JCM Validation Report Form

A. Summary of validation

A.1. General Information

Title of the project	Energy saving and work efficiency improvement by introducing a new chip-on-board LED system in Vietnam
Reference number	VN006
Third-party entity (TPE)	TPE-VN-002 Japan Quality Assurance Organization (JQA)
Project participant contracting the TPE	Stanley Electric Co., Ltd.
Date of completion of this report	11/01/2018

A.2 Conclusion of validation

Overall validation opinion	☒ Positive ☐ Negative

A.3. Overview of final validation conclusion

Only when all of the checkboxes are checked, overall validation opinion is positive.

Item	Validation requirements	No CAR or CL remaining
Project design document form	The TPE determines whether the PDD was completed using the latest version of the PDD forms appropriate to the type of project and drafted in line with the Guidelines for Developing the Joint Crediting Mechanism (JCM) Project Design Document, Monitoring Plan and Monitoring Report.	☒
Project description	The description of the proposed JCM project in the PDD is accurate, complete, and provides comprehension of the proposed JCM project.	☒
Application of approved JCM methodology (ies)	The project is eligible for applying applied methodology and that the applied version is valid at the time of submission of the proposed JCM project for validation.	☒
Emission sources and calculation of emission reductions	All relevant GHG emission sources covered in the methodology are addressed for the purpose of calculating project emissions and reference emissions for the proposed JCM project.	☒
	The values for project specific parameters to be fixed *ex ante* listed in the Monitoring Plan Sheet are appropriate, if applicable.	☒
Environmental impact assessment	The project participants conducted an environmental impact assessment, if required by the Socialist Republic of Viet Nam, in line with Vietnamese procedures.	☒
Local	The project participants have completed a local stakeholder	☒

Item	Validation requirements	No CAR or CL remaining
stakeholder consultation	consultation process and that due steps were taken to engage stakeholders and solicit comments for the proposed project.	
Monitoring	The description of the Monitoring Plan (Monitoring Plan Sheet and Monitoring Structure Sheet) is based on the approved methodology and/or Guidelines for Developing the Joint Crediting Mechanism (JCM) Project Design Document, Monitoring Plan, and Monitoring Report. The monitoring points for measurement are appropriate, as well as whether the types of equipment to be installed are appropriate if necessary.	☒
Public inputs	All inputs on the PDD of the proposed JCM project submitted in line with the Project Cycle Procedure are taken into due account by the project participants.	☒
Modalities of communications	The corporate identity of all project participants and a focal point, as well as the personal identities, including specimen signatures and employment status, of their authorized signatories are included in the MoC.	☒
	The MoC has been correctly completed and duly authorized.	☒
Avoidance of double registration	The proposed JCM project is not registered under other international climate mitigation mechanisms.	☒
Start of operation	The start of the operating date of the proposed JCM project does not predate January 1, 2013.	☒

Authorised signatory:	Mr. ☒ Ms. ☐
Last name: Asada	First name: Sumio
Title: Senior Executive	
Specimen signature: [redacted]	Date: 11/01/2018

B. Validation team and other experts

	Name	Company	Function*	Scheme competence*	Technical competence*	On-site visit
Mr. ☒ Ms. ☐	Koichiro Tanabe	JQA	Team leader	☒	Authorized	☐
Mr. ☐ Ms. ☒	Sachiko Hashizume	JQA	Team member	☒	Authorized	☒
Mr. ☒ Ms. ☐	Tadashi Yoshida	JQA	Internal reviewer	☒	Authorized	☐

Please specify the following for each item.

* *Function: Indicate the role of the personnel in the validation activity such as team leader, team member, technical expert, or internal reviewer.*

* *Scheme competence: Check the boxes if the personnel have sufficient knowledge on the JCM.*

* *Technical competence: Indicate if the personnel have sufficient technical competence related to the project under validation.*

C. Means of validation, findings, and conclusion based on reporting requirements

C.1. Project design document form

<Means of validation>

Through a review of the draft PDD, it was checked and confirmed that the PDD was completed using the latest version of the PDD form (JCM_VN_F_PDD_ver02.0) appropriate to the type of project and drafted in line with JCM Guidelines for Developing PDD and MR (JCM_VN_GL_PDD_MR_ver01.0).

<Findings>

Please state if CARs, CLs, or FARs are raised, and how they are resolved.

No outstanding issue was raised.

<Conclusion based on reporting requirements>

Please state conclusion based on reporting requirements.

The validation team concluded that the PDD was completed using the valid form in line with the JCM Guidelines for Developing PDD and MR.

C.2. Project description

<Means of validation>

The title of the proposed JCM project is “Energy saving and work efficiency improvement by introducing a new chip-on-board LED system in Vietnam” (herein after

referred to as the proposed JCM project).

The proposed JCM project aims to reduce CO_2 emissions from electricity consumption in the Socialist Republic of Viet Nam (herein after referred to as Vietnam) by replacing existing High-Intensity Discharge (HID) lamp used as fishing lights for diesel powered fishing boats with Light Emitting Diode (LED) light . The proposed JCM project involves replacement of HID fishing lights with LED fishing lights in 40 fishing boats in Quang Tri province, Vietnam.

The project participant from Vietnam is Department of Science and Technology of Quang Tri Province (herein after referred to as DOST) and the project participants from Japan is Stanley Electric Co., Ltd (herein after referred to as Stanley).

The proposed JCM project is expected to achieve the amount of 878 tCO_2e emission reductions per annum. The estimated emission reductions of the period between 2017 and 2020 are calculated in the PDD.

The starting date of project operation is defined as 24/03/2017 and the expected operational lifetime of the proposed JCM project is defined as 8 years.

With respect to the staring date of project operation, an issue was raised and resolved as mentioned in Section C.10 of this validation report. As for the expected operational lifetime, an issue was raised and closed as mentioned in section below.

The proposed JCM project has been selected as one of the JCM demonstration projects by the New Energy and Industrial Technology Development Organization (NEDO). As a result of the financial support provided by NEDO's program, implementation cost of the proposed JCM project will be partially provided by Japanese government. Further, implementation of the proposed JCM project promotes technology transfer of low carbon technologies in Vietnam. Through the NEDO program, operation of the high efficiency equipment will be monitored for a period set by the NEDO program. During this monitoring period, knowhow transfer to the operators in Vietnam for the optimum operation and utilization of the equipment is expected.

The validation team conducted desk review, interviews and an on-site visit to confirm the accuracy and completeness of the project description. The documents reviewed during the desk review are listed in Section E.2. of this report. The one-day on-site visit to Vietnam was undertaken on 08/08/2017 including interviews with the project participants and other stakeholders such as the owner of the fishing boats and technical team of DOST. The interviewees including the project participants and other stakeholders are listed in Section E.1.

Based on the findings through the process taken, an issue was raised and resolved as described below.

<Findings>

Please state if CARs, CLs, or FARs are raised, and how they are resolved.

(Issue raised as CAR01)

Regarding the expected operational lifetime of project under section "A.5. Duration" of PDD, it is described as 105,000 hours. It is requested to describe the expected operational lifetime in years and months in accordance with the PDD guideline.

(Summary of the response on CAR01)

PDD has been revised to indicate the operational lifetime of 8 years, to be in line with the "Implementation document concerning the JCM demonstration and verification project on Energy saving and work efficiency improvement project by special LED system with new technology, COB".

(Assessment result of the responses on CAR01)

It was confirmed that the expected operational lifetime was revised as 8 years. Through reviewing "Implementation document concerning the JCM demonstration and verification project on Energy saving and work efficiency improvement project by special LED system with new technology, COB", the verification team confirmed that the project shall be operated for a minimum of 7 years from the date of transfer of the ownership of project equipment. Based on this, the verification team confirmed that the operational lifetime is reasonable. Therefore, this issue was closed.

<Conclusion based on reporting requirements>

Please state conclusion based on reporting requirements.

The validation team concluded that the accuracy and completeness of the project description were valid.

C.3. Application of approved methodology(ies)

<Means of validation>

The project applies the approved methodology JCM-VN-AM008 "Installation of LED lighting equipment to fishing boats" version.01.0. This methodology was approved by JC on 10 October 2017. It is confirmed that this methodology is applicable to the proposed JCM project and the applied version of 01.0 is valid at the time of submission of the project for validation.

The fulfilment of each eligibility criterion defined in the methodology is confirmed by checking the documentation referred to in the PDD and by reviewing comparable information.

Criterion 1: The project newly installs LED lights or replaces existing lamps with LED lights as fishing lights for diesel powered fishing boats whose horsepower is over 90 in Vietnam.

Project participants established a list of 40 fishing boats installed LED fishing lights under the proposed JCM project. A check list for each fishing boat was also created at the time of installation, for the purpose of quality control and record keeping. Through reviewing the list and checklists, it was confirmed that a project fishing boat can be identified by its licence number. The licence number can be confirmed in the picture attached to each checklist. The licence number is also indicated in the boat registration certificate issued by Quang Tri Department of Agriculture and Rural Development, the fishery authority of the local government. The boat registration certificates include basic information of the fishing boat such as the size, horse power and ownership of the fishing boat. Through reviewing these documents, it was confirmed that the project replaces the existing HID lamps with LED lights as fishing lights for 40 diesel powered fishing boats whose horse power is over 90 in two fishing towns near Dong Ha of Quang Tri Province in Vietnam.

Regarding Criterion 1, an issue was raised and resolved as described in findings section below.

Criterion 2: Project LED lighting meets the following specification
- Water proof and dust proof: equal to or higher than the international standard IP65

A test under IP 66 requirement was conducted for project LED lighting system by Cosmos corporation, a testing laboratory of IP in Japan. Through reviewing the test report, it was confirmed that the project LED lighting system passed the test with satisfactory result.

Criterion 3: In case existing lamps are replaced, a plan for proper treatment (including re-use and recycling) and disposal of replaced existing lamps is prepared and implemented according to the relevant legislation in Vietnam to avoid the mercury release to the environment.

In the proposed JCM project, existing HID lamps are replaced. Therefore, DOST prepared a plan for proper treatment of existing lamps. Through reviewing the plan, it

was confirmed that replaced HID lamps would be re-used by other fishing boats until the lamp life run out, and they would be treated properly not to destroy and leave them in fishing port or river. In addition to this, it was confirmed through reviewing relevant documents and interviews with the owner of the project fishing boat during site inspection, that an education about the collection method of replaced HID lamps was provided by DOST in April 2017.

<Findings>

Please state if CARs, CLs, or FARs are raised, and how they are resolved.

(Issue raised as CL01)

Regarding the justification for the eligibility criterion 1, it is not clearly stated whether the project is implemented for diesel powered fishing boats whose horsepower is over 90.

(Summary of the response on CL01)

PDD has been revised to explicitly indicate that project is implemented to the diesel powered fishing boats with the horsepower of 90 or over.

(Assessment result of the responses on CL01)

It is confirmed that the description was revised to clearly state that the horsepower of all of the boats are more than 90. According to "Ship list" provided by PP, it was confirmed that all the project boat have more than 90 horse power. During site visit, the validation team cross-checked those records on the ship list with boat registration certificates by sampling. As a result, it was confirmed that the project is implemented for diesel powered fishing boats whose horsepower is over 90.

Therefore, this issue was closed.

<Conclusion based on reporting requirements>

Please state conclusion based on reporting requirements.

The validation team confirmed that the project meets each eligibility criterion of JCM_VN_AM008_ver01.0 which is the latest version of the methodology at the time of the validation. The issues raised by the team were fully clarified, which resulted in revision of the PDD. Therefore the team concluded that the project is eligible for applying selected methodology and that the applied version is valid at the time of submission of the proposed JCM project for validation.

C.4. Emission sources and calculation of emission reductions

<Means of validation>

The sources of reference emissions is electricity consumption by reference lighting equipment. The sources of project emissions is electricity consumption by project LED light.

Through reviewing the relevant supporting documents and site visit, it is confirmed that all emission sources covered in the applied methodology are included.

The Monitoring Plan Sheet (MPS) has been prepared by using JCM_VN_AM008_ver01.0.xlsx. The validation team confirmed that it is not altered, and its required fields are appropriately filled in.

As for four project specific parameters to be fixed ex ante, the validation team assessed the estimated value for each of them by supporting documents including specifications for project LED lighting, the applied methodology and explanation documents provided by project participants. The validation team determined that data sources and assumptions were appropriate for two parameters which values are derived from the applied methodology. On the other hand, issues were raised for other two parameters and resolved as mentioned in the section below.

As for the parameters to be monitored ex post, project participants provide an estimated values of $EC_{PJi,p}$ (Total electricity consumption by LED light of fishing boat i during the period p) to complete the ex-ante estimation of CO2 emission reductions to be achieved by the proposed JCM project in Table 3 of Monitoring plan sheet (Input sheet). Regarding the assumption of the values of $EC_{PJi,p}$, an issue was raised and resolved as mentioned section below.

<Findings>

Please state if CARs, CLs, or FARs are raised, and how they are resolved.

(Issue raised as CL02)

Regarding the value for REC_{PJ}, a parameter fixed ex-ante, it is estimated as 220.0W in the MPS. It is requested to clarify the source of this value as it is not confirmed in the specification document of the project LED light.

(Summary of the response on CL02)

The value for REC_{PJ} has been revised and replaced by 197W, which is the typical power consumption at rated voltage outlined in the specification of the LED light equipment.

(Assessment result of the responses on CL02)

It is confirmed that the value for REC_{PJ} has been revised to 197W, which is in line with the specification document of the project LED light.

Therefore, this issue is closed.

(Issue raised as CL03)

Regarding the value for N_{REF}, the validation team assessed the assumptions and calculations based on the Explanatory Note of the applied methodology. Project participants provided an explanation on their assumption of each parameter used for determination of design illuminance of project fishing boat. Through checking the values used in the explanation, the validation team found a coefficient, "Light flux utilization rate" is used to determine F_{PJ} (Luminous flux into an irradiated sea surface, of those from light sources of one LED light in fishing boat [lm]) and F_{REF}(Luminous flux into an irradiated sea point, of those from light sources of one High Intensity Discharge (HID) light in fishing boat [lm]). It is requested to clarify the definition of "Light flux utilization rate".

(Summary of the response on CL03)

As in the applied JCM methodology, the parameters F_{PJ} and F_{REF} are defined as "Luminous flux into an irradiated sea surface, of those from light sources of one LED light in fishing boat" and "Luminous flux into an irradiated sea point, of those from light sources of one High Intensity Discharge (HID) light in fishing boat", respectively. It is indicated that only a part of the total luminous flux reaches to the sea surface. To determine F_{PJ} and F_{REF}, the total luminous flux of relevant light sources are multiplied by the respective factor of "light flux utilization rate". The "light flux utilization rate" is determined as the result of a light distribution simulation, whose input variables are the light source distribution, distance between light source and the sea surface, area of irradiated sea surface, the angle of light source against the sea surface etc.

(Assessment result of the responses on CL03)

The definition of "light flux utilization rate" was clarified. It was confirmed that the value of light flux utilization rate is calculated in line with the PP's clarification and applied to the calculation of F_{PJ}, F_{REF} and N_{REF} appropriately.

Therefore, this issue was closed.

(Issue raised as CL04)

Regarding the value of $EC_{PJi,p}$, in MPS (input_separate_boat), project participants estimate it by the equation below;

$EC_{PJi,p}$ = REC_{PJ} x Number of LED lights installed on a fishing boat i x 1,200hours [annual operating time]

It is requested to clarify the basis of 1,200 hours.

(Summary of the response on CL04)

The basis of the value of [$EC_{PJi,p}$] in MPS (1200hours) is the survey of fishing boat owners conducted prior to the project implementation. According to the survey, the total number of days of fishing activities for each boat is laid somewhere between 150 and 180 days annually, and the fishing duration is approximately 8 hours per day. Based on the survey result, [$EC_{PJi,p}$] in MPS has been estimated as follows: 8hrs/day×150day/yr = 1200hrs/yr

(Assessment result of the responses on CL04)

It was explained that the assumption of annual operating time 1,200 hours is based on the survey conducted for the application for NEDO JCM demonstration projects. Through reviewing the application documents, it was also confirmed that the same value is used in the relevant section. It is deemed reasonable to estimate the annual operating hours by the provided calculation.

Therefore, this issue is closed.

<Conclusion based on reporting requirements>

Please state conclusion based on reporting requirements.

The validation team reached the conclusion that the selected emission sources and GHG types were justified for the JCM project. The validation team assessed the estimated values for project-specific parameters both to be fixed ex and to be monitored ex post in the MPS including intermediate processes to derive the values. The issues raised by the team were fully clarified, which resulted in a revision of the PDD and the MPS. As a result, those estimated values fixed ex-ante, and ex-ante estimation of CO_2 emission reductions were considered reasonable in the context of the proposed JCM project.

C.5. Environmental impact assessment

<Means of validation>

It is confirmed through the review of the following documents that no environmental impact assessment is required for the project.

- Appendix II, Decree No.18/2015/ND-CP 、 ON ENVIRONMENTAL PROTECTION PLANNING, STRATEGIC ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL IMPACT ASSESSMENT AND ENVIRONMENTAL PROTECTION PLANS

<Findings>

Please state if CARs, CLs, or FARs are raised, and how they are resolved.

No outstanding issue was raised.

<Conclusion based on reporting requirements>

Please state conclusion based on reporting requirements.

The validation team concluded that the project design of the proposed JCM project was in accordance with the regulation in Vietnam.

C.6. Local stakeholder consultation

<Means of validation>

The project participants identified the direct stakeholders of the project are relevant officers of Ministry of Natural Resource and Environment (MONRE), People's Committee, Fishery Association. Three stakeholder meetings have been conducted to invite comments from the stakeholders as below.

<1st Stakeholder Meeting>

Date	21 February 2017
Venue	Office of the Ministry of Natural Resource and Environment (MONRE) in Hanoi
Vietnamese Participant	・Department of Meteorology, Hydrology, and Climate Change, the Ministry of Natural Resource and Environment (MONRE)
Pax	4

<2nd Stakeholder Meeting>

Date	21 June 2017
Venue	Office of People's Committees of Cua Viet Town in Dong Ha
Vietnamese Participant	・Department of Science and Technology (DOST) of Quang Tri Province ・Technology Energy Stock Company (ETES) ・People's committee in Cua Viet Town ・Fishery Association in Cua Viet Town ・Ship Owner
Pax	8

<3rd Stakeholder Meeting>

Date	22 June 2017
Venue	Office of Department of Science and Technology (DOST) of Quang Tri Province
Vietnamese Participant	Department of Science and Technology (DOST) of Quang Tri Province
Pax	3

The comments received at the meeting were fully taken into account and the results

were reflected in the PDD. It was confirmed through the interview with the project participants that the above-mentioned process and due steps taken for the local stakeholder consultation are appropriate.

<Findings>

Please state if CARs, CLs, or FARs are raised, and how they are resolved.

No outstanding issue was raised.

<Conclusion based on reporting requirements>

Please state conclusion based on reporting requirements.

The validation team concluded that the local stakeholder consultation of the proposed JCM project was adequate.

C.7. Monitoring

<Means of validation>

Through reviewing the Monitoring Plan Sheet and Monitoring Structure Sheet, was confirmed that they are described based on the applied methodology VN-AM008 ver 01.0.

Through reviewing the installation record including pictures, it was confirmed that an electricity meter has been installed to each project fishing boat. The value of electricity meter is to be recorded by JCM monitoring manager at the beginning and end of each monitoring period. The record is to be documented with pictures showing clearly the value and date of meter reading. Through reviewing the installation record, it was also confirmed that the project participants took pictures of electricity meter at the time of installation to record the initial value.

With respect to the monitoring structure, it was confirmed through the document review and interview with the JCM project manager (assumed by Stanley), JCM monitoring manager (assumed by DOST and Stanley) and JCM facility manager (assumed by DOST and Stanley) that the monitoring plan is feasible and the means of implementation of the monitoring plan, including the data management and quality assurance and quality control procedures, are sufficient for ex post reporting and verification.

<Findings>

Please state if CARs, CLs, or FARs are raised, and how they are resolved.

No outstanding issue was raised.

<Conclusion based on reporting requirements>

Please state conclusion based on reporting requirements.

The validation team concluded that Monitoring Plan of the proposed JCM project complied with the requirements of the methodology and/or PDD and Monitoring Guidelines, and the project participants had ability to implement the described Monitoring Plan including feasibility of Monitoring Structure Sheet.

C.8. Modalities of Communication

<Means of validation>

Through document review, it was confirmed that the Modalities of Communication (MoC), provided by one of the project participants, Stanley, with whom JQA has a contractual relationship, had applied the latest version of MoC form. The date of submission indicated in the MoC was 16/11/2017, and it was considered to be valid. JQA also conducted interviews with the signatories of the Modalities of Communication (MoC), and then identified the personnel and their employment status, including the specimen signatures. Therefore, JQA determined that the information of all project participants, including the focal point provided in the MoC and its correctness of authority, was appropriate.

<Findings>

Please state if CARs, CLs, or FARs are raised, and how they are resolved.

No outstanding issue was raised.

<Conclusion based on reporting requirements>

Please state conclusion based on reporting requirements.

The validation team concluded that the MoC complied with all relevant forms and requirements.

C.9. Avoidance of double registration

<Means of validation>

It was confirmed preliminarily through review of the relevant website (e.g. UNFCCC website, Markit Environmental Registry, etc.) that the proposed JCM project had not been registered under other international climate mitigation mechanisms. The written confirmation of the avoidance of double registration was also provided through the signed MoC, and was cross-checked through interview with the project participants, with a satisfactory result.

<Findings>

Please state if CARs, CLs, or FARs are raised, and how they are resolved.

No outstanding issue was raised.

<Conclusion based on reporting requirements>

Please state conclusion based on reporting requirements.

The validation team concluded that the proposed JCM project was not registered under the other international climate mitigation mechanisms at the stage of validation.

C.10. Start of operation

<Means of validation>

In the PDD submitted for the invitation of public inputs as described in Section D, the start date of operation is indicated as 23/03/2017. According to project participants, it is the day on which LED lighting was installed on the first fishing boat under the proposed JCM project. Through reviewing the installation record, the validation team raised an issue and the issue was resolved as mentioned in the section below. Therefore, in the final PDD, the project participants have changed the date to 24/03/2017 accordingly. This date is not before January 1, 2013.**<Findings>**

Please state if CARs, CLs, or FARs are raised, and how they are resolved.

(Issue raised as CAR02)

Regarding the starting date of project operation, the project participants explained the date is defined as the installation date of the project LED lightings to the first fishing boat. Through reviewing the installation record, it was confirmed that the date in the PDD, 23/03/2017, is not consistent with the installation date of the project LED lightings to the first fishing boat.

(Summary of the response on CAR02)

According to the installation record, the date on which the project LED lightings was installed to the first fishing boat was 24/03/2017, not 23/03/2017. As such the starting date of project operation in the PDD has been revised to 24/03/2017.

(Assessment result of the responses on CAR02)

It was confirmed that the starting date of project operation was revised appropriately. Therefore, this issue was closed.

<Conclusion based on reporting requirements>

Please state conclusion based on reporting requirements.

The validation team concluded that the start of the operating date of the proposed JCM project did not predate 01/01/2013, and it had been defined appropriately.

C.11. Other issues

<Means of validation>

No other issue was identified.

<Findings>

Please state if CARs, CLs, or FARs are raised, and how they are resolved.

No outstanding issue was raised.

<Conclusion based on reporting requirements>

Please state conclusion based on reporting requirements.

Not applicable.

D. Information on public inputs

D.1. Summary of public inputs

The PDD of the proposed JCM project, which was submitted in line with the Project Cycle Procedure, was made publicly available through the JCM website for public inputs. The duration of call for public inputs on the PDD was 30 calendar days subsequent to the publication of the PDD, and it started from 18/11/2017. The specific JCM website is as below:

https://www.jcm.go.jp/vn-jp/projects/33

D.2. Summary of how inputs received have been taken into account by the project participants

No comment was received during the period of the public comments, covering 18/11/2017 to 17/12/2017; therefore, no action was required to be taken into due account by the project participants.

E. List of interviewees and documents received

E.1. List of interviewees

- Tran Ngoc Lan, Director, Department of Science and Technology of Quang Tri Province (DOST)
- Hoang Van Tham, Deputy Director of Technical Centre for Quality Measurement Standards, Department of Science and Technology of Quang Tri Province (DOST)
- Phan Tuan Anh, Deputy Head of Technology Transfer Division, Department of

Science and Technology of Quang Tri Province (DOST) ・ Van Thanh Long, Manager, Technical Centre for Quality Measurement Standards, Department of Science and Technology of Quang Tri Province (DOST) ・ Ho My Anh, Staff, Department of Science and Technology of Quang Tri Province (DOST) ・ Huynh Quoc Huy, Project manager, Eternal Technology - Energy Joint Stock Company (ETES) ・ Shoichi Banba, Manager, Stanley Electric Co.,Ltd. ・ Yoshifumi Kawaguchi, Manager, Stanley Electric Co.,Ltd. ・ Shigeru Ogawa, Consultant, Clean Energy Finance Division, Mitsubishi UFJ Morgan Stanley Securities Co.,Ltd. ・ Chisato Nakade, Senior Consultant, Clean Energy Finance Division, Mitsubishi UFJ Morgan Stanley Securities Co.,Ltd.

E.2. List of documents received

1. Project Design Document (draft) (JCM_VN_F_PDD_ver02 0_PDD_Stanley LED_ver01.docx) 2. Monitoring Plan Sheet and Monitoring Structure Sheet (draft) (JCM_VN_AM008_ver01.0_MPS_Stanley LED_ver01.xlsx) 3. Modalities of communications statement, a validated version for submission of request for registration 4. JCM Approved Methodology "Installation of LED lighting equipment to fishing boats, Version 01.0" (JCM_VN_AM008_ver01.0.pdf) 5. Monitoring Plan Sheet and Monitoring Structure Sheet VN_AM008 (JCM_VN_AM008_ver01.0.xlsx) 6. JCM Approved Methodology add info VN_PM010 "Establishment of Rated Electricity Consumption of Reference Lamp" (JCM_VN_PM010_add_info.pdf) 7. JCM Glossary of Terms (JCM_VN_Glossary_ver01.0) 8. JCM Project Cycle Procedure (JCM_VN_PCP_ver03.0) 9. JCM Modalities of Communication Statement Form (JCM_VN_F_MoC_ver02.0.pdf) 10. JCM Guidelines for Developing Project Design Document and Monitoring Report (JCM_VN_GL_PDD_MR_ver02.0) 11. JCM Project Design Document Form (JCM_VN_F_PDD_ver02.0.docx)

12. JCM Guidelines for Validation and Verification (JCM_VN_GL_VV_ver01.0)
13. JCM Validation Report Form
    (JCM_VN_F_Val_Rep_ver01.0.docx)
14. Installation plan
15. Installation record
    -Ship list
    -Check list for installation of LED
16. Implementation document concerning the JCM demonstration and verification project on Energy saving and work efficiency improvement project by special LED system with new technology, COB
17. Specification of project fishing boat
18. Specification and manufacturer's inspection results of project LED lighting
19. A plan for proper treatment and disposal of replaced existing lamps
20. Vietnam List of Hazardous Waste attached to Decision No.23/2006/QD-BTNMT
21. The Installation and Commission Completion Certificate (Schedule 1)
22. Wiring diagram of the fishing boat
23. Appendix II, Decree No.18/2015/ND-CP、ON ENVIRONMENTAL PROTECTION PLANNING, STRATEGIC ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL IMPACT ASSESSMENT AND ENVIRONMENTAL PROTECTION PLANS
24. Record (Minutes, invitation and material) of the local stakeholder consultation
25. Explanation of N_{REF}
26. Application for NEDO JCM demonstration projects
27. Project Design Document (final)
    (JCM_VN_F_PDD_ver02 0_PDD_Stanley LED_ver02.docx)
28. Monitoring Plan Sheet and Monitoring Structure Sheet (final)
    (JCM_VN_AM008_ver01.0_MPS_Stanley LED_ver02.xlsx)

Annex Certificates or curricula vitae of TPE's validation team members, technical experts and internal technical reviewers

Please attach certificates or curricula vitae of TPE's validation team members, technical experts and internal technical reviewers.

Statement of competence JQA

Name: Mr. Koichiro Tanabe

Qualified and authorized by Japan Quality Assurance Organization.

Function	Date of qualification
Validator	-
Verifier	2014/12/22
Team leader	2014/12/22

Technical area within sectoral scopes	Date of qualification
TA 1.1. Thermal energy generation	2014/12/22
TA 1.2. Renewables	2014/12/22
TA 3.1. Energy demand	2014/12/22
TA 4.1. Cement and lime production	-
TA 4.6. Other manufacturing industries	2014/12/22
TA 5.1. Chemical industry	2014/12/22
TA 10.1. Fugitive emissions from oil and gas	2014/12/22
TA 13.1. Solid waste and wastewater	2014/12/22
TA 14.1. Afforestation and reforestation	-

Statement of competence JQA

Name: Ms. Sachiko Hashizume

Qualified and authorized by Japan Quality Assurance Organization.

Function	Date of qualification
Validator	2015/11/20
Verifier	2015/11/20
Team leader	-

Technical area within sectoral scopes	Date of qualification
TA 1.1. Thermal energy generation	2015/11/20
TA 1.2. Renewables	2015/11/20
TA 3.1. Energy demand	2015/11/20
TA 4.1. Cement and lime production	-
TA 4.6. Other manufacturing industries	-
TA 5.1. Chemical industry	-
TA 10.1. Fugitive emissions from oil and gas	-
TA 13.1. Solid waste and wastewater	2015/11/20
TA 14.1. Afforestation and reforestation	-

Statement of competence JQA

Name: Dr. Tadashi Yoshida

Qualified and authorized by Japan Quality Assurance Organization.

Function	Date of qualification
Validator	2014/12/22
Verifier	2014/12/22
Team leader	2014/12/22

Technical area within sectoral scopes	Date of qualification
TA 1.1. Thermal energy generation	2014/12/22
TA 1.2. Renewables	2014/12/22
TA 3.1. Energy demand	2014/12/22
TA 4.1. Cement and lime production	2015/11/12
TA 4.6. Other manufacturing industries	2014/12/22
TA 5.1. Chemical industry	2014/12/22
TA 10.1. Fugitive emissions from oil and gas	-
TA 13.1. Solid waste and wastewater	-
TA 14.1. Afforestation and reforestation	-