><td>25 kVA</td><td>131</td></tr></table>
PP has replied that “The quantum of work allocated depends on the analysis performed by the PP in the DPRs and for which the work orders are released. However, as the work is started by the contractors, there is a possibility of minor changes in the actual conditions or the</td></tr>
</table>

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 1 and 2	Summary of project owner response	Validation team conclusion
		<table><tr><td>Dismantlement</td><td></td></tr><tr><td>25 kVA</td><td>862</td></tr><tr><td>63 kVA</td><td>949</td></tr><tr><td>100 kVA</td><td>587</td></tr><tr><td>Total TFs</td><td>2398</td></tr></table> Attachment 37 has been submitted as a supporting evidence for the same. It provides the list of implementation requirements for the Dhuri division.	number of connections required to be made under the scope of work." Validation team has agreed to this point, It can be seen from the document viz. ""Attachment 37- the excel file "cal of total mat amt supply.xls"" which mentions total no. of dismantled transformer against total no. of required transformer, in the Dhuri CPA, validation team reviewed this and find appropriate, hence, this **point is closed. Since, all the points are closed, hence, CL is closed.**
CL 11 **PoA – DD Section D.2** **<u>Stakeholder consultation</u>** PP to provide all relevant supporting evidences for the stakeholder consultation process.	Refer– section - : -(3.I.- In CDM/POA-SSC-PDD section D2,D3 & D4 point -	The following relevant documents have been provided: 1. Newspaper advertisement 2. Local Stakeholder Meeting minutes along with photo graphs of the meeting	The PP has provided following documents 1. PP has provided the Document "Attachment 3 newspaper ad.pdf" dtd. 07-February-2009 which is a newspaper cutting which contents open invitation to the stake holder meeting of

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 1 and 2	Summary of project owner response	Validation team conclusion
	b)		the proposed CDM project, **hence, point 1 is closed.** 2. PP has submitted document viz. "Approved MOM of stake holder .pdf" which is Local Stake holder meeting minutes along with photo graphs of the meeting, **hence, point 2 is closed.**
CAR 6 **PoA-DD** The identity of the sakeholder who have made comments is not clearly defined in Section D.3 of the POA DD.	Refer–section - : -(3.I.- In CDM/POA-SSC-PDD section D2,D3 & D4 point - c)	The identities of the stakeholders who made comments/expressed concerns have been provided in the Section D.3 of the PoA DD.	The PP has revised PoA-PDD which is identifying the stakeholders who have made comments/expressed their views in the Section D.3 of the PoA DD, hence **CAR is closed**.
CAR 7 **PoA-DD section D.4** The description of how due account was taken of the comments received from the local	Refer–section - : -(3.I.- In CDM/POA-SSC-	The comments received during the stakeholder meeting were mainly related to safety and health issues. These issues were well addressed and a detailed report (*Environmental and Social Review*) was	The PP has clarified that comments received during the stakeholder meeting were mainly related to safety and health issues, which is

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 1 and 2	Summary of project owner response	Validation team conclusion
stakeholders is not described transparently.	PDD section D2,D3 & D4 point - d)	prepared and released to address that concern. The same has been mentioned in the section D.4. A letter proving that it was sent to all the concerned consumers is also provided to the DOE as Attachment 24 for reference. The requirement for training was one of the suggestions made by the attendees of the meeting. It is worth noting that the PoA DD does not mention about any training programme "conducted". The suggestions made by the stakeholders were appropriately considered by issuing a comprehensive safety manual along with the ESR report for the labourers. The same has already been provided to the DOE for its reference. It is clarified that no training programme in that regard was conducted by PP.	mentioned in section D.4. One of the suggestions during this process was training requirement. A safety manual was provided to validation team (document viz. "Attachment 24 Letter regarding ESR.pdf"), which mentions that "Environmental and social review" report is distributed amongst the offices of project Participant which can be seen by customers. This is evident from the document submitted by PP, **hence, CAR-7 is closed.**
CL 12 **<u>PoA-DD section E.1</u>** The title of the approved methodology is not stated.	Refer– section - : -(3.I.- In CDM/POA-SSC-	Section E.1 of the PoA DD has been revised and the title of the approved SSC baseline and monitoring methodology has been mentioned as suggested.	The PP has revised in the section E of PoA-PDD.. The changes made are as : "Approved SSC baseline and monitoring methodology: AMS

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 1 and 2	Summary of project owner response	Validation team conclusion
	PDD section D2,D3 & D4 point - e)		II - Supply side energy efficiency improvements – transmission and distribution, Version 10, EB 48., **hence, CL is closed.**
CL 13 **<u>Emission Reduction Sheet – Dhuri CPA</u>** PP is requested to provide the copy of the emission reduction excel sheet.	Refer– section - : -(3.l.- In CDM/POA-SSC-PDD section D2,D3 & D4 point - h)	The emission reduction sheet for the Dhuri division (CPA) has been provided to the DOE as Attachment 38 for its kind reference. This is a separate sheet and thus the ER sheet provided in the Financials sheet has been removed.	The PP has submitted emission reduction sheet for Dhuri Division CPA (viz. Attachment 38 ER sheet Dhuri.xls), which is real CPA to be included with PoA at the time of registration. In the spread sheet, adjustment of transformer losses are also considered i.e. in case of losses due to replaced transformers in the project compared to baseline transformers are higher, this is to be accounted for. It is mentioned that if any loss reduction is due to project transformers, it is avoided, which is conservative. The same is also reflected in revised PoA-PDD, E.6.1 step-

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 1 and 2	Summary of project owner response	Validation team conclusion
			5. **Hence, CL is closed.**
CAR 8 **<u>PoA – DD (section A.4.3) and CPA-DD (E.5.1) : Additionality</u>** The additionality for the Project Activity is not assessed and demonstrated in Section E.5.1, rather it is incorrectly described in Section A.4.3 of the POA DD	Refer (3.m.i)	As per the guidelines provided in the PoA DD form section A.4.3 *"The information presented here shall constitute the demonstration of additionality of the PoA as a whole"* and section E.5.1 *"Here the PPs shall demonstrate, using the procedure provided in the baseline and monitoring methodology applied, additionality of a typical CPA"* Additionality has been demonstrated at the PoA level in section A.4.3, and based on the rational(s) described in this section, the demonstration of additionality for a 'typical' CPA is presented in section E.5.1 which is almost similar to the one presented in Section A.4.3. However, additionality for the specific CPA has been demonstrated separately in the CPA-DD specific.	Additionality for PoA is demonstrated in the section A.4.3, and for CPA, it is provided in section E.5.1, which in accordance with guidelines provided in PoA DD form and CPA-PDD form, **hence, CAR is closed.**

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 1 and 2	Summary of project owner response	Validation team conclusion
CAR 9 1. The criteria for assessing additionality of an SSC-CPA is described. However the same is not based on the analysis in Section E.5.1 2. The justification of the choice of the additioanlity criteria is not demonstrated in the PDD. E.g For the 1st criteria, it is indicated that "PSEB shall provide documents to show that the power for agricultural consumers is available for free". However, the documentation to provide evidence for the same is not referenced in the PDD nor is the copy of the evidence provided to the validation team.	Refer (3.m.ii)	1. The additionality criteria are explained in section A.4.3 as per the DD guidance. The same is referred to in section E.5.1. As the additionality assessment at POA level is same as the one at CPA level, the criteria defined in Section E.5.2 is based on section A.4.3. 2. Justification for the choice of criteria is provided in the relevant sections of DD. The power to the agriculture consumers is provided for free by PSEB. The costs incurred for the provision of free power is later adjusted in the PSEB accounts but will not be directly reflected for checking the exact reimbursement mechanism and so, if it is fully reimbursed, According to the document "STATE POWER SECTOR PERFORMANCE RATINGS" dated June 2006,(provided as Attachment 7) as per the mandate	1.PP has described Additionality criteria in section A.4.3 in the PoA-DD. The same is also referred in section E.5.1 of CPA-DD. The Additionality criteria for the CPA level is in line with the PoA description, **hence, closed the point 1.** The justification of the choice of the criteria is provided in the section E. 5.2 of the revised PDD. For the evidence for free power to the agriculture consumer document is provided as "Attachment 7 - State Power Sector performance ratings". This is a document prepared by third party, publicly available and found

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 1 and 2	Summary of project owner response	Validation team conclusion
		in 2005, the state had started giving power to the agricultural consumers for free. (http://www.powermin.nic.in/indian_electricity_scenario/pdf/Final_Report_Rating.pdf).	credible, as the report is submitted to Ministry of Power, Government Of India. In the document, 101 mentions that the free power is granted to agriculture, **hence, this point is closed.**
3. Similar is the case for the other additionality criterion of " SSC CPA is undertaken using the fund of REC"		3. Justifications are provided for all criteria. Documents that are required to submitted pertaining to these are also listed here: ➢ Excel sheet providing the value of DSCR	3. PP has revised the other Additionality criteria also comment on how this Additionality criteria is applicable is mentioned in the PoA-DD in section E.5.2, the same is applied for demonstration of Additionality, in section A.4.3, also same is followed in the CPA DD for proving Additionality, **hence, this point is closed.**

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 1 and 2	Summary of project owner response	Validation team conclusion
4. The appropriateness of the DSCR as the benchmark for the Project Activity and the value of the DSCR considered is not justified.		4. Publicly available report *"Developing Financial Intermediation Mechanisms For Energy Efficiency Projects In Brazil, China And India – India Country Report*" dated 10/05/06 shows that different lending agencies – specially banks, consider DSCR as a very appropriate benchmark for funding Energy Efficiency projects in India. The value considered varies from 1.3 to 1.5. The report has been provided as Attachment 9 for DOE's kind reference. (http://3countryee.org/Reports/CountryReportIndia.pdf) There is no direct mechanism under which PSEB can utilise any reimbursement from the government towards efficiency improvement measure. The viability of any such project's implementation mainly depends on PSEB's affordability to pay the interest on the debt obtained regularly. The most appropriate parameter that can capture	4. The PP has used third party, publicly available report viz. *"Developing Financial Intermediation Mechanisms For Energy Efficiency Projects In Brazil, China And India – India Country Report*" dated 10/05/06. This is the report which was available to PP at the time of decision taken. The report shows that different lending agencies consider DSCR as an appropriate benchmark. (reference document (http://3countryee.org/Reports/CountryReportIndia.pdf) (page no. 40 and 81) PP expressed inability for repayment towards expenses for any of the energy efficiency of improvement measures. To demonstrate the same, PP has used parameter DSCR as

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 1 and 2	Summary of project owner response	Validation team conclusion
		this phenomenon is DSCR and hence it is chosen as the benchmark value. DSCR is commonly used by lenders as the benchmark to determine whether a cash flow from the project will support the loan request that the lender is considering for financing. The DSCR is a key criteria used by lenders to both determine the appropriate level of debt as well as assess the ability of the recipient to repay the loans (and hence the likelihood of the guarantee being called). Most of banks in India lending energy efficiency projects look for a DSCR in the range of 1.3 (e,g Union Bank of India) to 1.5 (for e.g. Bank of Baroda). Thus, conservatively, the value of 1.3 has been used in the case of the PoA. Supporting document for the same is provided to DOE as Attachment 10 (http://pdf.wri.org/powering_up_appendix_g.pdf)	benchmark. It is also clarified that DSCR is commonly used by the lenders as the benchmark for repayment capacity of the lessee. The PP has demonstrated that most of the banks in India look for DSCR as 1.3 (Union Bank of India, which is a Government of India bank) to 1.5 (Bank of Baroda, which is a leading Bank in India). PP has conservatively adopted value of 1.3 as benchmark, **hence, this point is closed.**
CL 14 **<u>PoA DD_Section E.4</u>** Description of national policies and circumstances	Refer (3.m.iv)	The baseline to the project activity is the Low Voltage Distribution System for agricultural consumers. It was not a result of any policy or mandate, but a usual	1.The PP has now described national policies and circumstances applicable to baseline and same is stated

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 1 and 2	Summary of project owner response	Validation team conclusion
relevant to the baseline of the proposed Project Activity is not stated in the PDD.		existing technology scenario. Electrical supply to agriculture consumers in India is through low voltage distribution network, typically using 440 V network. The National Electricity Policy through para 5.1.2 (e) stipulates the following: (e) Development of infrastructure would also cater for requirement of agriculture & other economic activities including irrigation pump sets, small and medium industries, khadi and village industries, cold chain and social services like health and education.(http://www.powermin.nic.in/indian_electricity_scenario/national_electricity_policy.htm) It is a common practice in India supplying power to agriculture feeders using low voltage system and hence is the baseline.	in revised PoA-DD, **hence CL is closed.**
CAR 10 **PoA-DD Algorithm**	Refer (3.n.ii)	1. Specifications are provided for all the transformers to the DOE as	1. Also, the PP has submitted

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 1 and 2	Summary of project owner response	Validation team conclusion
The algorithms to calculate the baseline emissions, emission reductions, project emissions and leakage are provided. However the following is not clear viz; 1. Project emissions on account of all the new transformers being put into use is not considered since the individual new transformers would also have some transformation losses.		Attachment 27 for its kind perusal. The number of transformers of 200 kVA capacity used in the baseline is negligible (not more than 2-3 TFs) as compared to the usage of 25-100 kVA transformers in the whole program. In fact, in Dhuri CPA, there is no transformer of 200 kVA transformer. Thus specifications for the 200 kVA transformer are not included. The procedure for adjsutmet of transformer loss is described in the PoA DD section E.6.1, if in case project transformer loss is higher than the baseline transformer loss. 2. The project participant would like to clarify that the dismantled transformers	specifications for various transformers (Attachment 27 Specifications of TFs.pdf). This mentions Losses of project activity transformers i.e. 6.3,10 and 16 kva (page no. 2). Also baseline transformer losses are mentioned in page no. 13 for 100 kva. PP has also clarified that there has been only 2-3 transformers of 200 kva, which are negligible. The validation team confirmed from the "Emission reduction" spread sheet for Dhuri CPA that PP has considered transformer loss of project activity, if it is higher than the baseline transformers. Also, the procedure for adjustment of transformer losses is described transparently in the PoA-DD section E.6.1, hence, this point is closed. 2. As per the applied methodology, leakage

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 1 and 2	Summary of project owner response	Validation team conclusion
2. Leakage effect is considered to be zero in the PDD. However during the site visit , it was given to undersand by the Project Participant representatives that the replaced old transformers are put back in service at other locations and some of the transformers are sold to third parties through auction. In such a case, why leakage effects are not considered is not justified, since the methodology requires consideration of leakage in such cases. The above conditions are not explained in the PDD. Also provide all supporting evidences.		can only be utilized in an activity similar to LVDS, which is the only possible "another project activity". If any transformer dismantled from the PoA, does replace an existing failed/damaged transformer of the same capacity elsewhere – no new loss would emerge due to such replacement, as the replaced transformer would have same loss specifications. This also confirmed by the loss specification of distribution transformers procured by PSCPL till date.	emissions are to be considered in case equipments with an energy efficiency technology is transferred from another project activity. There is no transfer of equipment envisaged from another activity in the proposed project activity but use of either new equipments (distribution transformers) or use of the baseline transformers in the proposed project activity. In line with para 14 of the applied methodology, the project activity is the conversion of LVDS to HVDS which involves the replacement of old transformers with either new transformers or with baseline transformers. The leakage effect of the replaced transformers is neglected because similar theoretical

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 1 and 2	Summary of project owner response	Validation team conclusion
			losses would have occurred for the same rating of transformers if used outside the project boundary thereby resulting in the same amount of leakage emissions. **Hence CAR is closed.**
CAR 11 **PoA-DD section E.6.3** The actual value applied is not indicated in the tables in Section E.6.3. Also provide all the supporting documents for values mentioned therein.	Refer (3.n.iv)	This is a PoA DD describing the framework under which all CPAs will be included and hence the actual values shall come for each subsequent CPAs included in this PoA. Wherever applicable, actual values are provided e.g. grid emission factor.	PP has explained that being a PoA-DD actual values shall come for each subsequent CPA included in the PoA, which is correct. PP has also mentioned Grid emission factor, as 0.840 tCO2/ MWh, which is fixed ex-ante. This should be used for all CPA to be included in this PoA. PP has correctely explained, **hence, CAR is closed.**
CL 15 **PoA-DD** In the section E.6.2 of the web hosted PDD, PP has referred Annex 6, howeever the same is not evident in the PoA-DD.	Refer (3.n.vi)	Suitable changes have been made in section E.6.2	The PP has removed the term 'Annex 6', found corrected in PoA-DD **hence CL 15 is closed.**
CL 16	Refer	All the meters are newly tested and under	During the site visit of the

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 1 and 2	Summary of project owner response	Validation team conclusion
Provide the calibration records of the meters available at the Dhuri site.	(3.n.vii)	the warranty period of the technology supplier. Moreover, the up gradation of all the meters to support the new GPRS based monitoring system by the technology supplier is being done for the PoA, which shall ensure the proper functioning of the meters. A letter related to the up-gradation has been submitted to the DOE as Attachment 29 for its kind perusal.	validation team on dt. 31/03/2011 and 01/04/2011, the validation team verified new metering system (AMR system) put in place, since, the meters are newly installed, verified at site visit and from the review of document viz. Attachment 29, which is a purchase order for the procurement of new meters for the whole PoA. Validation team reviewed this, found correct and, **hence, CL is closed.**
CAR 12 Calibration There is no specific mention about frequency of calibration, also no specific procedure if there is anomaly in readings of metering instruments	Refer (3.n.vii.a)	Calibration and testing of all the meters installed at the sub-stations will be carried out once in three years or immediately after any major fault – whichever is earlier by the PSPCL metering Laboratories accredited from NABL (National Accreditation Board for Testing and Calibration laboratories	It is clarified by the PP that, Calibration and testing of all the meters installed at the sub-stations will be carried out once in three years or immediately after any major fault – whichever is earlier by the PSPCL metering Laboratories accredited from NABL (National Accreditation Board for Testing and

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 1 and 2	Summary of project owner response	Validation team conclusion
			Calibration laboratories. The same is also mentioned in the revised PoA-DD, section E.7.2, **hence, CAR is closed.**
CAR 13 1. Procedures for data monitoring as described in the POA DD and actual at site is different.	Refer (3.n.viii)	1.The monitoring procedure to be used for data monitoring in the PoA has been revised in the PoA DD. Sufficient details have been described in the PoA DD so that the monitoring procedure can be validated by the DOE. 2. As described above, in case of non	1.The PP has revised PoA – DD, for the monitoring procedure to be used for data monitoring in the PoA. It mentions procedure of monitoring in the PoA for each CPA. This mentions that AMR will be the primary source of data and can be cross checked by the records mainted by subdivisional officer or Substation officer who records manual data. Based on the clarification and information reflected in the PoA-DD, **hence, validation team has closed point 1.** 2. For the data uncertainty, PP has clarified that in case of

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 1 and 2	Summary of project owner response	Validation team conclusion
2. Procedures for handling data uncertainties in data measurement is not clear.		availability of the data obtained from the AMR based monitoring system, the manual monitoring system will be resorted to. This has been described clearly in the PoA DD.	non availability of the data obtained from the AMR based monitoring system, the manual monitoring system will be followed in the PoA. This has been described clearly in the PoA DD, **hence, validation team has closed point 2 .**
3. Daily log books maintained at the sub-stations are not authenticated by a higher authority.		3. Daily log books maintained at the sub-stations has been submitted to the DOE as Attachment 44.	3) PP has provided daily log book maintained at the substation (viz. document "Attachment 44(Daily Log Books.pdf") which mentions monitoring parameters i.e. electricity sent out, voltage as mentioned in revised PoA-DD, **hence validation team has closed point 3.**
4. Procedures for data apportioning is not discussed.		4. There is no significance of a "billing cycle" with respect to the CPAs in consideration. The data is generated and	4 For data apportioning, PP has explained that since data is generated and the

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 1 and 2	Summary of project owner response	Validation team conclusion
		available internally and it will be made available conveniently to match with the dates of the verification periods. (as daily data is available).	same is available internally and can be made available conveniently due to continuous monitoring facility from AMR, there is no requirement of 'biling cycle' or data approrrtioning. Validation team has observed at site that data related to emission reduction can be generated for any time range, at any time, due to AMR, **hence point 4 is closed.**
5. The procedures to be followed in case there are damages to monitoring equipments (pg 39 of the POA DD) is not explained.		5. The emergency procedure/protocol monitoring plan in the PoA DD has been revised. It is clarified that no emission reductions shall be claimed for the period when the "metering equipments" remain non functional. No attempt to calculate the emission reductions based on historical values shall be made,	5) It is clarified by PP that no emission reductions shall be claimed for the period when the "metering equipments" remain non functional. Also, PP has clarified that no attempt to calculate the emission reductions based on historical values shall be made. This being conservative, validation

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 1 and 2	Summary of project owner response	Validation team conclusion
			team has **closed point 5. of CAR-13.** **Hence, CAR is closed.**
CL 17 **PoA-DD Appendix 1** The POA DD indicates 46 divisions only in Annex 4 as against 89 divisions mentioned in A.2 of the POA DD	Refer (3.n.viii.a)	It is not 46 divisions but Schemes. Appendix 1 carries the list of 46 schemes each having one or more divisions, the second column in the table provides the names of all the divisions which total up to 89.	The PP has revised the description of schemes in appendix –1, **hence CL is closed.**
CAR 14 **<u>PoA-DD Section E.8</u>** The identity of the person / entity as a Project Proponent or not is not described	Refer (3.o.iii)	PSEB is also the Project Participant for the PoA. This has been incorporated in section E.8 of the PoA DD. The responsibility for the SSC-CPA will lie with the Senior Executive Engineer and the Chief Engineer shall be responsible for the whole PoA. Thus, the different designations mentioned in the PoA DD and the CPA DD is justified. The revised CPA DD for the Dhuri division has been provided to the DOE for its reference and the issue in consideration has been addressed appropriately.	The corrections are incorporated in revised PoA-PDD for the identity of the person/entity in section E.8 of the revised PoA-DD. However, the designation of name of the responsible person is different in PoA-PDD and in Dhuri CPA-PDD in section E. 8. Also, the revised CPA DD and PoA DD mentions the same designation, in the relevant section, hence found consistent, **hence, CAR is**

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 1 and 2	Summary of project owner response	Validation team conclusion
			closed
CAR 15 **PoA-DD Baseline information** The baseline information seems to be derived from AMS ID. This is incorrect since only the emission factor is to be taken from AMS ID, as per the applied methodology.	Refer (3.o.iii.c)	AMS ID has been considered only for the calculation of emission factor. Annex 3 of the PoA DD has been appropriately revised. Also, the Annex 3 has been appropriately revised and all the steps involved in the calculation have been incorporated.	The PP has made correction in the revised PoA-PDD. Also all 7 steps calculations are mentioned as per approved CDM –tool, **hence CAR is closed.**
CL 18 **Annex 4 PoA-DD** Annex 4 does not provide any monitoring information. Project Proponent to please clarify the significance of the information provided in Annex 4 of the PDD.	Refer (3.o.iii.d)	Detailed description of the monitoring has been mentioned in the section E.7.2 of the PoA DD.	In the revised PoA-PDD, in Annex 4 it is mentioned that, detailed description of the monitoring has been mentioned in the section E.7.2, **hence, CL is closed.**
CL 19 **PoA DD + CPA PDD** The geographic reference up-to the seconds parameter in Section A.4.1.2 is not provided.	Refer (4.d)	The exact geographical reference has been provided for the Dhuri division in the CPA DD. The geographical coordinates range has been provided in the PoA DD, covering the state of Punjab. As the PoA is spread over full state, a range of latitude and longitudes are provided. In such a case, the details up to the second's parameter	The geographical coordinates for PoA for the state of Punjab are provided from the source "Google earth". The validation team has verified the latitude and longitude mentioned as : Latitude : 29°29' 31"N – 32°28'20" N and longitude : 73° 52'07" E – 76°59' 49"E), Also, longitude and latitude mentioned in CPA-DD for

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 1 and 2	Summary of project owner response	Validation team conclusion
		are redundant. The longitude and latitude range for the state of Punjab has been retrieved from Google Earth. Geographical coordinates have been obtained from Google Earth. The same has been mentioned in the PoA appropriately.	Dhuri is Lat: $30^0$22'11" N Lon: $75^0$37'16" E Since, it is consistent with the weblink of Google earth, **hence, CL is closed**
CAR 16 PoA-DD Section A.4.1.2 exceeds one page which does not meet the requirements of the guidelines.	Refer (4.e)	Suitable changes have been made in section A.4.1.2 of the PoA DD. The details have been revised so that it does not exceed one page. The revised CPA DD for the Dhuri division has been provided to the DOE for its kind reference.	The PP has made changes in in the in revised PoA-PDD and in CPA-DD, **hence, CAR is closed.**
CL 20 **<u>CPA-DD Section A.4.2.1 : Start Date</u>** In the section CPA-DD, A.4.2.1,a description of how this start date has been determined is not discussed.	Refer (4.f.ii)	The start date for the PoA (as well as of the CPA) has been considered as the date when the work orders were released for the first 6 schemes under the PoA. The revised CPA DD for the Dhuri division has been provided to the DOE for its kind reference.	PP has clarified that The start date for the PoA (as well as of the CPA) has been considered as the date when the work orders were released for the first 6 schemes under the PoA. The same is mentioned in the PoA-DD in the section B.1 and in section A.4.2 in revised

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 1 and 2	Summary of project owner response	Validation team conclusion
			CPA-DD. Validation team has referred work order cum contract agreement no. 3611/RCZ-293/VOL.VII, dtd. 25-10-2007 issued to M/s. Mahashakti Conductors pvt. Ltd. for the material procurement for Dhuri CPA. **hence, CL is closed.**
CL 21 The operational lifetime of the project activity is not stated in years and months	Refer (4.g)	As the project in consideration is a "distribution network", which includes transformers, cables, substation equipments etc. There is no specific operational lifetime considered for the CPA. However, the technical life of transformers (which is major equipment) can be considered as life time of the CPA, which is 25 years. Please note that this is different from the life time of the PoA which is 28 years as per the UNFCCC guidelines. Also, there is no need that each CPA life time exceeds the life time of PoA. As the CPA equipment life time is more than the crediting period of the CPA, this issue is irrelevant. The revised CPA DD for the Dhuri division has been	It is clarified by the PP that, the PoA is about Loss reduction in "Distribution network" by High Voltage Distribution System with the help of replacing higher size transformers, It involves substation equipment, cable etc. The transformer and all other equipment has technical life time of more than 25 years. The PoA has a life time of 28 years, and CPA can be included within PoA's lifetime in the PoA subject to complying all the applicability conditions. The operation life

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 1 and 2	Summary of project owner response	Validation team conclusion
		provided to the DOE for its kind reference.	time mentioned is consistent in PoA DD (section B.2) and CPA DD (Section A.4.2) in the PoA DD, which is in accordance with the EB 55, Annex 38, para 6 (h) of the Section C, **hence, CL is closed.**
CL 22 **<u>Specific CPA-DD</u>** The date in Section A.4.3.1 of Specific DD is not described in the required format.	Refer (4.i)	Section A.4.3.1 has been appropriately revised and the revised CPA DD for the Dhuri division has been provided to the DOE for its kind reference.	Revised CPA DD in section A.4.3.1 mentions: 01/12/2011 (Expected effective date of registration of the PoA or the actual date of submission of documents to UNFCCC by the DOE, whichever is later), this is appropriate, **hence, CL is closed.**
CL 23 **<u>Specific CPA-DD</u>** The length of the crediting period is not in the required date format.	Refer (4.k)	Suitable changes have been made in section A.4.3.2 of the SSC-CPA DD	The length of the crediting period is mentioned as “10 year 00 months but limited to the end of date of PoA” in the specific CPA-PDD ver 1.1, which is in accordance with the CPA guideline, **hence, CL is closed.**

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 1 and 2	Summary of project owner response	Validation team conclusion
CL 24 **PoA DD Section A.4.4.1 <u>Debundling</u>** The information on the de-bundling aspect needs to be discussed since it is not transparently discussed in the PDD	Refer (4.l)	Any CPA considered under the proposed PoA cannot be and will not a de-bundled component of any large scale activity because PSPCL, the CPA implementer, is not involved in any other CDM activity of the same sectoral scope. The same has been mentioned in the section A.4.4.1 of the PoA DD. The same can be verified through the database of projects on UNFCCC website and on Indian DNA website.	It is clarified by the PP, that any CPA considered under the proposed PoA cannot be and will not be a de-bundled component of any large scale activity because PSPCL, the CPA implementer, is not involved in any other CDM activity of the same sectoral scope. The same has been mentioned in the section A.4.4.1 of the PoA DD. The revised PoA-DD in section A.4.4.1 mentions that “PSPCL is the only organization mandated to carry out transmission and distribution projects in Punjab. No other project or PoA has been developed/ implemented in the same sectoral scope in the state of Punjab. The distribution system: consisting of the feeders, the substations, the voltage lines, the transformer lines etc., all are

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 1 and 2	Summary of project owner response	Validation team conclusion
			owned by PSPCL. Therefore, any SSC-CPA considered under the proposed PoA cannot be a de-bundled component of any large scale activity because PSPCL, the SSC-CPA implementer, is not involved in any other large scale CDM activity of the same sectoral scope in the state of Punjab, it is also checked from the UNFCCC website, **hence CL is closed.**
CL 25 **<u>Specific CPA-DD Eligibility criteria</u>** Some of the criteria chosen and their justifications in Section B.2 of the Specific DD are not appropriate.	Refer (4.o)	The criterion mentioned in Section B.2 of the specific DD is based on the criteria mentioned in the PoA-DD. The eligibility criteria have been consistently mentioned in the PoA DD as well as in the CPA DD. The revised CPA DD for the Dhuri division has been provided to the DOE for its kind reference.	The elgibility criteria in section A.4.2.2 and in section B.2 are consistent in revised PoA-DD and in the Specific CPA-PDD, **hence, CL is closed.**
CL 26 **<u>PoA-DD section B.5.1</u>** PP to clarify how methodology ACM 0002 is relevant for the calculation of emission factor in the Project Activity	Refer (4.r)	The reference to ACM0002 is redundant and thus appropriately removed from the section B.5.1.	The PP has removed reference to ACM 0002 from the section B.5.1 of the PoA-DD, **hence, CL is closed.**

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 1 and 2	Summary of project owner response	Validation team conclusion
CL 27 **Ex-ante losses : PoA-DD** 1. The basis for the assumption of losses of 8.68 % and 0.02% is not justified with supporting evidences. 2. How the project activity emissions of 33 tCO2e is arrived at is not clear.	Refer (4.s)	1.The baseline formulation has been revised and an appropriate sample of 14 feeders following sampling guidelines has been used for obtaining the technical loss factors. All the sample calculation sheets have been submitted to the DOE for its kind perusal. Accordingly, the baseline loss % comes out to be around 3.605% and project loss % comes out to be around 0.005%. 2. The calculation sheets provided for the loss calculations provide evidence for the project emissions as well as the baseline emissions. The value of 33 tCO2 has been revised and the revised project emission estimate has been provided in the CPA DD.	**Point 1 and 2)** PP has clarified that, in accordance with the "General guidelines for sampling and surveys for Small-scale CDM project activities, EB 50 annex 30, PP has selected 14 nos. of feeders for baseline and project losses i.e. in LVDS and in HVDS. This is explained in PoA-DD section E.6.1. Accordingly baseline losses are now fixed as 3.605% and in the project losses are 0.005%. The validation team found the rationale acceptable as it is in accordance with the EB guidelines where 90/10 approach for confidence level and error margin is followed, hence, point 1 and 2 are closed, **hence, CL is closed**.
CL 28 **CPA-DD** The references of the appendices are not provided in the cover page of the CPA PDD.	Refer (4.z.aa)	The references to the Appendices have been provided on the cover page of the SSC-CPA DD.	The references for Appendices provided are now consistent on the cover page of the revised SSC-CPA PDD,

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 1 and 2	Summary of project owner response	Validation team conclusion
			hence, CL is closed.
CAR 17 **<u>PoA-DD Section A.2</u>** 1 The description of the pre-project and the project activity is not transparently described in the POA DD. E.g line length of conductors, total no. of transformers in the pre-project and the project activity not mentioned.	Refer (5.a)	1. PoA DD describes the broader details of implementation of program i.e. details of the divisions, REC schemes etc. However specific details regarding transformers and conductors etc shall be provided in specific CPAs. As it is clarified that for the conversion of LVDS to HVDS for AP consumption, new transformers are going to be installed, but the same conductors are going to be utilized. Thus, the line length details are deemed redundant and not pertinent to the project implementation or any calculation. However, the section wise lengths are used for the estimation of baseline. Attachment 37 has been submitted as a supporting evidence for the same. It provides the list of implementation requirements for the Dhuri division.	The PP has clarified that the project is a PoA, which is a framework and CPAs will be added later on. In the specific CPA, number of transformers replaced/to be replaced will be mentioned in the specific CPA-DD. It is also explained in the PoA-DD that the same conductor is used, however, in the baseline voltage level is 400 V which will change to 11 KV (in the CDM project). PP has provided document "Attachment 37" which has two files which mentions list of implementation requirements for the Dhuri CPA. Spreadsheet "cal of dismantlement cost.xls" and spread sheet,(2) "cal of total mat and amount supply.xls" which provides details of transformers to be replaced

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 1 and 2	Summary of project owner response	Validation team conclusion
2 The copy of the DPR reviewed at the PSEB office (during the site visit) does not include the pre-project and project transformer losses.		2. As described above, the no load losses for the new as well as the old transformers are negligible. It is a common practice that each old 63 kVA/100 kVA transformer is connected with 20 to 30 consumers (typically with a pump set capacity of 5 HP). In the project scenario, an 11 KV line is extended till the consumer point and a new transformers of 5, 10, 15 kVA capacity will be installed. The no load losses of a typical 3 phase transformer (3 x K capacity) will be equal to 3 numbers of single phase transformers (K capacity). The installed capacity of existing transformers is more than the installed capacity of new transformers, which indicate less transformation losses (no load) in the project scenario over baseline scenario. This is the case for all schemes together as well as for Dhuri. The details are as given below:	for Dhuri Division., **hence, this point is closed.** 2. It is now mentioned by PP that, following transformer capacities are estimated for the scemes being considered initially : Baseline installed capacity: 4,992,744 kVA Project installed capacity: 4,445,919 kVA **Dhuri CPA:** Baseline installed capacity: 150,946 kVA Project installed capacity: 138,342 kVA It is also explained in the revised PoA-DD that due to project transformer, if losses are higher than baseline transformer, same will be accounted for calculation of Emission reduction.

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 1 and 2	Summary of project owner response	Validation team conclusion
		Whole POA: Baseline installed capacity: 4992744 kVA Project installed capacity: 4445919 kVA Dhuri CPA: Baseline installed capacity: 150946 kVA Project installed capacity: 138342 kVA To make a conservative estimate of the transformer losses, the summation of the no load and full load loses for the transformers have been considered. The above mentioned response has been revised to the correct values of the kVA capacities of the transformers in the Dhuri division: Baseline installed capacity: 150,946 kVA Project installed capacity: 138,342 kVA This is in line with the documents provided with the details of the	In this regard the PP in the revised POA-DD proposed to monitor the number of transformers used in the baseline and in the project case. The PP's proposal to fix the values of no load loss (NL) and full load losses (FL) of the transformers was also considered appropriate as PP could demonstrate through evidences that the specification of the transformers in respect of these parameters (NL and FL) procured by PSEB have not changed over last several years. (Refer Attachment 27)H**ence, this point is closed.**

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 1 and 2	Summary of project owner response	Validation team conclusion
		transformers.	
CAR 18 1.During the site visit to Babanpur village, it was observed by the validation team that an old 100 KVA transformer was replaced with smaller new transformer capacities totaling to almost 170 KVA. The baseline for the same is not clear. E.g In one of the CLR (Connected load Register) sheet of Babanpur –1 feeder, (Ref. No. – Transformer Sr. no. DT as per Annex-D//BBN-I/M-03/100kva T/F) pre-project transformer rating is 100 KVA, whereas project scenario shows 170 KVA rating transformer installed. Project participant to clarify on the Addition of such load. 2. During the site visit, it was also observed that	Refer (5.b.iii)	1) and 2) As mentioned above, the total capacity of transformers installed in the project scenario is less than the capacity of transformers replaced. Moreover, the capacity of the transformer will be selected based on the nearest rating available for the rating of the load to be connected and is one of the reasons for the difference. For example, to connect 20 pump sets of 5 HP each, it might need one 100 kVA transformer in a baseline scenario (also considering they all don't operate at a time) where as for the same loads, it might require to install 20 numbers of 10 kVA transformers in the baseline scenario as 5 kVA transformers are not efficient to install. In addition, in some cases, this might be due to addition of new consumers to the feeder and hence more transformers. 2. As the baseline scenario for any new	**Point 1) and 2)** The PP has explained that, the transformers to be installed in the project activity would not be exactly same as that of the baseline. This is because if 20 pump x 5 HP each requires 100 kva transformer, this can't be replaced by 20 nos. x 5 kva transformer technically. Hence, there could be changes in the kva capacity. It is also explained that, in some cases, this might be due to addition of new customers to the feeder and hence, there would be increment in total transformer capacity. Having reviewed this and based on sectoral knowledge validation team agrees to this, **hence, this point is closed.** 2) It is explained by the PP

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 1 and 2	Summary of project owner response	Validation team conclusion
there are provisions being made for additional connections to agricultural pump-sets. It is not clear as to how many such new connections would replace an old transformer of 100 KVA. The effect of the same on the baseline and on the emission reduction calculations is not clear.		connections is same as the existing connections i.e. connected to low distribution network, according to simplified modalities of procedures for small scale project activities wide paragraph 16, project activities involving capacity increase may use the same methodology if they can demonstrate that the most plausible baseline scenario for the additional (incremental) capacity is the baseline provided in the methodology. Any new or increase in the capacity of existing loads (pump sets) on the transformers /feeders are accounted by PSEB on a regular basis. This proves that the additional connections are not specific to the implementation to the HVDS and would have happened in the baseline also. Thus, it would not have any impacts on the baseline or the emission reduction calculations.	that, baseline scenario for any new connection is same as the existing one (i.e. connected to 400 V system) and as per simplified modalities of procedures for small scale project activities, para 16, project activity involving capacity increase (in this case new agricultural connection) may use the same methodology, also in this case most plausible scenario for new connection is the same as supply of 400 V in the grid. Validation team agrees to this as there can't be two systems (400 V and 11kv) any new connection is not due to project activity, but could have been in the baseline (if 400 V would have existed) also, **hence, this point is closed.**

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 1 and 2	Summary of project owner response	Validation team conclusion
3.Provide supporting evidence to prove that all the transformers installed in the project activity are new and are not transferred.		3. All the transformers of capacities 6.3,10,16 kVA are considered to be the new installations. The transformers which are dismantled are brought to the stores and then re-allotted to any location as per the demand on case by case basis. The store issues a *Store Return Warrant* to the Junior Engineer concerned to the dismantled transformer. At the time of allotment of the transformer. A *Stores Requisition* form is filled by the concerned Junior Engineer. Sample copies of the two documents are provided for DOE's kind perusal as Attachment 31. The serial numbers are explicitly mentioned in both the documents.	3. It is explained by the PP that, whenever, baseline transformer is replaced with project activity transformer (which are 6.3/10/16/25 kva, hence new) procedure of issue and receipt of transformer is followed at store. This is demonstrated by the document viz. "Attachment 31_stores voucher" which shows the baseline (dismantled) transformer number, its capacity, location and new issued transformers (orjoject transformer) number, its capacity etc. Also, to demonstrate that the PP has used new transformers in the project PP has provided copy of Purchase order for the transformers to be used in Dhuri Division(Ex. Work order cum contract agreement copy no. 9/RCZ-293/Vol-VII/EIC/RE& APRDRP/2007-

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 1 and 2	Summary of project owner response	Validation team conclusion
4. During the site visit, at Babanpur-1 Feeder, no traceability record was evidenced for new 16 KVA transformer (the validation team had checked Babanpur feeder, in which there were 3 transformers, of which for following transformer records were not available. a. Tr. 1: Sr no. 1299 –16 KVA Transformer– no records /traceability of installation were seen by the validation team.		4. Once the transformer is installed in the field by the implementing party, the serial numbers of the transformers will be recorded and provided to PSEB. However, as the implementing agency needs to maintain the transformers for one year before handing over the same to PSEB, any faults/replacement such transformers will the responsibility of the respective agency. In this case (Babanpur feeder), the original transformer installed was replaced with the another one as the original one had some problems but the new serial number has not got updated in the PSEB records as the agency will update the records with a time lag. A mechanism has been introduced to update such changes to the PSEB	08 DATED : 25-10-2007, placed for supply of material connected to the erection, testing and commissioning of new 6.2/10/16/25 kva distribution transformers) 4. As explained by PP, the work of replacement of baseline transformer with the project transformer is done by the outside agency. The original transformer installed was replaced with another one as the original one had some problems but the new serial number has not got updated in the PSEB records as the agency will update the records with a time lag. A mechanism has been introduced to update such changes to the PSEB records as well with minimum time delay and capture such changes on timely basis and will be implemented at the

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 1 and 2	Summary of project owner response	Validation team conclusion
		records as well with minimum time delay and capture such changes on timely basis and will be implemented at the earliest.	earliest. PP has submitted " Attachment 31.pdf" which is a procedure for issue and receipt of the baseline and project transformer. i.e. record for issue and receipt of baseline and project transformer. Hence, this point is closed.
5. Project Participant to clarify whether permission from the Chief Electrical inspector / Electrical inspector is not mandated before charging the line i.e. after converting it to HVDS. Kindly justify the reason and provide appropriate supporting evidences.		5. After the conversion to HVDS, the connections are checked by the office of the Chief Electrical Inspector, and the lines are charged after getting a clearance from CEI only. Letter of communication between the Chief Electrical Inspector and the PSEB have been submitted to the DOE as Attachment 32 for its kind perusal. The Attachment 32 submitted to the DOE, asks PSPCL to *impart the instructions on the field officers to improve working condition and to ensure that the installation, henceforth, are constructed in*	5 Evidence of the clearance for line charging given by respected authority i.e. from the office of the Chief Electrical Inspector is provided to the validation team. The PP has submitted document viz. "Attachment 32 Letter from CEI". In the said document Dy. Chief Engineer has asked PSPCL officers *to ensure that the installation, henceforth, are constructed in compliance*

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 1 and 2	Summary of project owner response	Validation team conclusion
		compliance with the provision of Indian Electricity Rules, 1956. This requirement was met by PSPCL and a clear instruction was sent out by Dy. Chief Engineer to different field offices (submitted to the DOE as Attachment 46) with respect to compliance to the said rules. A copy of the same instructions was marked to the Chief electrical inspector too. Thus, it is to be understood that the compliance to all the electricity rules was made before the transformers in any particular CPA were energised. No other compliance is required for the implementation of the CPAs in the PoA.	*with the provision of Indian Electricity Rules, 1956.* Since the instruction was sent out by Dy. Chief Engineer to different field offices (Attachment 46). for the compliance to the said rules. A copy of the same instructions was marked to the Chief electrical inspector too. Thus, validation team understood that the compliance to all the electricity rules was made before energizing the transformers in a CPA., **hence validation team has closed point 5.**
6. The PDD does not transparently describe the bifurcation of commercial and technical losses viz. theft and actual technical losses due to LV system.		6. Please note that the project activity covers only technical losses. Considering the fact that there is no 100% metering available at consumer end, it will not be possible to measure total losses. As there is no provision	**6.** It is clarified by the PP that, project activity will consider only technical reduction, as measuring commercial loss reduction is not possible, Also,

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 1 and 2	Summary of project owner response	Validation team conclusion
7. It is not clear from the PDD as to how many subdivisions, feeders no. etc are there in the project activity. Further the feeder length / feeder sketch is not submitted to the validation team.		to measure total losses accurately and the project needs to calculate technical losses only, it is proposed to adopt engineering approach to calculate the technical losses based on load on the feeders and characteristics of the lines. The commercial losses will come into picture only when one can measure total and technical losses in the LV system. Formulae have been used for LV as well for HV, and they both provide technical loss values which can be directly used for loss reduction. 7. Divisions, part of PoA are listed in appendix 1 the PoA-DD. Details of feeders are provided for in CPA DD.	emission reduction will be claimed on the technical losses, which are to be calculated based on standard engineering formulae, **hence, this point is closed.** 7. It is mentioned by the PP that, the feeder length to be converted to 11 kv i.e. HVDS will be mentioned in each specific CPA. **Hence CAR is closed.**
CAR 19 CPA-DD The PDD does not describe as to how environmentally safe and sound technology has been applied by the project activity.	Refer (5.k.ix)	Section A.2. of the CPA DD has been appropriately revised and the CPA DD has been submitted to the DOE for its	PP has clarified in the revised CPA-DD that "The transformers and other equipments used in the SSC-

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 1 and 2	Summary of project owner response	Validation team conclusion
		kind reference.	CPA are newly manufactured and their operation does not cause any harm to the environment. Thus, the SSC-CPA uses environmentally safe and sound technology.", As per the DOE's sectoral knowledge, the activity mentioned is environmentally safe, **hence, CAR is closed.**
CL 29 **POA DD** The proposed project activity comprises replacement of the existing transmission lines and LV transformers with HV transformers to reduce the technical line losses in electricity distribution. The electrical savings from the proposed project activity exceeds 60 GWh. Please clarify the applicability of the methodology to the project activity.	Refer (6.a.b)	As per the methodology, individual CPAs should not exceed the small scale limit. The proposed PoA meets this particular requirement. Electrical savings from any CPA will not exceed 60 GWh as required and hence meets the methodology requirements.	The validation team reviewed the DPR for Dhuri CPA, which is the first CPA to be included in this PoA and observed that the estimated energy savings is less than 60 GWh. Also, as per PoA-DD section A.4.2, the for CPA inclusion in the PoA loss reduction should be less than 60 GWh. hence, meeting with the requirements of AMS II A version 10, **hence, CL is closed.**
CAR 20 The algorithm used in the calculation of load loss reduction upto 60 GWH is not provided. Also for	Refer	The algorithm for the calculation of savings, and thus the emission reductions	It is clarified by the PP that, the algorithm for the

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 1 and 2	Summary of project owner response	Validation team conclusion
net power saving of 1540GWh/annum. The total CERs generated are saving of energy multiplied by an emission factor, however the CERs are calculated on total energy exported. Please clarify. Total energy supplied (for the year 2005-06) = 195,846 MWh. However details of metering this parameter is not indicated in the PDD.	(6.a.e)	has been provided in the section E.6.1 of the PoA DD. The emission reduction will be calculated based on the energy sent. The monitoring plan has been updated and revised and the energy sent value will be monitored as per the monitoring plan described in the PoA DD. The data of 2005-06 is taken from PSEB records and are used for estimations only. The loss reduction in project scenario will be based on the actual monitoring of total electricity supplied.	calculation of savings, and thus the emission reductions has been provided in the section E.6.1 of the PoA DD. The emission reduction will be calculated based on the energy sent. The monitoring plan has been updated and revised and the energy sent value will be monitored as per the monitoring plan described in the PoA DD., **hence this point is closed.** It is also clarified that, The data of 2005-06 is taken from PSEB records and are used for estimations only. The loss reduction in project scenario will be based on the actual monitoring of total electricity supplied. Since, the loss reduction is based on actual energy sent out, and percentage saving is fixed ex-ante, this point is closed,

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 1 and 2	Summary of project owner response	Validation team conclusion
			hence, CAR is closed.
CAR 21 **Section E.1 PoA-DD** Te POA DD does not indicate that the project activity meets the applicability conditions of the tools referred to under E.1 of the POA DD.	Refer (6.b.g)	The applicability conditions of the tools/methodologies used/referred for the project activity are mentioned in section E.1. Other than the methodology AMS II A, only Tool to calculate the grid emission actor of the electricity system and AMS ID is applied – the justifications for the same are provided.	OK, The revised PoA-PDD ver 1.1 mentions that the project activity meets the applicability conditions of the tools referred to under E.1 of th PoA, **hence CAR is closed.**
CL 30 There are sources used which refer to REC guidelines, however, p.f. data used is 0.88, which is not supported with relevant supporting documentation.	Refer (6.b.h)	PSEB makes sure the threshold of power factor 0.88 is maintained, which is set by the Punjab State Electricity Regulatory Commission (PSERC). The reference provided shows the power factor limit set by PSERC. (http://www.pserc.nic.in/pages/tariff_order_2k4_2k5_9.html) As per the reference provided, PSEB has proposed to enhance power factor threshold limit from 0.88 lagging to 0.90 lagging for Large Supply, Medium Supply and Railway Traction consumers. Power factor limit for other categories would continue to be unchanged i.e 0.88	Based on the PP response, and link provided, by PP "(http://www.pserc.nic.in/pages/tariff_order_2k4_2k5_9.html)" which mentions that power factor for other category is 0.88, since agriculture consumption falls under other category of consumption, **hence, CL is closed.**

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 1 and 2	Summary of project owner response	Validation team conclusion
		lagging. The agriculture consumption falls under the latter category of 'other consumption'.	
CAR 22 1. The baseline description under Section E.4 of the POA DD, indicates of alternatives identified for the proposed Project Activity. Project Participant to clarify as to which tool, referred to in the methodology, is being used for the identification of the alternatives. 2. Project Participant to clarify and justify as to why the Project Activity is not considered as a capacity addition (as mentioned in para 7 of the applied methodology and also since that an old 100 KVA transformer has been replaced with a 170 KVA transformer)	Refer (6.d.a)	1. The version of the methodology referred has been appropriately mentioned in the section E.4 of the PoA DD. 2 The PoA is conversion of LVDS to HVDS. The aim of the project activity is to reduce the T&D losses which would otherwise have happened in the case of LVDS. New connections will be added every year irrespective of project implementation based on the addition of new consumers to the network. As mentioned above, the baseline scenario for any such new connections is same as the one for existing connections. As the objective is mainly to reduce the technical losses out of LVDS but not to extend the load or capacity addition, this is not applicable.	1. PP has corrected the version of methodology in section E.4 of the PoA-PDD version 1.2, **hence this point is closed.** 2. PP has clarified that new connections will be added every year irrespective of project implementation based on the addition of new comers to the network. PP has also explained that, as per the General Guidelines to SSC CDM methodologies **,** Type II and III project activities involving capacity increase may use a Type II and Type III SSC methodology provided that

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 1 and 2	Summary of project owner response	Validation team conclusion
		Also, as per the General Guidelines to SSC CDM methodologies **,** Type II and III project activities involving capacity increase may use a Type II and Type III SSC methodology provided that they can demonstrate that the most plausible baseline scenario for the additional (incremental) capacity is the baseline provided in the respective Type II and III small-scale methodology. For this program, it is obvious that in absence of HVDS implementation, the system would have continued with LVDS and hence the baseline will remain same for any new connections that come after implementation of the program unless there is a mandatory law in the country or state that prescribes the implementation of HVDS for all agriculture feeders.	they can demonstrate that the most plausible baseline scenario for the additional (incremental) capacity is the baseline provided in the respective Type II and III small-scale methodology. It is also explained that for this program, in absence of HVDS implementation, the system would have continued with LVDS and hence the baseline will remain same for any new connections that come after implementation of the program unless there is a mandatory law in the country or state that prescribes the implementation of HVDS for all agriculture feeders. The validation team confirms from its sector knowledge that, there is

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 1 and 2	Summary of project owner response	Validation team conclusion
			no mandatory law in the country or state of the project activity, which requires HVDS connections for agricultural consumers, **hence, this point is closed.**
3. As per para 8 of the methodology, provide supporting evidence for the remaining lifetime of the replaced equipments (i.e old LV transformers)		3. This is irrelevant in this case, as any transformer reaching its lifetime would be replaced with a similar transformer. It's the PoA that facilitates the installation of new transformers and would not happen in the baseline case. The mere fact (and the substantive evidence regarding that) that the initiative is a voluntary action taken by the PP mainly to upgrade LVDS with HVDS with the whole purpose of reducing losses, excludes the possibility of any doubt like this. Please note that the program is not a replacement of existing transformers and these are getting replaced in lieu of the program characteristics whether they are brand new or recently installed or installed 20-	3 It is clarified by the PP that, the project is an initiative of a voluntary action by the PP. The project is about about upgrading the existing 400 v LVDS to 11 kv HVDS for agricultural consumers, which requires replacement of high capacity transformers (25/63/100 and 200 kva) with smaller 10/16/25 kva transformers, which are provided to individual customers, hence, issue of replaced equipments i.e. transformer

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 1 and 2	Summary of project owner response	Validation team conclusion
		30 years ago.	due to its project life does not arise, the emission reduction is due to conversion of LVDS to HVDS and not because of the replacement of transformers, validation team agrees to the clarification provided by PP, **hence, this point is closed.** .
4. Footnote 3 of the applied methodology indicates that the relevance of and the justification for using the REC guidelines for determining the baseline determination needs to be provided in the PDD. The same is not described		4. Suitable changes have been made in section E.6.2 with respect to Annex 6. During the course of validation, PP undertook appropriate revisions in the methodology of loss calculation to arrive at a more accurate estimate of the loss calculations, Accordingly, the revisions have been incorporated in the PoA DD The justification for the usage of REC guidelines has been incorporated in section E.6.1 of the revised PoA DD.	4. As defined in methodology, AMS-II.A version 10, for retrofit projects, the PP has demonstrated that the energy baseline is the technical energy loss within the project boundary calculated using option 2 (ii) for existing radial electricity distribution system (e.g. rural distribution network) , for which no national or international standards are available to measure the performance (e.g., technical loss) of the existing system,

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 1 and 2	Summary of project owner response	Validation team conclusion
			the technical losses are determined using a well established peer reviewed method included in the guidelines of a relevant national Government agency (e.g. rural electrification corporation/agency in the public sector or standards bureau/organizations in the region/country – the PP has demonstrated that Besides, there is no national or international standard in India to measure technical loss. The standards selected for this project are the guidelines of the REC. The guidelines provide a step-wise approach for calculating technical loss for different transmission/distribution systems based on recorded loads, grid parameters and cable characteristics for rural feeders in India. The project

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 1 and 2	Summary of project owner response	Validation team conclusion
			activity is the conversion of LVDS to HVDS in a transmission system in rural parts of Punjab. Hence, the REC formulae can directly be applied for technical loss calculations. The same is revised in section E.6.1 of the revised PoA-PDD **Hence, this point is closed.**
CAR 23 The estimates provided for the emission reduction in the PDD does not seem reasonable, as new transformer losses are not calculated, also hourly monitoring energy sent out is not made available, and the project DPR is not submitted.	Refer (6.i)	As mentioned above, the transformer losses in project scenario are less than baseline scenario due to less installed capacity of transformers in project scenario compared to baseline scenario and hence not considered in the calculations of power savings. If project transformer losses increases the baseline transformer, this loss will be accounted and subsequently there would be less emission reduction. The DPRs have been provided to the DOE. The specifications for the old as well as new transformers have been provided to	PP has used no load and full load losses of the transformer, in the baseline and in the project activity for the calculation of ER estimation, it is also mentioned that if due to project activity transformer there is an emission reduction ,this will not be claimed, however, if due to project activity, transformer, if there is any transformer losses, this will be appropriately accounted for as a project emission. The validation team finds this as conservative approach,

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 1 and 2	Summary of project owner response	Validation team conclusion
		the DOE for its kind perusal. Abstract from the DPRs for the Dhuri division are provided to the DOE as Attachment 34 for its kind perusal. Copies of the DPRs (soft copies – without diagrams) have been submitted to the DOE for its kind reference as Attachment 39.	**hence, this point is closed.** PP has also provided abrstracts of the DPRs (Document : Attachement 34, for Dhuri CPA as attachment 39, which contains details on estimated losses in the CPA, hence this point is closed.)from the Dhuri division, which is the CPA to be included with PoA registration, **hence, CAR is closed.**
CAR 24 Yes, however the following gaps are identified viz; 1. The benchmark is based on the DSCR. The appropraiateness of using this benchmark for this Project Activity scenario is not justified in the PDD. 2. The basis for assuming the value of 1.5 for	Refer (7.a)	1. Please refer above pages for the explanation on this. As the investments for the project activity are based mainly on debt, repaying capacity is one of the important parameters to be formulated, if performance of the project is to be checked. It is significant for both, the project participant as well as the lending agencies. Debt Service Coverage Ratio is the most important parameter checked by the lending agencies to evaluate the repaying capacities of the projects.	1. The validation team noted that the project activity is funded with 100% debt from the REC. Since the project is 100% debt services, DSCR can be considered as an appropriate benchmark for the project activity. 2. The validation team reviewed the report of

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 1 and 2	Summary of project owner response	Validation team conclusion
the DSCR benchmark for this Project Activity is apparently from a credit appraisal project report of Union Bank of India (UBI). Project Participant to justify as to how the DSCR value indicated in this report would form an appropriate benchmark for the Project Activity. Further the same credit appraisal report describes of a case study which indicates an average DSCR of 1.38 also as acceptable. Also the credit report is not dated, hence cannot be considered as being available at the time of decision making. 3. All the input values / assumptions used in the investment analysis are taken from documents which are post the decision making. Hence cannot be accepted.		2. The DSCR benchmark of 1.5 is used being convinced of the fact that usually lending agencies use DSCR value of around 1.5 for projects seeking financial support. The lending agency for the project activity, Rural Electricity Corporation Ltd. (REC) has also agreed upon the appropriate of DSCR as a benchmark for such energy efficiency projects. The excerpts from a discussion with REC have been submitted to the DOE for its kind reference. It also shows that the benchmark value of 1.5 is chosen when DSCR is considered for the appraisal of the projects. Moreover, a publicly available report *"Developing Financial Intermediation Mechanisms For Energy Efficiency Projects In Brazil, China And India – India Country Report"* dated 10/05/06 shows the same. (Attachment 9) (http://3countryee.org/Reports/CountryReportIndia.pdf) 3. The decision making has been considered of the time of in-principle approval in March2006. It is to be	World Bank for energy efficiency projects in Brazil, China and India dated May 2006 wherein a DSCR value of 1.5 and 1.3 is also mentioned. Based on the above, the project participant has now considered a DSCR value of 1.3 as the benchmark for the project activity. The validation team accepted the use of the report since the report was from an organization of repute and also since the DSCR indicated were for energy efficiency projects in India, under which the proposed project activity also falls. 3. The validation team, based on the interviews with the project participant and review of documents verified that the in-principle

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 1 and 2	Summary of project owner response	Validation team conclusion
4. Provide a copy of the IRR sheet in the xls format. 5. REC sanction letter copies provided are incomplete – It doesn't have the interest rates and moratorium indicated.		noted that, it is just the approval (in-principle) to go ahead with the HVDS project. Specific, scheme formulations happened subsequently based on which the DPRs were framed. These DPRs were submitted for the loan appraisal. The values considered for the calculation purpose have been taken from the loan documents, which was sanctioned later in the year. Hence, the references to those assumptions are deemed to be more appropriate. The input values used for the financial calculations have been revised in the revised financial sheet. 4. . IRR has not been used for checking the performance of the project activity. The calculations are done for the DSCR, and the sheet is provided to the DOE. 5. Complete copy of the loan sanction letter has been submitted to the DOE for its kind perusal. 6. The change in the lending rate from 9.75 to 11.75 (change of 20%) % is an	approval from the Board of Directors cannot be construed as the final approval but only as an interim approval. The final approval is taken by the Board of Directors only after the DPR is made. Hence the input values for financial analysis are sourced from the DPR. 4. The financial working excel sheet is provided. 5. The complete copy of the REC loan sanction letters has been provided to the validation team. 6. The validation team noted that even with a change in the interest rate, the DSCR

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6. Why is the sensitivity analysis for the change in lending rates only applied to 10 % whereas the actual fluctuations indicated in the PDD is much more than that. 7. Barriers due to prevailing practice – In line with the guidance on Non-binding examples, it is not proven that the project activity is one of the first of its kind in terms of technology/region.etc.. 8. It apparently seems that there are similar		actual variation in REC lending rates. The value of 10% has been chosen to maintain consistency in sensitivity analysis among all other parameters in the PoA DD. However, even with a variation of 20% in the lending rate, the DSCR does not cross the chosen benchmark. 7. The project activity is the first of its kind in terms of its scalability and coverage in the country. .Only few other states have incorporated the technology – HVDS but only on pilot level. The proposed PoA caters to all the agricultural consumers in the state of Punjab. Similar initiative has been under implementation in the state of AP, for which, CDM revenues are being sought as well. The explanation has been provided in the PoA DD (section A.4.3). 8. The installations in Karnataka, Haryana and AP are on pilot scale implemented in one circle or few feeders to test the concept. The proposed project activity caters to all	of the project activity is lower than the benchmark. 7. **& 8** The validation team noted that the proposed project activity is one amongst the first of its kind in India. There are other installations in the State of Karnataka and Andhra Pradesh, however these are only on a pilot scale basis and cannot be compared with the project activity. 8. The PP has clarified that, The installations in Karnataka, Haryana and AP are on pilot scale implemented in one circle or few feeders to test the concept. The proposed project activity caters to all the agricultural pumps of the state of Punjab, covering almost all the villages with agricultural

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 1 and 2	Summary of project owner response	Validation team conclusion
installations in Karnataka, Haryana and AP. However whether similar projects are implemented across the country are not discussed transparently in the PDD. Also provide all supporting evidences.		the agricultural pumps of the state of Punjab, covering almost all the villages with agricultural consumers. However, similar project has been initiated in AP which is also seeking CDM benefits as mentioned in the PoA DD.	consumers. Validation team agrees to this and hence, point is closed. Based on the above observations, the CAR is closed.
CAR 25 1. The Board decision is in the form of In-Principle approval – Based on the copy of the In-Principle approval, there are certain documents referred to, in this approval. Provide the copies of all the documents referred to in the approval. 2. The initial study seems to be made by considering the 25 KVA range only. Please clarify	Refer (7.- prior consideration – point a)	1. All the documents referred in the 'In principle' approval are provided for DOE's kind reference. They reflect the decision making process for the HVDS project in detail. The CDM consideration can also be understood from the same. 2. The technical analysis (demo) was conducted for 25kVA dedicated transformers. This was to demonstrate the benefits of HVDS. It could be easily accepted that once convinced, the decision was taken for all small capacity (6.3/10/16/25) dedicated transformers depending on the dedicated demand on the corresponding connection. Thus, though only 25kvA TF was considered for the purpose of initial technical analysis, it was considered appropriate enough to	1. All the documents supporting the CDM decision making process of the project participant is submitted to the validation team. 2. The validation team interviewed the project participant representatives and noted that even though the initial study was conducted only for the 25 kVA transformers, the intention of the Board members was to implement it on a large scale across all the agricultural pumps of the State.

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 1 and 2	Summary of project owner response	Validation team conclusion
3. All supporting evidences for the chronology is not provided. 4. The PDD indicates appointment of an DOE. Please provide detailed justification for the discontinuation of the DOE for the Project Activity validation with all supporting evidences. 5. The chronology is incomplete – doesn't indicate the date of DOE appointment, the HCA approval etc..		demonstrate the benefits of shifting from LV with high capacity TFs to HV with small capacity TFs. The guidelines for the implementation of HVDS programme has been referred to, in the In-principle approval letter. The guidelines clearly show the application of different capacity transformers. 3. All supporting evidences for the chronology are provided to the DOE. 4. The World bank had appointed TUV-Nord initially for the programme but later TUV-Nord realised that this is a POA and not a stand-alone project and informed their inability to carry out the validation of a POA. Supporting evidence for the same is provided to DOE as Attachment 13. 5. Chronology of events is completed with inclusion of missing milestones in the revised document. The justification and the significance has been mentioned in the remarks column of the table of chronological events. DOE to specify the requirement.	3. The supporting evidences for the chronology of events has now been provided to the validation team. 4. The validation team reviewed the email from the DOE, TUV-Nord indicating their inability to validate the project activity as the same was a POA. Hence accepted. 5. The revised POA-DD now describes the detailed chronology of events. Since all the points are closed, **hence CAR is closed.**

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 1 and 2	Summary of project owner response	Validation team conclusion
CL 31 Pl. provide the copies of all the work orders / purchase orders placed on the vendors for the various activities related to the Project Activity.	Refer (7-a-prior considera tion – point c)	All the work orders for the HVDS works in the Dhuri division have been provided to the DOE as Attachment 21.	PP has provided signed work orders viz. (1) For Mahasakti Conductors pvt. Ltd. and (2) To M/s. Mahesh Kumar Singla., **hence, CL is closed.**
CAR 26 The evidence to prove prior awareness of CDM is not provided nor is stated in the PDD.	Refer (7-a-prior considera tion – point h.i)	The letter of the Chairman of REC has been submitted to the DOE as Attachment 30 for its kind perusal. REC chairman's intimation, encouraging PSEB for CDM, cannot be ignored as 100% funding to the project is being done by REC. The In principle approval of all the schemes has been done after PSEB was fully aware about CDM and convinced about the benefits of CDM for project sustainability.	The validation team noted that the letter from the REC to the project participant in January 2006 indicated to the project participant the availability of CDM revenues for such kind of projects. Thus it is proven that the project participant was aware of CDM benefits prior to the start date of the project activity, hence, the CAR is closed.
CL 32 Project Participant to clarify and provide justification alongwith all supporting evidences regarding the previous investment decisions and the benchmark considered for these investments.	Refer (7.c.k-investme nt analysis)	No major investment has been done by PSEB (now PSPCL) in the years prior to HVDS. Moreover, most of the expenditures/ investments by PSEB are financed by REC or similar public organizations like Power Finance	It is clarified by the PP that the investment made by PP is 100% loan mostly from REC. Also, benchmark used for comparison i.e. DSCR shows the capability of PP to pay

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 1 and 2	Summary of project owner response	Validation team conclusion
		Corporation Ltd. As clearly explained to DOE and discussions with the financial expert from the DOE side, it is concluded that the benchmark used for comparison in each CPA is appropriate and is based on the publicly available information on this, used by financial institutions and at the same time, the value used is also the conservative one. Hence, demonstration of use of the benchmark value in the past by the PPPE does not arise.	towards debt. In the project case, DSCR is conservative and hence, the project benchmark is such that it can't be reached by the savings the PP would incur due to project activity. Having reviewed this, validation team **closed the CL.**
CL 33 The methodology describes: the frequency of monitoring of parameters required to determine the energy losses in the distribution system shall be on hourly basis. During validation visit, it was observed that data for hourly monitoring was not available		Real time monitoring shall be done for all the sub stations as per the Automated Meter Reading system being installed.	The validation team during the site visit to the Central Monitoring Station in March 2011 observed that the project participant has installed an Automatic Meter Reading System which has the capability to monitor and record hourly data and store the same in a database. Apart from the automatic recording, the project participant representatives also have a system of manual recording of

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 1 and 2	Summary of project owner response	Validation team conclusion
			all the parameters at the individual sub-station level, which can provide a cross-check to the automated system **Hence the CL is closed.**
CL 34 The PDD version 1.2(PoA-PDD version 1.2), section A.2 mentions following : 1. PSPCL was earlier part of Punjab State Electricity Board (PSEB) which divided its operations into two entities: Punjab State Power Corporation Limited and Punjab State Transmission Corporation Ltd. (PSTCL) in April 2010. Please provide evidence. 2. The table in section A.2 mentions project category transformer as 6.3-25 kva. Pl. clarify there are other capacity transformer also. 3. In the table in section A.2, explain HT/LT ratio i.e. Low and High mentioned for pre-		PP response: 1. The evidence for the change of name of the PP has been provided as Attachment 47 to the DOE. 2. It is clarified again that the following capacities are to be used in the HVDS.6.3 kVA, 10 kVA, 16 kVA and 25 kVA. 3. The HT/LT ratio is of the length of high voltage line to the length of low	1. The Memorandum of Association indicating the change in name has been provided to the validation team. 2. It is clarified that in the project i.e. HVDS following capacity transformers are used. Ex. 6.3 kVA, 10 kVA, 16 kVA and 25 kVA, hence point 2 is closed. 3. Based on the clarification from PP, for HT/LT ratio,

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 1 and 2	Summary of project owner response	Validation team conclusion
project and project scenario.		voltage line. As the 11kV voltage line covers a longer distance (it goes till the consumer end) in the HVDS, it is obvious that the ratio will be higher in the project scenario.	this point is closed.
4. In the table in section A.2, hours of supply is not metioned.		4. The supply hours do not depend upon the project i.e. PoA, hence it is not mentioned in the PoA DD	4. It is clarified by PP that hours of supply will not change in project activity to that of baseline, hence closed.
5. In order to describe about deficit in power supply foot note 3 is mentioned, which states : Estimated based on energy sent and energy delivered to consumers, measured through energy meters installed". This is not clear. Pl. clarify when meters are installed, why estimation is done.		5. The installed meters mentioned refer to the sample meters installed at the AP consumer end on sample feeders. As the number of installed meters is very small and not cover all agriculture feeders, the data provided by them cannot be extrapolated for all the feeders. Thus, estimation is required even though sample meters are installed.	5. OK

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 1 and 2	Summary of project owner response	Validation team conclusion
6. In the section A.2 it is mentioned that "The aforesaid program proposes to convert existing 950,000 AP consumers currently on LVDS to HVDS in two phases" However, new connections released in future will be accommodated in CDM project is not mentioned transparently in PDD		6. The new connections released subsequently shall also be incorporated in the PoA. As no work/plan has been initiated related to the subsequent phases of the HVDS implementation, no further details have been provided.	6. PP has explained that as no work/plan has been initiated related to the subsequent phases of the HVDS implementation, no further details have been provided, the point is closed. **All the points of CL are closed, hence CL is closed**.