



POA VALIDATION REPORT

SASSA Low Pressure Solar Water Heater Programme

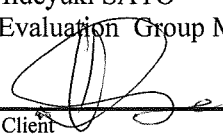
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CDM Validation Report for SASSA Low Pressure Solar Water Heater Programme

Date of issue 30 July 2010	Report Number JCI-CDM-VAL-10/015
Confirmed by Hideyuki SATO Evaluation Group Manager 	Organizational Unit JCI CDM Center, Japan Consulting Institute (JCI)
Client Standard Bank(International Carbon)	Client ref., Mr. Deven Pillay / Ms. Laura Lahti
Project name	SASSA Low Pressure Solar Water Heater Programme
Host Country Republic of South Africa	Methodology version AMS-I.C. (Version 17)
Size Small Scale	Project Category Thermal energy production with or without electricity

A summary of the validation process and its conclusions, validation opinion

Japan Consulting Institute (JCI) has performed a validation work of the small-scale CDM Program of Activities (PoA) with the title "SASSA Low Pressure Solar Water Heater Programme" in the republic of South Africa (hereafter called the PoA). This report summarises the findings of the validation of the PoA and the PoA specific small-scale CDM programme activities design document (CDM-SSC-CPA-DD) with generic information relevant to all CDM programme activities (CPAs) to be included in this PoA up to the present date of 30 July 2010.

The validation is now being performed on the basis of UNFCCC criteria for PoAs under the Clean Development Mechanism and host country criteria, as well as criteria given to provide for consistent project operations, monitoring and reporting.

- The review of the PoA-SSC-DD and the subsequent follow-up interviews have provided JCI with evidences, to determine the fulfilment of stated criteria.
- The host country is Republic of South Africa and the Annex I country is United Kingdom of Great Britain and North Ireland.
- The project applies "AMS-I.C. Renewable energy projects –Thermal Energy production with or without electricity (version 17)", and referenced Tool.
- The total emission reductions from the project are estimated to be on the average 65,423 t-CO₂e per year (tentative) over the 10 years crediting period.
- It is JCI's tentative opinion that the PoA as described in the CDM-SSC-PoA-DD version 01 of "14/05/2010" meets relevant UNFCCC requirements for the PoA and relevant host country criteria and correctly applies the methodology ASM-I.C. version 17.

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PoA Validation Report for SASSA solar Water Heater Programme

Abbreviations

AES	Applicable engineering Solutions
BM	Build Margin
CAR	Corrective Action Request
CL	Clarification Request
CDM	Clean Development Mechanism
CEF	Carbon Emission Factor
CERs	Certified Emission Reductions
CM	Combined Margin
CO ₂	Carbon dioxide
CPA	CDM Programme Activity
DD	Design Document
DOE	Designated Operation Entity
DNA	Designated National Authority
ERPA	Emission Reduction Purchase Agreement
ERs	Emissions Reductions
EB	Executive Board
ESKOM	Electricity Supply K(C)ommission
GHG	Greenhouse Gas
IC	International carbon
JCI	Japan Consulting Institute
KP	Kyoto Protocol
LoA	Letter of Approval
NMMU	Nelson Mandela Metropolitan University
NMBM	Nelson Mandela Bay Municipality
OM	Operating Margin
PP	Project Participants
RTCE	Real Time Custom Electronic Pty Ltd
SABS	South Africa Bureau of Standard
SASSA	Solar Academy Sub Saharan (Pty) Ltd
SB	Standard Bank
SWH	Solar Water Heater
UNFCCC	United Nations Framework Convention on Climate Change
VVM	Clean Development Mechanism Validation and Verification Manual

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I. VALIDATION SUMMARY AND OPINION

Japan Consulting Institute (JCI) has performed a validation of the SASSA Solar Water Heater Programme. The validation was performed on the basis of UNFCCC criteria for the Clean Development Mechanism and host country criteria, as well as criteria given to provide for consistent project operations, monitoring and reporting.

The review of the design documentation and the subsequent follow-up interviews have provided JCI with evidences to determine the fulfillment of stated criteria.

The host country is Republic of South Africa and the Annex I country is UK. Both countries fulfill the participation criteria.

The project applies “AMS-I.C. thermal energy production”, version 17 and referenced relevant Tools.

The total emission reductions from the CPA01 are estimated to be on the average 65,423 tCO₂e per year (tentative) over the 10 year crediting period. The emission reduction forecast has to be checked from now on based on the further validation work if the all relevant assumption for the above estimated emission reduction is appropriate.

Adequate training and monitoring procedures have to be validated in the days ahead.

It is JCI’s tentative conclusion that the PoA as described in the DD version 01 of 14/05/2010 does not seem running with any crucial difficulty for the request for registration to UNFCCC at this point of completion of on-site audit.

JCI thus tentatively provides a positive validation opinion and requests for the registration of the proposed project as a PoA.

II. INTRODUCTION OF POA VALIDATION

Standard Bank (International Carbon) has commissioned JCI to perform a validation of the PoA. This report summarizes the findings of the validation of the PoA performed up to this time on the basis of CDM VVM version 01.1, and related 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 modalities and procedures and the subsequent decisions by the CDM Executive Board.

1. Objective of CDM Validation

The purpose of validation is to ensure a thorough, independent assessment of proposed project activities submitted for registration as a proposed CDM project activity against the applicable CDM requirements.

JCI reports the results of its assessment implemented so far in a validation report. JCI submits this validation report in a tentative manner under the request of the project participant..

2. Validation approach

The CDM is a rules-based mechanism. Therefore, it is the JCI's responsibility to ensure that, in accordance with the Validation and Verification Manual version 01.1 and CDM requirements, these rules are complied with for any project activities requesting registration as a proposed CDM project activity.

During validation, the JCI assesses whether the project design of the proposed CDM project activity meets the CDM requirements. For this, JCI, using objective evidence, assesses the completeness and accuracy of the claims and conservativeness of the assumptions made in the design document (DD) of the PoA. The evidence used in this assessment is, as a matter of course, not limited to that provided by the project participants.

In assessing evidence, JCI does not omit evidence that is likely to alter the validation opinion. In the assessment of evidence, JCI uses the acceptable approaches as specified in section II to IV, below, and JCI ensures that the project activity complies with the relevant requirements set out in the CDM modalities and procedures, the applicability conditions of the selected methodology and guidance issued by the CDM Executive Board before submitting a request for registration.

In case the validation report includes a negative validation opinion the validation report is sent to the CDM Executive Board.

3. VALIDATION METHODS

3.1 Means of validation

JCI applies standard auditing techniques to assess the correctness of the information provided by the project participants, including, where appropriate, but not limited to:

- (a) Document review, involving:
 - (i) Review of data and information to verify the correctness, credibility and interpretation of presented information;
 - (ii) Cross checks between information provided in the DDs and information from sources other than that used, if available, and if necessary independent background investigations
- (b) Follow-up actions (e.g., on site visit and telephone or email interviews), including:
 - (i) Interviews with relevant stakeholders in the host country, personnel with knowledge of the project design and implementation;
 - (ii) Cross-check of information provided by interviewed personnel (i.e. by checking sources or other interviews) to ensure that no relevant information has been omitted

from the validation;

- (c) Reference to available information relating to projects or technologies similar to the proposed CDM project activity under validation; and
- (d) Review, based on the approved methodology being applied, of the appropriateness of formulae and correctness of calculations.

3.2 Clarification requests, corrective action requests and forward action requests

If, during the validation of a project activity, JCI identifies issues that need to be further elaborated upon, researched or added to in order to confirm that the project activity meets the CDM requirements and can achieve credible emission reductions, JCI ensures that these issues are correctly identified, discussed and concluded in the validation report.

JCI raises a corrective action request (CAR) if one of the following occurs:

- (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.

JCI raises a clarification request (CL) if information is insufficient or not clear enough to determine whether the applicable CDM requirements have been met.

JCI raises a forward action request (FAR) during validation to highlight issues related to project implementation that require review during the first verification of the project activity. FARs shall not relate to the CDM requirements for registration.

JCI resolves or “close out” CARs and CLs only if the project participants modify the project design, rectify the DDs or provide adequate additional explanations or evidence that satisfy the DOE’s concerns. If this is not done, JCI does not recommend the project activity for registration to the CDM Executive Board.

JCI reports on all CARs, CLs and FARs in its validation report. This reporting is undertaken in a transparent and unambiguous manner that allows the reader to understand the nature of the issue raised, the nature of the responses provided by the project participants, the means of validation of such responses and clear reference to any resulting changes in the DDs of the PoA or supporting annexes.

The validation protocol consists of two tables. The different columns in these tables are described as followings.

Validation protocol tables

Table 1: Requirement checklist✧ **Checklist Question :**

The various requirements in Table 2 are linked to checklist questions the project should meet. The checklist is organised in different sections, following the logic of the large-scale DD template, version 03 - in effect as of: 28 July 2006. Each section is then further sub-divided.

✧ **Reference :**

Gives reference to documents where the answer to the checklist question or item is found.

✧ **Means of verification (MoV) :**

Explains how conformance with the checklist question is investigated. Examples of means of verification are document review (DR) or interview (I). N/A means not applicable.

✧ **Comment :**

The column is used to elaborate and discuss the checklist question and/or the conformance to the question.

✧ **Draft and/or Final Conclusion :**

- *OK is used either acceptable based on evidence provided*
- *Corrective Action Request (CAR) is used due to non-compliance with the checklist question.*
- *Clarification Request (CL) is used when the validation team has identified a need for further clarification.*
- *Forward Action Request (FAR) is used to highlight issues related to project implementation that require review during the first verification of the project activity.*

Table 2: Resolution of Corrective Action and Clarification Requests✧ **Draft report clarifications and corrective action requests :**

If the conclusions from the draft Validation are either a CAR, a CL or a FAR, these should be listed in this section.

✧ **Ref. to checklist question in table1& 2 :**

Reference to the checklist question number in Table1& 2 where the CAR, CL or FAR is explained.

✧ **Summary of project owner response :**

The responses given by the project participants during the communications with the validation team should be summarised in this section.

✧ **Validation conclusion :**

This section should summarise the validation team's responses and final conclusions. The conclusions should also be included in Table 2, under "Final Conclusion".

The completed validation protocol for the Proposed Project will be enclosed in Appendix A to this report when the report is completed.

4. STAKEHOLDER CONSULTATION PROCESS

JCI makes the DDs of the PoA under consideration publicly available in accordance with the latest version of the "Procedures For Processing And Reporting On Validation Of CDM Project Activities"*¹.

*1 <http://cdm.unfccc.int/Reference/Procedures/valid_proc02.pdf>.

During the validation of the project activity, JCI takes into account the comments received and the validation report shall include details of actions taken to take due account of the comments during the validation process.

If comments are not sufficiently substantiated or indicate that the project activity does not comply with the CDM requirements, then JCI requests further clarification from the entity providing the comment. However, JCI is not required to enter into a dialogue with Parties, stakeholders or NGOs that comment on the CDM requirements. If no additional information or substantiation is provided in response to a request for clarification, JCI proceeds to assess the comments as originally provided.

III. VALIDATION WORK

JCI carried out the validation work to ensure that the project activity complies with the requirements of paragraph 37 of the CDM modalities and procedures.

1. Validation Team

Details of the validation team are shown in below Table.

Table 3. Details of Validation Team members

Name	Role/Qualification	Expertise/ Experience of Audit
Masaki OKADA	All relevant issues / Team Leader	Mechanical Eng./ Hydropower generations, LFG recovery power generation, Waste gas recovery power generation, Biomass boiler
Shigeo AOKI	CDM auditor / Team Member	Mechanical Eng. /Hydropower generations /Nuclear power generation /Thermal power Generation / Waste gas recovery power generation/Process control & instrumentation

2. Appointment certificate of JCI validation team member

The certificate of appointment of validation team member will be attached in Appendix B to this report at later stage.

3. Quality Control within the team of the Validation Process

The validation report worked out by the team will undergo at future appropriate stage an internal review process to ensure the compliance with the applicable requirement of VVM.

JCI applies internally established Quality Management Program for the required review process, which is defined as follows;

1. Internal Review for the interim check by the internal audit team and the interim technical review by the technical reviewer
2. The evaluation of the validation work in the CDM evaluation committee consists of outside experts
3. Internal review for the final check by internal audit team and the final technical review by the technical reviewer

The review and evaluation including the technical review are implemented for every validation work by the competent personnel assigned in accordance with JCI's qualification scheme for CDM validation and verification.

4. Desk Review

4.1 Document list

All the relevant documentation to be reviewed through the whole validation process will be listed in tabular form in this report at later stage.

4.2 Review of documents submitted

Documents needed before the on-site audit was submitted and the review was conducted.

The findings through the review were listed in the Initial findings list and the responses to the validator's comment were provided prior the commencement of the on-site audit of which details are described in the following section IV.

Additional documents have been provided during the on-site audit for the discussion.

5. Follow-up actions (e.g., Onsite visit, Interviews with Project Stakeholders)

The on-site assessment and interviews with project stakeholders were held from 15 to 20 July 2010 at the project site in Johannesburg and Port Elizabeth, the republic of South Africa.

The names of interviewees are listed in following table.

Table 6. List of interviewees

No.	Date	Name	Organization	Topic
1	15/07/2010	Mr. Chris Nelson Mr. Johan Terblanche Ms. Laura Lahti	SASSA IC	Interview with PPs · Company profile and Scheme of Project · Project history/milestones · Technical feature of SWH · Initial Findings Review

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No.	Date	Name	Organization	Topic
2	16/07/2010	Mr. Chris Nelson Mr. Ronnie Mulder Ms. Laura Lahti Mr. George Ferreira Mr. Peter Neilson Mr. Michael Dickerson Householders	SASSA SASSA/NMMU IC AES NMBM RTCES Resident	<u>Interview with PP & SHs</u> <ul style="list-style-type: none"> · SWH experiment at NMMU · Observation of SWH Installation in NMBM area · SWH warehouse & Logistics · Data capturing/ Monitoring scheme/ Data base structure · Interview with householder
3	19/07/2010	Mr. Chris Nelson Mr. Johan Terblanche Ms. Laura Lahti Mr. Cedric Worthmann Mr. Karel Deist	SASSA IC ESKOM SABS	<u>Interview with ESKOM, SABS, IC</u> <ul style="list-style-type: none"> · Background of ESKOM's Subsidy · Q-factor at SABS · Criteria and regulation for SWH · Observation of SWH installation area in EMM · Initial Findings Review
4	20/07/ 2010	Mr. Chris Neilson Ms. Laura Lahti	SASSA IC	<u>Interview with PPs</u> <ul style="list-style-type: none"> · Initial Findings Review · Wrap-up meeting

IV. VALIDATION FINDINGS

The findings of the validation are stated in the following sections. The validation criteria (requirements), the means of validation and the results from the validation process are identified and documented in more detail in the validation protocol (to be completed at later stage) .

1. Approval

JCI have not yet received copies of the LoAs from DNA of host country, South Africa, and from DNA of UK for confirmation of approvals on the proposed CDM project.

JCI also has confirmed the following:

2. Participation

JCI confirmed that SASSA, Standard Bank and International Carbon are the project participants listed in tabular form in section A.3 of the PoA-DD, and also confirmed that this information is consistent with the contact details provided in Annex 1 of the PoA-DD. It is also confirmed that no entities other than those approved as project participants are included in these sections of the PoA-DD.

Because the relevant LoAs by DNAs are not provided to the validator, the authorization of the project participants as a voluntary participants to the project activity is not confirmed.

3. Project Design Document

The project design was described using the appropriate template (CDM SSC-PoA-DD version 01. as shown in the DD, that was confirmed through comparison with the template listed on the UNFCCC website.

As described above, JCI judged that the DD is compiled with the appropriate format and is described based on appropriate tools, guidelines, manual and guidance which are specified and requested by the CDM procedures.

4. Project Description

JCI conducted on-site assessment from 15 through 20 July 2010 to confirm the context of the DD with the following measures:

- 1) Observation of the project site
- 2) Cross-check of the project design work with relevant documents provided by the project participants
- 3) Interviews with the project participants, relevant organizations/entities, and local stakeholders shown in Table 6 of section 5 of the previous Chapter.

As the result of the above observations and findings and through the clarifications of descriptions of the DD after the on-site assessment, JCI judged that the descriptions of the DD were correct and its context was sufficient, and well outlined the nature and technical aspects of the project activity.

The major features of the project activity described in the DD are summarized below:

- Project type : Installation of SWHs for 59,000 households
- Q-factor : 13.692 MJ/m²
- Relevant EFs : ESKOM Power Grid
- ESKOM Subsidy : 4,100 R/unit (further clarification needed)
- Estimated emission reductions: 65,423 t-CO₂e/year (to be reviewed)
- Crediting period : 10 years

5. Baseline and monitoring methodology

5.1. Applicability of selected methodology to the project activity

JCI judged that application of methodology AMS-I.C. version 17 and AMS-I.D. version 16 to the project activity is appropriate, and justified that they are correctly quoted and interpreted in the PoA-DD.

5.2. Project boundary

The PoA is located within the geographical boundaries of South Africa.

The physical boundary of CPA-01 is the SWHs in the individual households that have received a SWH under the PoA.

The geographical boundary of CPA-01 is now that of NelsonMandela Bay Municipality (NMBM) and Ekurhuleni (EMM) municipalities, in South Africa, however it is not limited to because household in CPA-01 is not fixed yet and it could occur that a household added to the CPA-01 would belong to municipality other than NMBM or EMM.

JCI judged that the PoA/CPA-01 are appropriately identified in consideration that the credible and feasible baseline scenario for the utilization of solar energy is to provide the same amount of electricity by ESKOM Power Grid according to the selected methodology ASM-I.C. version 17 and ASM-I.D. version 16 and relevant tool.

CPAs will be defined to ensure that the aggregate installed square meters of solar energy collectors of a single CPA may not exceed 64,000 m²

5.3. Algorithms and/or formulae used to determine emission reductions

The validation of the determination of emission reductions will be conducted by the validator with the algorithms and/or formulae defined in the methodological tool “Tool to calculate the emission factor for an electricity system” version 02 which is issued as EB 50, Annex 14 at the later stage.

5.4. Application of baseline and monitoring methodology

5.4.1. Project emission (PE_y)

Project emissions in year is estimated zero (PE_y = 0) according to the PoA-DD.

JCI confirmed the methodology AMS-I.C. version 17 and the result of the on-site audit and judged that the estimation of PE_y = 0 is appropriate.

5.4.2. Baseline emission (BE_y)

JCI confirmed the receipt of the baseline emission factors of the grid together with relevant data provided by the project participant.

The values of the baseline emission factors (OM/BM/CM) are calculated as follows by PoA-DD author:

$$OM = 0.9447 \text{ tCO}_2/\text{MWh}$$

$$BM = 1.0150 \text{ tCO}_2/\text{MWh}$$

$$CM = 0.9798 \text{ tCO}_2/\text{MWh}$$

The validator will recalculate for confirmation based on the submitted the Grid data of ESKOM.

It is concluded in the PoA-DD that the baseline emissions are the product of electrical energy baseline expressed in kWh produced by the renewable generating unit multiplied by an emission factor:

$$BE_y = EG_{BL,y} * EF_{CO2}$$

BE_y Baseline Emissions in year y, tCO₂e

$EG_{BL,y}$ Energy Baseline in year y, kWh

EF_{CO2} CO₂ Emission factor, tCO₂/kWh

Here, $EG_{BL,y}$ is the energy output determined by SABS test which has been calculated as follows:

$$Q = \alpha_1 H + \alpha_2 (T_a - T_c) + \alpha_3$$

Q = Energy output in MJ/day per SWH

H = The energy input i.e. irradiation in MJ per m²

T_a = The ambient air temperature

T_c = Incoming cold water temperature

$\alpha_1, \alpha_2, \alpha_3$ = Specific coefficients determined in SABS test

Q , which stands for thermal energy per day/SWH, can be converted to electric energy per year ($EG_{BL,y}$ per SWH) as follows:

$$EG_{BL,y} = Q / 3.6 \times 365 = 1.3882 \text{ MWh} \quad (\text{where } 3.6 \text{ MJ} = 1 \text{ kWh, } 1 \text{ year} = 365 \text{ days})$$

Accordingly, annual emissions per SWH is as follows:

$$BE_y = 1.3882 \times EF_{CO2} (= 0.9798) = 1.3602 \text{ tCO}_2 \text{ per SWH}$$

The number of SWH in CPA-1 is 59,000, the annual average emission reduction can be calculated as follows:

$$BE_y = 1.3602 \times 59,000 = 80,252 \text{ tCO}_2$$

JCI confirmed that above calculation result is correct, however something is wrong in the calculation of annual average emission reduction conducted in the CPA-DD, because it is shown as 65,423 tCO₂ in the table in the section of A.4.4. in the CPA-DD instead of 80,252 tCO₂ obtained in the above.

In the above discussion, the value of Q is crucial and JCI validated the suitability of Q with the test result reported by SABS.

Also this value is officially supported by ESKOM.

Accordingly JCI accepted the estimated Q -value in the PoA-DD as appropriate.

5.4.3. Leakage

JCI confirmed that the PoA-DD estimated no leakage associated with the project activity, appropriately based on the methodology, which indicates that project participants do not need to consider emissions from leakage in case of hydropower projects.

5.4.4. Emission reductions (ER_y)

The PoA-DD estimated both the project emission (PEy) and leakage emissions (LEy) to be zero as described at E.6.2. And then concluded that in the PoA-DD, the emission reductions are equal to the baseline emissions minus the project emissions minus leakage:

$$ERy = BEy - PEy - LEy$$

The emission reductions of the project activity in the current version of the PoA-DD is 65,423 tCO₂ / year, which is inconsistent to the value calculated in the above.

Necessary corrections are to be made accordingly at later stage.

6. Additionality of project activity

JCI has once accepted PP's approach to modify the demonstration about the additionality in the PoA-DD according to the latest EB's guideline (EB 54 Annex 15) for demonstrating additionality of renewable energy project during the on-site audit.

However JCI raised a question regarding the prerequisite to applying the above EB's guideline to the PoA.

Further discussion is required to clarify the demonstration of the additionality.

7. Monitoring plan

1) Parameters to be monitored ex-post

In section E.6.3. and E.7. of the PoA-DD, data and parameters monitored are specified. JCI checked these parameters with the relevant methodology, and confirmed that these parameters are comply with them required to this kind of project.

2) Monitoring of Data/Parameter

The implementation plan of monitoring of parameters is described in the PoA-DD.

Followings are requirements so far identified:

1) Equipment for monitoring

The total monitoring scheme and system was explained during the on-site audit.

The description in the PoA-DD is confirmed as appropriate.

Identification of the procedures of maintenance of equipments including calibration are to be separately documented and submitted.

2) Monitoring organization

The project participant has to plan to set up a CDM team covering entire processes of measuring, recording, managing, and maintenance, and the responsibility for reporting and surveillance function would be separately managed by assigning the appropriate personnel.

3) Monitoring manual

The project participant has to compile monitoring manuals necessary to implement the monitoring task, including the details procedure for data reading, data management system, verification of monitoring results, and disposing process of abnormality.

This has to be prepared before start of verification stage.

4) Concept of data sampling

In the section A.4.4.2 of the PoA-DD, “Measurement and Verification plan” is presented which is basically appropriate in the viewpoint of JCI.

According to the description, every one out of hundred (1/100) of the installed SWH are inspected for accuracy and quality.

Further one in ten thousand (1/10,000) installation will be measured and monitored real time to perform comprehensive measurement data.

Also, the RTU (Remote Terminal Unit) captures and transmits data via the GSM network via our corporate APN (Access point Node) to the server. Priority drivers have been written in order to communicate via TCP/IP between the server and the RTU.

JCI understood the explanation about the concept of data sampling.

However further consideration and discussion with RTCE and the project participant to validate the suitability of the total system for monitoring and verification.

5) Training on monitoring

Under the responsibility of the CDM team manager, it has to be planned to provide training to all the members regarding operation of the monitoring.

8. Sustainable development

JCI has so far not yet confirmed that the LoAs by the host Parties.

9. Local stakeholder consultation

The project participant conducted an invitation of local stakeholder comments.

According to the interview conducted during the on-site audit with two house holders, the validator confirmed that they were satisfied with the program.

Also JCI confirmed that householders were invited to the public participation meeting and explained about the programme.

Based on the above, JCI judged that the PoA, basically supported by the majority of local stakeholders, and gave no significant adverse impacts both on social and natural environment, and instead contributed to the improvement of environment and infrastructure.

10. Environmental impacts

The project reduces the consumption of non-renewable natural resources such as fossil fuels as newly installed SWH reduces the electric water heating load. Accordingly there are no significant anticipated negative impacts on the environment and /or on people through this programme.

The installation of an unit on the roof of each household takes only several hours of which environmental effects gained through is not significant. The validator confirmed it with the site observation of real installation work of SWH.

11. Comments by Parties, Stakeholder through the consultation process

PoA-DD version 01 of 14 May 2010 was made publicly available on UNFCCC CDM website and Parties, stakeholders and NGOs were through the website invited to provide comments during a 30 days period from 28 May 2010 to 26 June 2010.

And no comments were received.

DRAFT