JCM Validation Report Form

A. Summary of validation

A.1. General Information

Title of the project	Introduction of Energy-Efficient Air Conditioners in RICOH IMAGING PRODUCTS (Vietnam) CO., LTD
Reference number	VN009
Third-party entity (TPE)	Japan Quality Assurance Organization (TPE-VN-002)
Project participant contracting the TPE	RICOH COMPANY, LTD.
Date of completion of this report	21/02/2018

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: 21/02/2018

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. ☐	Tadashi Yoshida	External Individual	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_ver02.0).

<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 complete using the valid form in line with the JCM Guidelines for Developing PDD and MR.

C.2. Project description

<Means of validation>

The purpose of the proposed JCM project is to reduce CO_2 emission emitted by the national grid system in Viet Nam by reducing energy consumption of the existing

factory of RICOH IMAGING PRODUCTS (Vietnam) CO., LTD located in the east of Hanoi city. The proposed JCM project replaces the existing air conditioners to more energy-efficient ones with inverter technologies produced by Daikin Industries, Ltd. The newly installed air conditioning system of the proposed JCM project consists of outdoor units (total rated capacity is 577.4kW) and indoor units (total rated capacity is 32.049kW).

The expected emission reductions that would be achieved by the proposed JCM project in its operation are estimated to be 147 tCO_2 annually. The emission reductions of the period from 2016 through 2020 are estimated to be 451 tCO_2 in the PDD.

The validation team conducted one-day on-site inspection on 05/12/2017, after its document review of this proposed JCM project, and had a follow-up interview with the project participants. The location information of the proposed JCM project and the other description stated in Section A (Project description) of the PDD were cross-checked through the physical inspection. Regarding the duration of the proposed JCM project, it is eventually confirmed that the starting date of project operation is 06/12/2017, as the date is reasonable to start monitoring. The expected operational lifetime of the proposed JCM project is defined as 9 (nine) years, which is in compliance with legal useful life of the operational equipment under Japanese tax regulation. Contribution from Japan is also described in the PDD appropriately.

For location information of the proposed project, the validation team raised CL03. This was resolved in “Findings” below.

<Findings>

CL03

For location information of the proposed project, the search results using google map did not show the corresponding site. Therefore, it is requested to clarify the coordinates of the proposed project accordingly, considering that it can be searched for google map.

Resolution by the PPs

The PPs revised Section A.3 of the PDD, and the location information of the project site has been modified as it can be searched on a google map. It is confirmed by the validation team that the location information of the project site has been modified appropriately. Therefore, this CL is closed.

<Conclusion based on reporting requirements>

In conclusion, the team determined that the description of the proposed JCM project in the PDD was accurate, complete, and provided an understanding of the proposed JCM project.

C.3. Application of approved methodology(ies)

<Means of validation>

Selection of methodology(ies)

Through a review of the PDD and Monitoring Plan (Monitoring Plan Sheet and Monitoring Structure Sheet), it was confirmed that the following latest version of methodology was correctly quoted and applied in the proposed JCM project.

- JCM_VN_AM006_ver01.0

Eligibility criteria

The assessment results of the eligibility criteria in the approved methodology are summarized as below:

Criterion 1

"Air-conditioning system with inverter is newly installed or installed to replace existing non-inverter air conditioning system."

The project information, described in Criterion 1 of the PDD, was checked through reviewing supporting documents and interviewing during the physical inspection, and confirmed as below, with a satisfactory result.

- Air-conditioning system with inverter is installed to replace non-inverter air-conditioning system. All of air-conditioning systems is products by Daikin Industries, Ltd.
- At the beginning of development phase, the PPs were considering to install 10 unit air-conditioning systems for the project. As a result, however, the PPs were determined to exclude 2 units of them from the project boundary and thus 8 unit air-conditioning systems are eventually included within the scope of the proposed JCM project.
- The PPs ensure that a JCM approved label is respectively put on the installed equipment of the proposed JCM project, and removed from 2 unit air-conditioning systems of non-JCM project.

- Each unit code of installed outdoor/indoor units are summarized as below.

Unit no.	Outdoor units	Indoor units connected to the outdoor unit	Scope of the project
1	RXQ20THY1 (1 unit)	FXVQ500NY1 (1 unit)	Yes
2	RXQ50THY1 (1 unit)	FXVQ500NY1 (2 units) FXMQ250MVE9 (1 unit)	Yes
3	RXQ6TAYM (1 unit)	FXMQ140PVE (1 unit)	No
4	RXQ20TAHYM (1 unit)	FXVQ500NY1 (1 unit)	No
5	RXQ12TAHYM (1 unit)	FXMQ250MVE9 (1 unit)	Yes
6	RXQ50TAHYM (1 unit)	FXVQ500NY1 (2 units) FXMQ250MVE9 (1 unit)	Yes
7	RXQ16TAHYM (1 unit)	FXVQ200NY1 (2 units)	Yes
8	RXQ16TAHYM (1 unit)	FXVQ200NY1 (2 units)	Yes
9	RXQ12TAHYM (1 unit)	FXMQ200MVE9 (1 unit)	Yes
10	RXQ32TAHYM (1 unit)	FXVQ400NY1 (2 units)	Yes

Criterion 2

"Cooling capacity of project air conditioning system is more than or equal to 14kW."

Criterion 3

"COP of project air-conditioning system has a COP value higher than that of the value indicated in the table below."

The project information of Criterion 2 and 3, described in the PDD, was checked through reviewing supporting documents and interviewing during the physical inspection, and confirmed as below, with a satisfactory result.

- Each unit code, cooling capacity and COP of installed outdoor units are summarized as below.

Unit code	Cooling capacity (kW)	COP
RXQ20THY1	54.4	4.35
RXQ50THY1	140	3.38
RXQ12TAHYM	32	4.40
RXQ50TAHYM	140	3.38
RXQ16TAHYM	44.8	4.30
RXQ32TAHYM	89.4	3.85

Criterion 4

"Ozone Depletion Potential (ODP) of the refrigerant used for project air conditioning system is zero."

The project information of Criterion 4, described in the PDD, was checked through document review, and confirmed as below, with a satisfactory result.

- R-410A is used as refrigerant for all of air-conditioning systems of the proposed JCM project.

Criterion 5

"Plans to prevent release of refrigerants into the atmosphere at the time of air conditioning system removal are prepared for both project air conditioning system and the existing air conditioning system replaced by the project. In the case of replacing existing air conditioning system by project air conditioning system, execution of the prevention plan is checked at the time of verification, e.g. re-use of the refrigerant, in order to confirm that refrigerant used for the existing air conditioning system removed by the project is not released to the air."

The project information of Criterion 5, described in the PDD, was checked through interview with the PPs, and confirmed as below.

- At the phase 1 and 2 of installation of the proposed air conditioning systems, the equipment and the facilities were installed by Service provider A, who conducted refrigerant recovery as well and the recovered refrigerant tanks were stored in the Ricoh plant.
- However, releasing refrigerant into the atmosphere happened accidentally during replacing the existing air conditioning systems. Therefore, when the PP was selecting a service provider to install equipment at the phase three, the following points were considered seriously:
  (1) add a specific clauses on gas collection and leakage prevention in the contract with a service provider;
  (2) have a service provider submit a refrigerant gas recovery procedure document during the installation work;
  (3) have a service provider report its daily work for the installation through construction diary report; and
  (4) state "Recovered R22 is reused/recycled into similar air conditioner" in the certificate of sale, together with the amount of gas collected.

As for Criterion 5, the validation team raised CL01. This was resolved in "Findings"

below.

<Findings>

CL01

As a result, it turned out that equipment/facilities at the phase 3 were installed by Service provider B. Therefore, in the above regard, it was required to submit the construction contract for (1), a procedure manual for (2), construction daily report for (3), and refrigerant gas sales certificate for (4), respectively.

Resolution by the PPs

The PPs responded to this CL with submission of the following documents.

- The construction contract, signed by the PP and Service provider B, including a specific clauses on gas collection and leakage prevention
- The procedure created by Service provider B for gas recovery work
- The daily report during the installation work
- The certificate of sale and reused/recycled of collected gas

It is confirmed by the validation team that the submitted documents are appropriately, aligned with the project information of Criterion 5 in the PDD. Therefore, this CL is closed.

<Conclusion based on reporting requirements>

Please state conclusion based on reporting requirements.

The validation team reached the conclusion that the relevant information contained in the PDD is in compliance with the eligibility criterion listed in the approved methodology applied. The issue raised by the validation team was fully clarified.

C.4. Emission sources and calculation of emission reductions

<Means of validation>

It is confirmed through desk review that the emission sources and GHGs, which are described in the PDD, are in line with the evidential documents properly. It is also confirmed through an on-site inspection that they are corroborated as below:

- As illustrated in the PDD, the proposed JCM project includes 8 unit air-conditioning systems, and monitoring point No.1 and No.2 (electricity meters).
- Electricity consumption of outdoor units is directly measured by the corresponding

electricity meter. Electricity consumption of indoor units is calculated from rated power consumption of indoor unit and monitored operating hours of outdoor unit, which is connected to the corresponding indoor units.

- Through the on-site assessment, several captive power generators were observed in the factory, and it was explained that those were for emergency use. The PPs exclude them from the proposed JCM project boundary, and the validation team consider it reasonable.

Since the applied methodology does not allow the PPs to choose any source or gas to be included, all emission sources and their associated GHGs relevant to the proposed JCM project meet the applied methodology. As for Monitoring Spreadsheet, the appropriate form, which is defined in the applied methodology and not altered, is used. It is confirmed that the required fields of the spreadsheet are filled in appropriately.

Reference CO_2 emission factor for the air conditioning system is 0.8154 tCO_2/MWh, which is the latest national grid emission factor issued by Ministry of Natural Resources and Environment of Vietnam.

As for the table of Section C.3 in the PDD, the validation team raised CL06. The finding was, however, eventually withdrawn by the team since it was found that Section C.3 was in accordance with the Notes on PDD and monitoring report development presented by IGES.

As for the figure of Section C.2 in the PDD, the validation team raised CL05. This was resolved in Findings below.

<Findings>

CL05

"Indoor Unit" was not described in the figure of Section C.2 of the initial PDD. Therefore, it is requested to add Indoor Unit and the corresponding monitoring point for the power consumption in the figure.

Resolution by the PPs

The "Indoor Unit" has been added to the figure in section C.2. Therefore, this CL is closed.

<Conclusion based on reporting requirements>

The validation team reached the conclusion through the validation that the selected emission sources and GHG types were justified for the JCM project. The validation

team assessed values for project-specific parameters to be fixed ex ante in the MPS and intermediate processes to derive the values. As a result, those were considered reasonable in the context of the proposed JCM project. The issue raised by the team was fully clarified, which resulted in a revision of the PDD and the MPS.

C.5. Environmental impact assessment

<Means of validation>

It is confirmed through document review that the proposed JCM project is not required to conduct assessment of environmental impact. Any legal requirement of environmental impact assessment is not applicable to the proposed JCM project, namely installation of air-conditioning system.

<Findings>

No outstanding issue was raised.

<Conclusion based on reporting requirements>

The validation team concludes that the project design of the proposed JCM project is in accordance with the EIA regulation in Viet Nam.

C.6. Local stakeholder consultation

<Means of validation>

Through reviewing the PDD and the minutes of local stakeholder consultation (LSC) meeting, it was confirmed that a LSC was implemented for the following local stakeholders, and the following information was confirmed with a satisfactory result.

(a) Comments have been invited from local stakeholders that are relevant for the proposed project.

- The relevant local stakeholders have been identified by the PPs, and a LSC meeting was held on 21/09/2017, with inviting mainly management of RICOH IMAGING PRODUCTS (Vietnam) CO., LTD.

(b) The summary of the comments received as provided in the PDD is complete.

- The summary of the comments received has been described in the PDD. Through interview with the PPs, it is confirmed that those comments have been described in the PDD appropriately.

(c) The PPs have taken due account of all comments received and have described this process in the PDD.

The validation team determines that the relevant local stakeholders have been identified appropriate and the information on the LSC meeting has been described in the PDD appropriately. As a result, it is concluded that no additional actions are required for the comments received.

<Findings>

No outstanding issue was raised.

<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 document review and interviews with the project participants, the following information was confirmed.

(a) Assessment of compliance of the monitoring plan with the approved methodology and/or PDD and Monitoring Guidelines

The parameters to be monitored ex-post are determined in accordance with Monitoring Plan Spreadsheet (MPS) of the applied methodology as below

- $EC_{PJ,i,outdoor,p}$ (Electricity consumption of outdoor unit of project air conditioning system *i* during the period *p*)
- $EC_{PJ,indoor,p}$ (Total electricity consumption of indoor units of project air conditioning system during the period *p*)

Through document review and interview with the PPs, the validation team raised CL07 through CL11. These were resolved in Findings below.

<Findings>

CL07

In order to confirm the validity of the estimated value of the power consumption of the Outdoor Unit, it is requested to clarify the evidential document of the annual power consumption "1798.72 MWh" consumed by the existing facilities.

Resolution of CL07 by the PPs

The electricity consumption of all the ACs was estimated to be 32% of the whole factory based on rated power consumption and operation time of all equipment in the factory. Based on this estimation, "1,798.72MWh" has been calculated as follows.

1) The total electricity consumption of the factory before the JCM project is "9,636MWh".
2) The electricity consumption of ACs is "3,083.52MWh" which is calculated by multipling 9,636MWh by 32%.
3) 24 ACs were in operation before the JCM project, and 14 of them have been replaced under the JCM project.

Therefore, the electricity consumption of the corresponding ACs is "1,798.72MWh" which is calculated by multipling 3,083.52MWh by 14/24. It is confirmed by the validation team that the estimation of the electricity consumption of the corresponding air conditioners is calculated as "1,798.72MWh" appropriately. Therefore, this CL is closed.

CL08

It is requested to clarify that "32.049kW" is the total rated capacity of the figures for estimating the estimated electricity consumption of Indoor Unit, by showing the list of devices.

Resolution of CL08 by the PPs

The list of indoor units installed at the project was submitted to the validation team, and it is confirmed that the total rated power consumption of indoor unit is 32.049kW. It is also confirmed that 35.074kW in the initial MPS has been revised to 32.049kW in the revised MPS appropriately. As a result, the annual emission reductions of the proposed JCM project, 197tCO_2, is recalculated to be 147tCO_2 in the revised PDD. Therefore, this CL is closed.

CL09

It is requested to explain the calibration method of measuring equipment (watt-hour meter) of outdoor unit.

Resolution of CL09 by the PPs

The measuring equipment has been calibrated by the manufacturer with reference to " JIS C 1216-1 Alternating-current watt-hour meters (for connection through

instrument transformer) - Part 1: General measuring instrument".

Through clarification letter, which is issued by the manufacturer, regarding evaluation criteria for accuracy of electricity measuring equipment, it is confirmed that the measuring equipment has been evaluated by the manufacturer in accordance with an internal regulation based on JIS C 1216-1. Considering that measurement accuracy of the measuring equipment has been evaluated at factory shipment, the validation considered it reasonable. Therefore, this CL is closed.

CL10

After confirming the two assignees of Ricoh Imaging Products (Vietnam) Co., LTD., in Monitoring Structure of the proposed JCM project, it was confirmed that Yuichi Ihara and Tran Quynh Trang were going to be assigned. However, since the content of "Responsible personnel" does not match with the person's business title, it is requested to review it accordingly.

Resolution of CL10 by the PPs

It is confirmed that each of the responsible person's business title stated in the MSS sheet has been revised appropriately. Therefore, this CL is closed.

CL11

It was confirmed through the on-site assessment that the electricity consumption data was monitored and recorded automatically by a monitoring data collection system. In the meantime, the validation team could not confirm that operating time of outdoor unit was monitored and recorded appropriately. Therefore, it is requested to clarify procedures for collection and recording of operating time of outdoor unit accordingly.

Resolution of CL11 by the PPs

There was a problem with the monitoring data collection system "KW watcher". But it has been fixed by the manufacturer and made possible to operate correctly from 6th December 2017. The monitored data (electricity consumption and operating time), which is monitored and stored automatically in the KW watcher system, is input to the spreadsheet (Monthly report & calculation sheet for Ricoh's JCM project) by the person in charge on a monthly basis.

Eventually, the validation team confirms that the sheet form has been defined by the PPs for special purpose of JCM monitoring activities, and the team also confirms that operating hour of outdoor unit is recorded in accordance with the sheet form.

Therefore, this CL is closed.

<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 have ability to implement the defined Monitoring Plan Sheet. It is also confirmed that the Monitoring Structure Sheet is feasible as for the means of monitoring.

C.8. Modalities of Communication

<Means of validation>

Through document review, it is confirmed that the signed Modalities of Communication (MoC) have applied the applicable version of MoC form. The validation team also conducted interviews with some of the signatories of the MoC, and then identified the personnel and their employment status, including the specimen signatures. Therefore, the validation team determines that the information of all project participants, including the focal point provided in the MoC and its correctness of authority, is appropriate.

<Findings>

CL02

It was confirmed by the interview at the on-site assessment that one of the signers in the MoC had retired since September 2017. Therefore, it is requested to revise the MoC accordingly.

Resolution by the PPs

The retired signer has been replaced in the corresponding part (page.3) of the revised MoC. The validation team also confirms that the MoC has been revised appropriately. Therefore, this CL is closed.

<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 through review of the relevant website (e.g. UNFCCC website,

Markit Environmental Registry, etc.) that the proposed JCM project has not been registered under other international climate mitigation mechanisms. Also, the written confirmation of the avoidance of double registration was provided through the signed MoC, and was cross-checked through interview with the project participant, with a satisfactory result.

<Findings>

No outstanding issue was raised.

<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>

Through interview with the project participant, the following information was confirmed.

- Starting date of project operation, defined in the PDD (the 1st edition) : 31/03/2016
- Completion date of phase one installation: 02/04/2016
- Handover date of phase two installation: 08/05/2017

It is confirmed that the starting date of project operation is identified as the starting date of trial operation for phase one installation, dated 31/03/2016, and it is not before 01/01/2013. In this regard, the validation team raised CL04. This was resolved in Findings below.

<Findings>

CL04

It was explained by the PPs that the actual monitoring activities started from November 2017, whereas the starting date of the proposed project operation was defined 31/03/2016. Therefore, it is requested to clarify whether the difference between the "starting date of project operation" and the "starting date of monitoring activities" is valid in light of the Notes on PDD and monitoring report development presented by IGES.

Resolution by the PPs

The starting date of the project has been corrected to 06/12/2017, which is substantially the starting date of monitoring activities. It is confirmed that the starting date of the project has been revised appropriately, in conjunction with CL11. Therefore, this CL is closed.

<Conclusion based on reporting requirements>

The validation team concludes that the start of the operating date of the proposed JCM project has been defined appropriately.

C.11. Other issues

<Means of validation>

No other issue was identified.

<Findings>

No outstanding issue was raised.

<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. This call for public comments is open from 16 Dec 17 - 14 Jan 18 (24:00 GMT). The specific JCM website is as below:

- https://www.jcm.go.jp/vn-jp/projects/37

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

Not applicable

E. List of interviewees and documents received

E.1. List of interviewees

- Yoshihiro Nozaki, Specialist, RICOH COMPANY, LTD.
- Yuichi Ihara, General Director, RICOH IMAGING PRODUCTS (Vietnam) CO., LTD.

・ Tran Quynh Trang, Manager, RICOH IMAGING PRODUCTS (Vietnam) CO., LTD.
・ Kei Sato, Associate, Mitsubishi UFJ Research and Consulting Co., Ltd.

E.2. List of documents received

1. Project Design Document for publication ([English]JCM_VN_PDD_RICOH_ver02.0.pdf)
2. Monitoring Plan Sheet and Monitoring Structure Sheet for publication ([English]JCM_VN_MPS_RICOH_ver01.0.xlsx)
3. Modalities of communications statement for publication ([English]JCM_VN_MoC_RICOH_ver02.0.pdf)
4. JCM Approved Methodology VN_AM006 (JCM_VN_AM006_ver01.0.pdf)
5. Monitoring Plan Sheet and Monitoring Structure Sheet VN_AM006 (JCM_VN_AM006_ver01.0.xlsx)
6. JCM Glossary of Terms (JCM_VN_Glossary_ver01.0.pdf)
7. JCM Project Cycle Procedure (JCM_VN_PCP_ver03.0.pdf)
8. JCM Modalities of Communication Statement Form (JCM_VN_F_MoC_ver02.0.pdf)
9. JCM Guidelines for Developing Project Design Document and Monitoring Report (JCM_VN_GL_PDD_MR_ver02.0)
10. JCM Project Design Document Form (JCM_VN_F_PDD_ver02.0.pdf)
11. JCM Guidelines for Validation and Verification (JCM_VN_GL_VV_ver01.0.pdf)
12. JCM Validation Report Form (JCM_VN_F_Val_Rep_ver01.0.docx)
13. Company profile of RICOH IMAGING PRODUCTS (Vietnam) CO., LTD.
14. Company profile of RICOH COMPANY, LTD.
15. Certificate of completion: Renovation of AC system in FY2015 and FY2016
16. Legal useful life table of the machinery and equipment, issued by Japanese government
17. Product catalog sheet of newly installed air-conditioning system with inverter
18. Comparative list of the existing non-inverter air conditioning system and the newly installed air conditioning system with inverter
19. Work instructions procedure of Service provider A for recovery of refrigerants
20. Wiring diagram of the project air-conditioning systems, including both indoor units and outdoor units
21. Calculation summary of the estimated reference emissions of Year 2017, achieved by the proposed JCM project

22. Guideline for legal requirement of environmental impact assessment in Viet Nam
23. The minutes of the local stakeholder consultation meeting, including the invitation letter and the attendees' list
24. Presentation materials for the local stakeholder consultation
25. N/A
26. Product brochure/catalog/specification sheet of measuring equipment, which is installed in each outdoor unit to monitor operating hours
27. The estimated CO2 emission factor for the grid system
28. Clarification of watthour meter measuring operating hours
29. Estimated electricity consumption of outdoor unit of the existing air conditioning system
30. Clarification letter on evaluation criteria for accuracy of electricity measuring equipment, issued by the manufacturer
31. Warranty, maintenance work sheet, including certificate of sale and reused/recycled of collected gas
32. Construction contract signed by RICOH and Service provider B
33. Daily report by Service provider B
34. List of the rated electricity consumption of Indoor Unit
35. Revised MoC (JCM_VN_MoC_RICOH_ver02.0 2018-01-09.pdf)
36. Monthly report calculation sheet
37. Construction contract signed by RICOH and Service provider A
38. Project Design Document for registration (JCM_VN_PDD_RICOH_ver03.0_rev180220.pdf)
39. Monitoring Plan Sheet and Monitoring Structure Sheet for registration (180115_JCM_VN_AM006_ver01.0.xlsx)

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

Statement of competence

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

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	-