JCM Validation Report Form

A. Summary of validation

A.1. General Information

Title of the project	Low carbon hotel project in Vietnam: Improving the energy efficiency of commercial buildings by utilization of high efficiency equipment
Reference number	VN003
Third-party entity (TPE)	TPE-VN-002 Japan Quality Assurance Organization (JQA)
Project participant contracting the TPE	Mitsubishi UFJ Morgan Stanley Securities Co., Ltd.
Date of completion of this report	25/02/2016

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	The project participants conducted an environmental	☒

Item	Validation requirements	No CAR or CL remaining
impact assessment	impact assessment, if required by the Socialist Republic of Viet Nam, in line with Vietnamese procedures.	
Local stakeholder consultation	The project participants have completed a local stakeholder 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: Yano	First name: Tadayuki
Title: Senior Executive	
Specimen signat[redacted]	Date: 25/02/2016

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. ☐	Hiroshi Motokawa	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_ver01.0) 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 “Low carbon hotel project in Vietnam:

Improving the energy efficiency of commercial buildings by utilization of high efficiency equipment" (herein after referred to as the proposed JCM project).

The proposed JCM project aims to reduce CO2 emissions in the Socialist Republic of Viet Nam (herein after referred to as Vietnam) by introducing multiple energy efficiency measures to existing commercial buildings. The proposed JCM project involves installation of energy efficiency measures at two project sites, Hotel Nikko Hanoi [Location 1], and Renaissance Riverside Hotel Saigon in Ho Chi Minh City [Location 2]. For Location 1, three energy efficiency measures, namely, a high efficiency boiler, a heat recovery heat pump and LED lamps are to be installed. For Location 2, a high efficiency boiler is to be installed.

The project participant from Vietnam is Hochiminh City University of Natural Resources and Environment (herein after referred to as HCMUNRE) and the project participants from Japan are Hibiya Engineering, Ltd. and Mitsubishi UFJ Morgan Stanley Securities Co., Ltd (herein after referred to as MUMSS).

The proposed JCM project is expected to achieve the amount of 289 tCO_2e emission reductions per annum. The estimated emission reductions of the period between 2016 and 2020 are calculated in the PDD.

The starting date of project operation is defined as 01/04/2016 and the expected operational lifetime of the proposed JCM project is defined as 10 years.

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 two-day on-site visit to Vietnam was undertaken during 25-26 June 2015 including interviews with the project participants and other stakeholders such as the local technical team of suppliers of the project equipments. The interviewees including the project participants and other stakeholders are listed in Section E.1.

Based on the findings through the process taken, CL01 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 CL01)

As for the "expected operational lifetime of project" in Section A.5, it was confirmed through interview with the project participant that the operational lifetime (10 years) was derived from the legal durable years of each equipment and thus it is in line with the financial accounting rules under the regulation in Japan. However, it was not confirmed whether it complies with the legal rules in the host country. Therefore, it is requested to clarify it accordingly.

(Summary of the response on CL01)

In accordance with “Guiding regulation on management, use and depreciation of fixed assets, No.45/2013/TT-BTC, Ministry of Finance, Socialist Republic of Viet Nam”, time frame of depreciation for the high efficiency equipment implemented by the proposed JCM project is somewhere between 5 to 12 years. The operational lifetime stated in the PDD falls between the duration suggested by the guidance.

(Assessment result of the responses on CL01)

It was confirmed through the review of the above mentioned document that the "expected operational lifetime of project", which is stated in Section A.5 of the PDD, is within a reasonable range of the host country's accounting rules for depreciation of the project equipments. Therefore, CL01 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-AM003 "Improving the energy efficiency of commercial buildings by utilization of high efficiency equipment" Ver.01.0. This methodology was approved by JC on 14 January 2015. 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 involves implementation of one or more energy efficiency measures categorized in Table 1 by using high efficiency equipment at an existing facility. Projects involving installation of high efficiency lighting need to be coupled with another energy saving measure(s) in order to be eligible under this methodology. High efficiency equipment introduced by the project replaces the existing equipment or substitutes the output of the existing equipment, and it is included in the applicable technologies as shown in Table 1:

Table 1 Applicable Technologies

No	*Energy efficiency measures*	*Applicable technologies and their criteria*
1	*Energy efficiency improvement by reducing fossil fuel consumption*	*High efficiency boiler with the following features:* *- Energy efficiency is greater or equal to 93% (e.g. small once -through boiler);* *- Equipped with automatic unit number control device; and* *- Individual performance test report is provided.*
2	*Fuel switch to electricity and/or efficiency improvement*	*Heat recovery heat pump using electricity, which generates both cooling and heating energy (temperature of hot water ≥80°C) and uses non-HFC refrigerant with zero Ozone Depletion Potential (ODP)*
3	*Installation of high efficiency lighting*	*LED lighting*

Though reviewing supporting documents including the specifications, and the interview with the local technical team of manufacturers of the project equipments, the project information of Criterion 1 described in the PDD, was checked and confirmed with a satisfactory result, as below:

For Location 1, three energy efficiency measures, namely, a high efficiency boiler manufactured by MIURA Co.,Ltd., a heat recovery heat pump manufactured by Mayekawa MFG. Co.,Ltd. and LED lamps manufactured by Panasonic Corporation are to be installed. For Location 2, a high efficiency boiler manufactured by MIURA Co.,Ltd. is to be installed.

The installation of a high efficiency boiler is replacing the existing boiler at each location. The applicability of the technology as energy efficiency measures 1 was confirmed in the following manners;

- It was confirmed through the review of technical specification issued by MIURA

Co., Ltd. that the project boiler efficiency is greater than 93% (Lower calorific value).

- It was confirmed through interview with Maruse Engineering (V), which is the local distributer of MIURA Co., Ltd., that the project boiler is equipped with automatic unit number control device.
- It was confirmed through interview with Maruse Engineering (V) that the individual performance test report is to be provided for the project boiler.

The installation of a heat recovery heat pump is replacing the existing boiler at Location 1. The applicability of the technology as energy efficiency measures 2 was confirmed in the following manners;

- It was confirmed through reviewing the technical specification issued by Mayekawa MFG. Co.,Ltd. that the project heat pump generates both cooling and heating energy, and hot water temperature is 90°C, and uses R744(CO2) as refrigerant.

The installation of LED lighting is replacing the existing lighting equipment at Location 1. The applicability of the technology as energy efficiency measures 3 was confirmed in the following manners;

- It was confirmed through the review of technical specification issued by Panasonic Corporation that the project high efficiency lighting is LED.

Criterion 2: If the existing equipment is a chiller containing CFCs, HFCs, or HCFCs and is removed due to the project, a plan to prevent release of refrigerant used for the existing chiller into the atmosphere is prepared. Execution of the prevention plan is checked at the time of verification, in order to confirm that the refrigerant used for the existing chiller is not released to the air.

Through the interview with the project participants and the local technical team of manufacturers of the project equipments, the project information of Criterion 2 described in the PDD, was checked and confirmed with a satisfactory result, as below:

-It was confirmed through interview with Hibiya Engineering Ltd. and Mayekawa Vietnam Co.,Ltd. ,which is the local subsidiary of Mayekawa MFG. Co.,Ltd., that the project does not involve any removal of the existing chiller.

Criterion 3: High efficiency equipment in the project guarantees a better performance than the reference equipment for a minimum of one year.
The performance level can be confirmed by comparing the efficiency or rated electricity consumption between the high efficiency equipment and the reference equipment, with

an evidence of either a manufacturer's performance guarantee or energy saving company's (ESCO) energy saving guarantee of high efficiency equipment. Where such evidence is not available for the reference equipment, high efficiency equipment in the project guarantees a better performance than the default efficiency values provided in the methodology.

Though it is stated that "High efficiency equipment in the project guarantees a better performance than the reference equipment for a minimum of one year" in the PDD, there are no descriptions on the evidence to demonstrate the statement. Therefore, CL02 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 CL02)

As for "Criterion 3", it is requested to clarify whether the performance level of higher efficiency equipment, compared to the reference equipment, can become evident with either a manufacturer's performance guarantee or an energy saving company's guarantee of high efficiency equipment.

(Summary of the response on CL02)

Manufacturer's guarantee for a minimum of one year along with the specification of high efficiency equipment in the project has been provided as the evidence for each high efficiency equipment.

(Assessment result of the responses on CL02)

It was confirmed through reviewing the submitted product guarantee for each equipment that the guarantee period is one-year. On the other hand, it was confirmed through the interview with the project participants that the regular maintenance service for each equipment is to be provided once a half year. During the site visit, it was confirmed through the interview with manufactures and distributers that the maintenance service for each equipment is to be provided by the local technical team of them. In addition, a maintenance check list for each equipment was provided. Through reviewing the provided checking list and interviews with relevant stakeholders it was confirmed that the maintenance services enable an expected performance level.

Based on the above-mentioned confirmation, it was considered reasonable that the performance level of higher efficiency equipment, compared to the reference equipment, was sufficiently demonstrated by "Manufacturer's guarantee for a minimum of one year along with the specification of high efficiency equipment in the project".

Therefore, CL02 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_AM003_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 are fossil fuel and electricity consumption by reference equipment. The sources of project emissions are fossil fuel and electricity consumption by the project equipment, and electricity consumption by the auxiliary equipment for the project equipment.

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_AM003_ver0.0.xlsx. The validation team confirmed that it is not altered, and its required fields are appropriately filled in.

As for 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 equipments and reference equipments and the most recent national grid emission factors. The validation team determined that all data sources and assumptions were appropriate and calculations were correct as applicable to the proposed JCM project, except for two parameters. Therefore, two clarification requests (CL03 and CL04) were raised on these findings.

<**Findings**>

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

(Issue raised as CL03)

As for project specific parameters to be fixed ex ante, it is requested to demonstrate through any evidential documents that the estimated value of the following fixed ex-ante parameter for Location 1 is reasonable.

-ECA_j: Capacity of auxiliary equipment (hot water pump) for operation of heat pump

(Summary of the response on CL03)

Technical specification and a picture of the nameplate for the electric pump equipped in Location 1 have been submitted for review.

(Assessment result of the responses on CL03)

The estimated value for the fixed ex-ante parameter was confirmed as appropriate through technical specification and the nameplate picture of the electric pump equipped in Location 1. Therefore, CL03 was closed.

(Issue raised as CL04)

As for project specific parameters to be fixed ex ante, the following documents were provided to determine whether all data sources of the estimated value for the fixed ex ante parameters are appropriate:

- Technical specifications of the project boiler issued by MIURA Co., Ltd.
- Technical specifications of the project heat pump issued by Mayekawa MFG. Co.,Ltd.

However, the following documents were not confirmed:

- Technical specifications of LED lighting

Therefore, it is requested to provide the TPE with them.

(Summary of the response on CL04)

Technical specifications and the calculated total capacity of LED lighting have been submitted for review.

(Assessment result of the responses on CL04)

It was confirmed through the submitted technical specifications and the calculated total capacity of LED lighting that the estimated value of relevant fixed ex-ante parameter ($EC_{pj3,i}$) was calculated appropriately, and the calculation result was reflected in the revised MPS(input). Therefore, CL04 was 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 to be fixed ex ante in the MPS and 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 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.

- 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 the hotels where the project located, namely Hotel Nikko Hanoi and Renaissance Riverside Hotel Saigon. Face-to-face interviews have been conducted to invite comments from the facility management representatives of both hotels.

In addition to this, a briefing session for the project was conducted to invite comments from government officials on 17th September 2014 at Hotel Nikko Hanoi.

It was confirmed through the submitted meeting minutes that the following local stakeholders were invited to the briefing session.

- MONRE: Ministry of natural resources and environment
- DMHCC: Department of meteorology, hydrology and climate changes
- MOST: Ministry of Sciences and Technology
- IMHEN: Institute for meteorology, hydrology and environment
- MOT: Ministry of transport
- MOF: Ministry of finance
- MOIT: Ministry of industry and trade

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>

It is confirmed that the Monitoring Plan Sheet and Monitoring Structure Sheet is described based on the applied methodology VN-AM003 ver 01.0.

It is confirmed that four monitoring points for Location 1 and one monitoring point for Location 2 are indicated in Section C.2. of the PDD and they are corresponding to the parameters listed in the Monitoring Plan Sheet. Regarding the monitoring equipments and the means of monitoring including the monitoring frequency and the QA/QC procedures, the validation team confirmed that those descriptions comply with the requirements of the methodology.

It is confirmed through the document review and interview with the JCM monitoring manager whether 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, MUMSS, with whom JQA has a contractual relationship, had applied the latest version of MoC form. The date of submission indicated in the MoC was 20/11/2015, 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 defined as 01/03/2016. In the revised PDD, the project participants have changed the date to 01/04/2016 based on the updated schedule for the project operation. Through reviewing the updated schedule for the proposed JCM project provided by the project participants, it was confirmed that the project equipments are to be handed over to those hotels before 29/03/2016. Therefore, the revised start date of operation 01/04/2016 is reasonable and this date is not before January 1, 2013.

<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 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 05/12/2015. The specific JCM website is as below:
https://www.jcm.go.jp/vn-jp

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 05/12/2015 to 03/01/2016; 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

- Shinichi Itou, Director and Executive Officer, Energy and Smart Business Promotion Head Office, Hibiya Engineering, Ltd.
- Mitsuo Tomoyori, Consultant, Energy and Smart Business Promotion Head Office, Hibiya Engineering ,Ltd.
- Susumu Nakano, Manager, Technology Research Centre, Hibiya Engineering ,Ltd.
- Satoshi Nakamura, Senior Consultant, Clean Energy Finance Division, Mitsubishi UFJ Morgan Stanley Securities Co.,Ltd.
- Chisato Nakade, Consultant, Clean Energy Finance Division, Mitsubishi UFJ Morgan Stanley Securities Co.,Ltd.
- Tsutomu Kamiya, Managing Director, Mayekawa Vietnam Co.,Ltd.
- Yutaro Sugiyama, Engineering Manager, Mayekawa Vietnam Co.,Ltd.
- Yuya Kubo, Sales Director, Maruse Engineering (V)
- Issei Setoguchi, Maintenance Manager, Maruse Engineering (V)
- Ho Thi Thanh Van, Dean, Office of Research Development and External Relations, Ministry of Natural Resources and Environment, Hochiminh City University of Natural Resources and Environment
- Dinh Thi Nga, Vice-Head,Office of Research Development and External Relations, Ministry of Natural Resources and Environment, Hochiminh City University of Natural Resources and Environment

E.2. List of documents received

- Project Design Document (draft) (LCH_JCM_VN_F_PDD_ver01_0_record.docx)
- Monitoring Plan Sheet and Monitoring Structure Sheet (draft) (LCH_JCM_VN_AM003_ver01.0_Location1_hanoi.xlsx / LCH_JCM_VN_AM003_ver01.0_Location2_HCMC.xlsx)
- JCM Approved Methodology VN_AM003 “Improving the energy efficiency of commercial buildings by utilization of high efficiency equipment” (JCM_VN_AM003_ver01.0.pdf)
- Form of Monitoring Plan Sheet and Monitoring Structure Sheet (JCM_VN_AM003_ver01.0.xlsx)
- JCM Glossary of Terms (JCM_VN_Glossary_ver01.0)
- JCM Guidelines for Developing Project Design Document and Monitoring Report (JCM_VN_GL_PDD_MR_ver01.0)
- JCM Project Cycle Procedure (JCM_VN_PCP_ver02.0)
- Implementation Document for The JCM demonstration and verification project Low Carbon Hotel: A new building energy management system for Vietnam (V-BEMS)
- Specifications of oil fired boilers of Miura EZ-1000SK
- Brochure of heat-pump water heater Unimo manufactured by Mayekawa
- Brochure of LED lighting by Panasonic
- Warranty certificate for project boilers
- Purchase and sales agreement including warranty terms for project heat-pump water heater
- Warranty certificate for project LED lighting
- Inspection report form for project boiler
- Maintenance checking list for project heat-pump water heater
- Decree No. 18/2015/ND-CP on Environmental Protection Planning, Strategic Environmental Assessment, Environmental Impact Assessment and Environmental Protection Plans
- A minutes of the stakeholder consultation meeting (held on 17/09/2014)
- Specifications of reference boilers indicating fuel type
- Specification of reference lighting equipment
- Specification and picture of nameplate for EBARA centrifugal pumps
- Vietnamese national grid emission factor for 2013
- IPCC default value from “2006 IPCC Guidelines for National Greenhouse Gas Inventories”
- Low No. 55/2014/QH13 on Environmental Protection
- Specifications of multiple installation controller MP1-200.MT1-200

・ Explanation on automatic unit number control device
・ Sample of Boiler commissioning test data
・ Brochure of heat-pump water heater Unimo manufactured by Mayekawa written in Vietnamese
・ Mayekawa Vietnam company profile and organization chart
・ Guiding regulation on management, use and depreciation of fixed assets, No.45/2013/TT-BTC, Ministry of Finance, Socialist Republic of Viet Nam
・ Contract between MUMSS and HCMUNRE on the support service for the monitoring
・ Introduction of HCMUNRE
・ Schedule of the project version 4.0
・ Revised Project Design Document (ver.02.0)
・ Revised Monitoring Plan Sheet and Monitoring Structure Sheet (ver.02.0)

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	2015/3/24

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 4.6. 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

E-01-30

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 13.1. Solid waste and wastewater	2015/11/20

E-01-30

Statement of competence

JQA

Name: Mr. Hiroshi Motokawa

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	2014/12/22
TA 4.6. Other manufacturing industries	2014/12/22
TA 13.1. Solid waste and wastewater	2014/12/22

E-01-30