JCM Validation Report Form

A. Summary of validation

A.1. General Information

Title of the project	Introduction of Amorphous High Efficiency Transformers in Southern and Central Power Grids
Reference number	VN008
Third-party entity (TPE)	Japan Management Association (JMA)
Project participant contracting the TPE	YUKO-KEISO Co., Ltd.
Date of completion of this report	13 March 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: Inoue	First name: Tadashi	
Title: Senior Executive of GHG Certification Center, JMA		
Specimen signature: [redacted]		Date: 13/03/2018

B. Validation team and other experts

	Name	Company	Function*	Scheme competence*	Technical competence*	On-site visit
Mr. ☒ Ms. ☐	Motoyuki Matsumoto	JMA	Team Leader	☒	Technical competence qualified	☒
Mr. ☒ Ms. ☐	Toshiaki Takeda	JMA	Team Member	☒	Technical competence qualified	☒
Mr. ☒ Ms. ☐	Kenji Suzuki	JMA	Internal Reviewer	☒	Technical competence qualified	☐
Mr. ☐ Ms. ☐				☐		☐

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>

PDD (Ref.1) was checked using the "Joint Crediting Mechanism Guidelines for Developing Project Design Document and Monitoring Report (JCM_VN_GL_PDD_MR_ver02.0) (Ref.14) ".

Review history of the PDD is as follows.

- PDD version 1: PDD was submitted to validation team on 19th Oct.2017.
- PDD version 2: PDD was revised on 5th Dec. 2017 before the public inputs.
- PDD version 3: PDD was revised on 9th Feb. 2018 based on the on-site inspection by validation team.
- PDD version 4: PDD was revised on 2nd Mar. 2018 to resolve the remaining issues. PDD version 4 (Ref.1-4) is final version. The latest version of the PDD form (JCM_VN_GL_PDD_MR_ver02.0) was checked at the website of New Mechanisms Information Platform for Viet Nam. Validation team confirmed that the latest version of the PDD form was used for all version of PDD (Ref.1). Also, validation team confirmed that form of Monitoring Spreadsheet (JCM_VN_AM005_ver01.0) which was approved

as a methodology (Ref.2) by Joint Committee was used for the proposed project.

<**Findings**>

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

No CAR, CL, or FAR were raised for this section.

<**Conclusion based on reporting requirements**>

Please state conclusion based on reporting requirements.

Validation team confirmed that the PDD was completed using the latest version of the PDD form and in accordance with the "JCM Guidelines for Developing PDD and MR (Ref.14)".

C.2. Project description

<**Means of validation**>

The proposed JCM project aims to reduce CO2 emissions by utilization of energy efficient transformers in power distribution grid in Southern and Central Viet Nam where the following state owned companies manage.

・EVN Southern Power Corporation (EVNSPC)
・EVN Central Power Corporation (EVNCPC)
・Da Nang Power Company Ltd. (DNPC)
・Ho Chi Minh City Power Corporation (EVNHCMC)

The project is to install high efficient amorphous transformers displacing conventional and more energy intensive transformers, and the total number of the transformer installation is 4,841 units.

Validation team conducted the assessment with the step below by following “JCM Guidelines for Validation and Verification (JCM_VN_GL_VV_ver01.0) (Ref.13)”.

- Document review was conducted using the checklist based on the “JCM Guidelines for Validation and Verification (Ref.13)”. CAR1 and CL1 were raised and informed to project participants (PPs).
- Follow-up interviews and on-site assessment were conducted.
- Remaining issues including the response of CAR1, CL1 were checked with reference.

Each section in the PDD was checked as follows through the document review and on-site assessment to confirm the project description.

A.1, 2:

Amorphous transformers installed by the project are manufactured in Vietnam based on the state of the art technology developed by Hitachi Metals of Japan. Validation team confirmed the consistency with the description of PDD based on the documents “Tender

Specifications of Amorphous Transformers (Ref.3-1-1)", "Brochure of the amorphous transformer issued by THIIDI (Ref3-1-6)", and "Transformer list Installed of the four power companies (Ref.3-1-3)".
Also, on-site assessment was conducted on 12-14 Dec.2017. Validation team confirmed that the type of transformers described in the PDD was installed at the project site.
A.3:
Location was checked through the "Transformer list Installed of the four power companies (Ref.3-1-3)" , "Pre-delivery Inspection Reports of Transformers Installed in the four power companies (Ref.3-1-2)" and on-site assessment. Through the processes taken above, CAR1 was raised.
A.4:
PPs of both countries, Japan and Viet Nam, were confirmed through the interviews, on-site assessment and checking the "Modalities of communications (MoC) (Ref.8-1)" and "Organization structure of PP (Ref.11-1～4)".
A.5:
"Expected operational lifetime of project (18 years)" was checked and confirmed by raising CL1.
"Starting date of project operation" was checked in the section C.10.
A.6:
Financial support by the Ministry of the Environment, Japan was confirmed by checking "Grant decisions for JCM project (Ref.3-5)".
<**Findings**>
Please state if CARs, CLs, or FARs are raised, and how they are resolved.
The following CAR1 and CL1 were raised to check the project description of the PDD.
CAR1：Validation team identified that some project transformers had the following changes before the starting date of project operation , based on the document review and the on-site assessment.
1) Relocation from the original installed location to other, and/or
2) Rename of electrical pole code, which identifies the exact location of the transformer installation

However, the "Transformer list Installed of the four power companies (Ref.3-1-3)" was not updated based on the changes. Validation team, therefore, requested to update the transformer list (Ref.3-1-3) for reflecting the changes implemented before the starting date.
⇒Summary of Response and Validation team Conclusion：

PPs submitted "Transfer record of transformers Relocated to other place (Ref.3-1-5)" and corrected the transformer list (Ref.3-1-3). Validation team confirmed that the revised transformer list is consistent with the "Acceptance Record of the Operation for the each transformer (Ref.3-3)" and transfer record (Ref.3-1-5). Validation team confirmed that the transformer list (Ref.3-1-3)" was revised appropriately. CAR1 was closed.

CL1:
Validation team requested to clarify why the expected operational life time described in the PDD as 18 years.
⇒Summary of Response and Validation team Conclusion：
The PPs explained that 18 years of the expected operational life time was decided based on legal durable years. Validation team identified that the expected operational life time is consistent with the "Legal durable years issued by Japan Tax Office (Ref.3-4-2)". Also, validation team checked that the depreciation period of transformers in Viet Nam prescribed as 7-15 years through the legal documents in Viet Nam "Guiding Regulations on Management, Use and Depreciation of Fixed Asset No.:45/2013/TT-BTC Circular, MoF of Viet Nam, April 25,2013" (Ref.3-4-1). In addition, validation team confirmed through the interviews with the four power companies that the actual operational life time of the transformers used in Viet Nam is about 20 years.
Validation team confirmed that the expected operational life time is determined through the regulation in Japan, and it is confirmed to be appropriate and reasonable to assume the expected operational life time as 18 years. CL1 was closed.

<**Conclusion based on reporting requirements**>

Please state conclusion based on reporting requirements.

Validation team assessed the project description provided in the PDD with supporting documents and on-site visit. As a result of raising CAR1 and CL1, validation team confirmed that the description of the proposed project in the PDD was accurate and complete, and provided an understanding of the proposed project.

C.3. Application of approved methodology(ies)

<**Means of validation**>

Approved methodology "Installation of energy efficient transformers in a power distribution grid, Ver. 1.0 (JCM_VN_AM005_ver01.0) (Ref.2)" was applied to the proposed project. The methodology was approved by the Joint Committee on 3rd Sep. 2015, and valid as of the time of the validation.
Validation team assessed if the project is eligible for applying selected methodology.

Validation team conducted the assessment for each criterion with the step below by following “JCM Guidelines for Validation and Verification (Ref.13)”.
- Document review was conducted using the checklist based on the “JCM Guidelines for Validation and Verification (Ref.13)”.
- Follow-up interviews and on-site assessment were conducted on 12-14 Dec.2017.
- Remaining issues including the response of CAR2 were checked with reference.

Each criterion in the PDD was checked as follows through document review and on-site assessment.

Criterion 1:

-Description specified in the methodology: “Single-phase and/or three-phase oil-immersed transformer with amorphous metal core is installed in the distribution grid.”

-Assessment for Criterion 1:

Validation team confirmed through the “Transformer list Installed of the four power companies (Ref.3-1-3)”, “Tender Specifications of Amorphous Transformers (Ref.3-1-1)”, “Acceptance Record of the Operation for the each transformer (Ref.3-3)”, on-site assessment, and interviews with four power companies that the proposed project have installed a total of 4,841 units of single-phase and/or three-phase oil-immersed transformer with amorphous metal core in the area of the four distribution grids. Validation team confirmed that the proposed project satisfied the eligibility criterion 1.

Criterion 2:

-Description specified in the methodology: “Load losses of the project transformer determined in line with IEC 60076-1 or national/industrial standards complying with IEC 60076-1 is equal or smaller than the standard values or specification values of load loss, required by the power company of the grid where the project transformer is installed, corresponding to its capacity and number of phases.”

-Assessment for Criterion 2:

Validation team confirmed through the documents “Tender Specifications of Amorphous Transformers (Ref.3-1-1)”, “Standards related transformers (Ref. 3-6-1～2)”, “Pre-delivery Inspection Reports of Transformers Installed in the four power companies (Ref. 3-1-2)”,and on-site assessment that the load loss data of the pre-delivery inspection reports are smaller than those specified by the four power companies (EVNSPC, EVNCPC, DNPC, EVNHCMC) where the transformers were installed. However, validation team identified the inconsistency between the description of PDD and tender specification (Ref.3-1-1). Hence, CAR2 was raised.

<**Findings**>

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

The following CAR2 was raised to check the project description of the PDD.

CAR2:

The PDD states that EVNSPC's standard is the most stringent in the standard of the four power companies. Validation team, however, identified through the “Tender Specifications of Amorphous Transformers (Ref.3-1-1)” that one of the categories of the specifications (Combination of No. of Phase and Installed Capacity) of EVNSPC is less stringent than those of the other three power companies' standards. Hence, validation team requested to correct the description of load loss in Criterion 2 in the PDD B.2 table regarding the EVNSPC's standard.

⇒Summary of Response and Validation team Conclusion：

PPs corrected the PDD (Ref.1-3), and validation team confirmed that the description in the PDD is consistent with the tender specifications (Ref.3-1-1). CAR2 was closed.

<**Conclusion based on reporting requirements**>

Please state conclusion based on reporting requirements.

Validation team assessed the application of approved methodology of the proposed project with the supporting documents and on-site visit. As a result of raising CAR2, PPs revised the PDD appropriately. Validation team confirmed that the proposed project was in compliance with the eligibility criterions listed in the applied methodology.

Validation team confirmed that the proposed project was eligible for applying selected methodology “Installation of energy efficient transformers in a power distribution grid, Ver. 1.0 (JCM_VN_AM005_ver01.0) (Ref.2)”, and that the applied methodology was valid at the time of submission of the proposed project for the validation.

C.4. Emission sources and calculation of emission reductions

<**Means of validation**>

Validation team confirmed that relevant GHG emission sources, GHG types and parameters to be fixed ex ante in the applied methodology were addressed in the PDD including Monitoring Plan. Also, validation team checked the calculation of emission reductions. Validation team conducted the assessment with the step below by following JCM Guidelines for Validation and Verification (Ref.13).

- Document review was conducted using the checklist based on the “JCM Guidelines for Validation and Verification (Ref.13)”.
- Follow-up interviews and on-site assessment were conducted on 12-14 Dec.2017.
- Remaining issues including the response of CAR3, CL2 and CL3 were checked with reference.

The description of the PDD including Monitoring spreadsheet was checked through document review and on-site assessment to confirm the emission sources and calculation of emission reductions.
Validation team confirmed that emission sources and types described in the PDD fully covered all relevant GHG emissions described in the methodology, and that there were no emission sources affected by the implementation of the proposed project activity but not addressed by the applied methodology.

The value of Brp is applied in line with the approved methodology (Ref.2)". Also, the value of EFgrid is applied in line with Viet Nam official latest data "Grid emission factor for Vietnam 2014- Approved in 2016 issued by Ministry of Natural Resources and Environment (Ref.9)". Validation team confirmed that parameters to be fixed ex ante are applied appropriately.

All of the Hi,p, are set as 8,760 hours per year for the energizing time. According to the assessment of C.10 Start of operation, all of the transformers were set on 13/05/2017 as the start of the operation in a conservative manner. Hence, validation team confirmed that Hi,p, are set appropriately.

Validation team confirmed whether the value of NLLRE,i,j,k, NLLPJ,i,j,k, , and UNCi, is consistent with the documents "Tender Specifications of Amorphous Transformers (Ref.3-1-1)", "Tender Specifications of the reference transformers issued by Power Company (Ref.6-1～4)" and interviews with four power companies. Through the processes taken above, CAR3, CL2 and CL3 were raised.

<**Findings**>

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

The following CAR3, CL2, and CL3 were raised to check the emission sources and calculation of emission reductions.

CAR3:

PPs explained that the no-load loss values of E VNSPC's specification are applied to all the reference transformers as the value of NLLRE,i,j,k, from the viewpoint of conservative manner. However, validation team identified through the "Tender Specifications of the reference transformers issued by Power Company (Ref.6-1～4)" that the values of EVNSPC's specification in some categories are less stringent than those of other three power companies. Hence, validation team requested to correct the no-load loss value used in the Monitoring Spreadsheet.

⇒Summary of response and validation team conclusion

PPs corrected the values of NLLRE,i,j,k which is applied by the real installed power company, regarding the specified category from the viewpoint of conservative manner. Validation team confirmed that the revised value is appropriate. Also, validation team confirmed that project emissions, reference emissions and emission reductions for the proposed project were calculated properly. CAR3 was closed.

CL2:

According to the methodology (Ref.2), the value of NLLPJ,i,j,k is applied from that of pre-delivery inspection report. However, PPs employed the value of "Tender Specifications of Amorphous Transformers (Ref.3-1-1)". Validation team requested to clarify why the value of the pre-delivery inspection was not applied to the value of NLLPJ,i,j,k.

⇒Summary of response and validation team conclusion

PPs explained that the value of NLLPJ,i,j,k is applied from the viewpoint of conservative manner, as the value of the Pre-delivery inspection report is smaller than those of tender specification. Validation team confirmed the consistency through the documents "Pre-delivery Inspection Reports of Transformers Installed in the four power companies (Ref. 3-1-2)" and "Tender Specifications of Amorphous Transformers (Ref.3-1-1)", and then confirmed it is appropriate and reasonable. CL2 was closed.

CL3:

According to the methodology (Ref.2), the value of UNCi is applied from that of pre-delivery inspection report. However, PPs employed the IEC60076-1 data. Validation team requested to clarify why the value of pre-delivery inspection was not applied.

⇒Summary of response and validation team conclusion

The PPs explained that there is no data available in the inspection reports and the maximum tolerance value 15% specified in IEC60076-1 is applied in a conservative manner. Validation team checked the "Pre-delivery Inspection Reports of Transformers Installed in the four Power Companies (Ref. 3-1-2)" and "Standards related transformers (Ref. 3-6-1～2)". Validation team confirmed that the value of UNCi is not indicated in the inspection reports and the maximum tolerance value is 15% in the standards. Validation team confirmed the value employed as the UNCi appropriate and reasonable. CL3 was closed.

<**Conclusion based on reporting requirements**>

Please state conclusion based on reporting requirements.

Validation team assessed the project description in the PDD and Monitoring Plan Sheet through the supporting documents and on-site visit. As a result of raising CAR3, CL2 and CL3, validation team confirmed that:

-All relevant GHG emission sources covered in the approved methodology were addressed for the purpose of calculating project emissions and reference emissions for the proposed project;
-The values for project specific parameters to be fixed ex ante listed in the Monitoring Plan Sheet were appropriate;
- The Monitoring Spreadsheet was not altered and its required fields were appropriately filled in;
-The emission sources and GHG types were confirmed through the on-site assessment and document review;
- Significant emission sources which were not addressed by the applied approved methodology and would be affected by implementation of the proposed project were not identified;
-The approved methodology was applied correctly to calculate project emissions and reference emissions.

C.5. Environmental impact assessment

<**Means of validation**>
PDD stated that an Environmental Impact Assessment (EIA) was not required by Viet Nam laws and regulations. Validation team checked the requirements for EIA, which is "Regulation regarding the EIA (Ref. 4-1～2)". Also, validation team had the interview with power companies to confirm the requirements of EIA. The applicability of the requirements of EIA described in the "Regulation regarding the EIA (Ref. 4-1～2)" was confirmed by the interview. Validation team confirmed that EIA was not required for the proposed project through the interview with power companies and the "Regulation regarding the EIA (Ref. 4-1～2)".

<**Findings**>
Please state if CARs, CLs, or FARs are raised, and how they are resolved.
No CAR, CL, or FAR were raised for this section.

<**Conclusion based on reporting requirements**>
Please state conclusion based on reporting requirements.
Validation team confirmed that the proposed JCM project is not required to conduct EIA by PPs against the legal requirement of Republic of Viet Nam.

C.6. Local stakeholder consultation

<**Means of validation**>
PPs conducted a stakeholder consultation meeting of this project activity to solicit comments from local stakeholders on 2nd Aug 2017 and 3rd Aug 2017. The place of

project activity is within the existing power grid. PPs identified the relevant stakeholders who are employees of four power companies and subsidiaries as local stakeholders for the project activity.

The stakeholder consultation meeting was informed to local stakeholders by sending invitation letter via e-mail to invite to the meeting. Validation team checked "Local stakeholder consultation Meeting summary (Ref.5-1～2)", "Invitation letter (Ref.5-3～4)", "Presentation material (Ref.5-5～6)", "List of the Participants (Ref.5-7)". Comments at the local stakeholder consultation meeting were all supportive and no negative comment received.

Also, on-site assessment was conducted on 12-14 Dec 2017. As one of the on-site assessment processes, validation team interviewed with the power companies. Validation team confirmed the comment was supportive.

<**Findings**>

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

No CAR, CL, or FAR were raised for this section.

<**Conclusion based on reporting requirements**>

Please state conclusion based on reporting requirements.

Validation team confirmed that the PPs invited comments to the proposed project from the relevant local stakeholders, and the summary of the comments received was described in the PDD appropriately. Also, validation team confirmed that PPs are not required to do the further action.

C.7. Monitoring

<**Means of validation**>

The description of the PDD including monitoring plan was checked as follows during the document review and on-site assessment to confirm the Monitoring. Monitoring plan consists of the Monitoring Plan Sheet and Monitoring Structure Sheet.

The description of Monitoring Plan Sheet was checked with the approved methodology. Monitoring points for measurement were checked by on-site inspection and "Transformer list Installed of the four power companies (Ref.3-1-3)", "Acceptance Record of the Operation for the each transformer (Ref.3-3)", " Transfer record of transformers Relocated to other place (Ref.3-1-5)". Validation team confirmed that the actual monitoring point was appropriate and consistent with the description in the PDD.

In the "PDD ver.1 (Ref.1-1)", the description of monitoring structure was not fulfilled. Therefore, CAR4 was raised.

Validation team checked the role and responsibility for monitoring were assigned to

the personnel in accordance with the revised monitoring structure sheet. Validation team identified that YUKO-KEISO Co.,Ltd is responsible for the role of JCM Project Manager, and that each power company is in charge of both JCM Monitoring Manager and JCM Facilities Manager. Through the processes taken above, CL4 was raised.

<**Findings**>

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

The following CAR4 and CL4 were raised to check the Monitoring Plan.

CAR4:

Validation team requested to describe the monitoring structure for the proposed project activity in the Monitoring Structure Sheet.

⇒Summary of Response and Validation team Conclusion：

PPs describe the role and responsibility in the Monitoring Structure Sheet “PDD ver.2 (Ref.1-2)”. Validation team confirmed through the interview with PPs and power companies that the monitoring structure for the proposed project activity was established and described appropriately in the Monitoring Structure Sheet. CAR4 was closed.

CL4:

Validation team requested the PPs to clarify how to communicate between the PPs and power companies in case the relocation or malfunction of the transformers during the monitoring period.

⇒Summary of Response and Validation team Conclusion：

PPs submitted the “Monitoring Form (Ref.10)” and “Transfer record of transformers Relocated to other place (Ref.3-1-5)”. Validation team confirmed through the documents and interviews with PPs and power companies that the communication tool is established and the data transfer is sufficient. CL4 was closed.

<**Conclusion based on reporting requirements**>

Please state conclusion based on reporting requirements.

Validation team assessed the project description provided in the PDD with supporting documents and on-site visit. As a result of raising CAR4 and CL4, validation team confirmed that the Monitoring Plan was described in compliance with the approved methodology and “JCM Guidelines for developing PDD and MR (Ref.14)”. Also, PPs have demonstrated the ability to implement the described monitoring plan including feasibility of monitoring structure.

C.8. Modalities of Communication

<**Means of validation**>

Modalities of communications (MoC) was developed using the form of "JCM_VN_F_MoC_ver02.0". Validation team confirmed that the latest form was used for MoC.

MoC was submitted by YUKOKEISO. Validation team ensured that the "MoC (Ref.8-1)" was received from YUKOKEISO with whom JMA has a contractual relationship. Validation team assessed the corporate identity of all project participants and a focal point, as well as the personal identities including specimen signatures and employment status of the authorised signatories through reviewing the "Written Confirmation (Ref.8-2)" and interviews with all PPs. Validation team confirmed that "Written confirmation (Ref.8-2)" was issued by Mr. Toshihide Sugawara who is primary authorised by YUKOKEISO in the "MoC (Ref.8-1)". "Written confirmation (Ref.8-2)" indicates that all corporate and personal details of MoC of the proposed project, including specimen signatures, are valid and accurate.

<**Findings**>

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

No CAR, CL, or FAR were raised for this section.

<**Conclusion based on reporting requirements**>

Please state conclusion based on reporting requirements.

Validation team confirmed that the "MoC (Ref.8-1)" was completed using the latest form. Also, validation team confirmed that all corporate and personal details including specimen signatures were valid and accurate as requested in the "JCM Guidelines for Validation and Verification (Ref.13)".

Validation team confirmed the "MoC (Ref.8-1)" had been completed correctly in compliance with the requirements of the "JCM Guidelines (Ref.13, 15)".

C.9. Avoidance of double registration

<**Means of validation**>

"Written confirmation (Ref.8-2)" indicates that the proposed project is not registered under other international climate mitigation mechanisms. Also, "Written confirmation (Ref.8-2)" was issued by Mr.Toshihide Sugawara who is primary authorised by YUKOKEISO in the "MoC (Ref.8-1)". In addition, the following websites of CDM and VCS were checked whether the projects with similar technology and location had been registered.

1) Website of UNFCCC (Project Search for CDM Projects)

2) Website of IGES (IGES CDM Project Database)

3) Website of Verified Carbon Standard

Validation team confirmed that there was no registered project with similar technology

and location. Also, validation team raised CL5 for checking double counting of project transformers installed under a precedent JCM project in South Viet Nam.

<**Findings**>

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

CL5:

Validation team requested to provide the transformer installation lists of the precedent project (Ref. VN004) for checking the double counting.

⇒Summary of Response and Validation team Conclusion：

PPs submitted the "Yearly Property Management Report: EVN SPC - JCM (VN004) (Transformer installation list in EVN SPC under the precedent project VN004) (Ref.7)". Validation team confirmed through the provided list of project VN004 that there is no double counting of project transformers. CL5 was closed.

<**Conclusion based on reporting requirements**>

Please state conclusion based on reporting requirements.

Validation team assessed the double registration through the web site and supporting documents. As a result of CL5, validation team confirmed that the proposed JCM project was not registered under other international climate mitigation mechanisms, and that there is no double counting of project transformers installed under the precedent project (Ref. 7).

C.10. Start of operation

<**Means of validation**>

"Start of operation date" described in the PDD was checked through the "Transformer list Installed of the four power companies (Ref.3-1-3)", "Acceptance Record of the Operation for the each transformer (Ref.3-3)", "Initial Plan and Actual Process Chart for the power companies (Ref.3-2)", and interviews with power companies. Through the processes taken above, CAR5 and CL6 were raised.

<**Findings**>

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

CAR5:

There were some transformers installed after the start of operation date, according to the transformer list (Ref.3-1-3). However, validation team identified that all transformers had been installed before the start of operation date, through the acceptance record (Ref.3-3) and the result of the interviews with four power companies. Validation team requested the PPs to correct the transformer list (Ref.3-1-3).

⇒Summary of Response and Validation team Conclusion：

The PPs correct the lists and it is consistent with the supporting documents and

interviews. Validation team confirmed that the lists were corrected appropriately. CAR5 was closed.

CL6:

Validation team requested to clarify how 1st of May 2017 was defined as the starting date of project operation.

⇒Summary of Response and Validation team Conclusion：

PPs explained that the starting date was defined, based on the day when the latest transformer installed and energizing, from the viewpoint of conservative manner. Through the PPs' reviewing the acceptance record (Ref.3-3), PPs revised the starting date from 1st of May 2017 to 13th of May 2017. Validation team confirmed it is consistent with supporting documents. CL6 was closed.

<**Conclusion based on reporting requirements**>

Please state conclusion based on reporting requirements.

Validation team assessed the project description provided in the PDD with supporting documents and on-site assessment. As a result of raising CAR5 and CL6, validation team confirmed that the "Start of operation date" of the proposed project was on 13th of May 2017 as described in the PDD. "Start of operation date" is not before 1st January 2013. Hence, validation team confirmed that the proposed project satisfied the requirement of the "JCM Guidelines (Ref.13, 14, 15)".

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.

Not applicable

<**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

In line with the JCM Project Cycle Procedure (JCM_VN_PCP_ver04.0) (Ref.15), the PDD is to be made publicly available for 30 days to invite public comments. The PDD was made publicly available for the period of 08 Dec. 2017 to 06 Jan. 2018 on the following URL. https://www.jcm.go.jp/vn-jp/projects/35

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

No comment was received during the period to receive public inputs.
Hence, no action was required to be taken by the PPs to satisfy the requirement of JCM Project Cycle Procedure (Ref.15).

E. List of interviewees and documents received

E.1. List of interviewees

EVN Central Power Corporation (EVNCPC)
LE THANH CHAU
PHAN THi THANH MAi
PHAM THU HANG
HO KHAC HUU
LUOWG VAN QUANG

Da Nang Power Company Ltd.(DNPC)
LE VAN PHLI
TRUONG QUOU ANH
NGUYEN Thi NY VAN

EVN Central Power Corporation(EVNCPC)
LE DAC TUNG
Nguyen Dac Thang
Nguyen tlugnh An Phu
Truong Xuan Quy
Tran The Du
Thai Phong Linh

Ho Chi Minh City Power Corporation(EVNHCMC)
Cao Hoang Trong
Tran Van Dinh
Ngugen Huu Thank Thi

PC BARIA-WNG TALI (Subsidiary of EVNCPC) Nao Van Dung Le Vu Hung Cao Van Hoang Pham Ngoc Quan Ng Ugen Huu Hao Dao Van Do Dinh Hanh Dang Hoai Nam YUKO-KEISO Co.,Ltd.: Toshihide Sugawara Shiro Tokura Hiromi Kuroyanagi Saori Iwasaki

E.2. List of documents received

1 Project Design Document for JCM project
1-1 1st Edition (tentative), received on 19/10/2017
1-2 2nd Edition with Monitoring Spreadsheet, received on 4/12/2017
1-3 3rd Edition with Monitoring Spreadsheet, received on 9/2/2018
1-4 4th Edition with Monitoring Spreadsheet, received on 2/3/2018
2 Approved Methodology "Installation of energy efficient transformer in a power distribution grid, Ver. 1.0"
3 Reference relating to PDD chapter A,B,C
3-1-1 Tender Specifications of Amorphous Transformers (No-load losses/load losses of the project transformers)
3-1-1-A Specifications for DNPC
3-1-1-B Specifications for EVN CPC
3-1-1-C Specifications for EVN SPC
3-1-1-D Specifications for EVN HCMC
3-1-2 Pre-delivery Inspection Reports of Transformers Installed in the four Power Companies
3-1-2-A Reports of DNPC
3-1-2-B Reports of EVN CPC

3-1-2-C Reports of EVN SPC
3-1-2-D Reports of EVN HCMC
3-1-3 Transformer list Installed of the four power companies
3-1-4 Maps of Transformer Installation Locations
3-1-4-A Maps of EVN CPC
3-1-4-B Maps of DNPC
3-1-4-C Maps of EVN SPC
3-1-4-D Maps of EVN HCMC
3-1-5 Transfer record of transformers Relocated to other place
3-1-5A Reports of DNPC
3-1-5B Reports of EVN CPC
3-1-5C Reports of EVN SPC
3-1-5D Reports of EVN HCMC
3-1-6 Brochure of the amorphous transformer issued by THIIDI
3-2 Initial Plan and Actual Process Chart for the 4 Power Companies
3-3 Acceptance Record of the Operation for the each transformer
3-3-1 Record of DNPC
3-3-2 Record of EVN CPC
3-3-3 Record of EVN SPC
3-3-4 Record of EVN HCMC
3-4 Reference of "Expected operational lifetime of project
3-4-1 "Guiding Regulations on Management , Use and Depreciation of Fixed Asset" No.:45/2013/TT-BTC Circular, MoF of Viet Nam, April 25,2013
3-4-2 Legal durable years issued by Japan Tax Office
3-5 Grant decisions for JCM project
3-6 Standards related transformers
3-6-1 International Standard IEC 60076-1
3-6-2 Viet Nam Standard TCVN6306-1:2015
3-7 Construction and monitoring instructions
4 Regulation regarding the EIA
4-1 Low on Environmental Protection", No.55/2014/QH13. The National Assembly, June 23, 2014
4-2 Decree 18: "ON ENVIRONMENTAL PROTECTION PLANNING, STRATEGIC ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL IMPACTASSESSMENT AND ENVIRONMENTAL PROTECTION PLANS", The Government, February 14, 2015
5 Local Stakeholder Consultation
5-1 1) Local stakeholder consultation meeting summary EVN CPC/DNPC

(02/08/2017)
5-2 2) Local stakeholder consultation meeting summary EVN SPC/HCPC (03/08/2017)
5-3 3) Invitation letter to EVN CPC (12/07/2017)
5-4 4) Invitation letter to EVN SPC (12/07/2017)
5-5 5) Presentation material "JCM in Viet Nam" by MUMSS, August 2017
5-6 6) Presentation material "JCM Schedule and MRV" by MUMSS, August 2017
5-7 7) List of the Participants for LSC Meetings held on 2/8/2017 & 3/8/2017)
6 Tender Specifications of the reference transformers issued by Power Company
6-1 Specifications for DNPC
6-2 Specifications for EVN CPC
6-3 Specifications for EVN SPC
6-4 Specifications for EVNHCMC
7 Yearly Property Management Report: EVN SPC - JCM (VN004) (Transformer installation list in EVN SPC under the precedent project VN004)
8 Modalities of Communications (MoC)
8-1 MoC received on 05/12/2017
8-2 Written Confirmation
9 Grid emission factor for Vietnam 2014- Approved in 2016 issued by Ministry of Natural Resources and Environment
10 Monitoring Form
11 Organization Chart of four Power Companies
11-1 Organization Chart of DNPC
11-2 EVNCPC Annual Report 2016 (including the company organization chart)
11-3 EVNSPC Brochure1 (including the company organization chart)
11-4 Organization Chart of EVNHCMC
12 Power Company Information
12-1 LIST OF PROVINCIAL GRID COMPANIES UNDER SOUTHERN POWER CORPORATION
12-2 Subsidiaries of EVNHCMC
12-3 Information of EVNCPC Subsidiaries
12-4 Information of Grid Branches - DNPC
12-5 EVNCPC Annual Report 2016 (including the company organization chart)
12-6 EVN Annual Report 2015 (including the company organization chart)
12-7 EVN Annual Report_2012-2013
12-8 EVNSPC Brochure1 (including the company organization chart)
12-9 EVNSPC Brochure2

13 JCM Guidelines for Validation and Verification (JCM_VN_GL_VV_ver01.0) 14 Joint Crediting Mechanism Guidelines for Developing Project Design Document and Monitoring Report (JCM_VN_GL_PDD_MR_ver02.0) 15 Joint Crediting Mechanism Project Cycle Procedure (JCM_VN_PCP_ver04.0)

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.

Certificate of Competence
for Validation/Verification team

GHG Certification Center
Japan Management Association

Scheme:

The Joint Crediting Mechanism (JCM)

Project Title:

Introduction of Amorphous High Efficiency Transformers in Southern and Central Power Grids

Validation or Verification:

Validation

Name	Qualification*1	Leader/Member/ Technical expert/ Technical Reviewer(TR)	Qualification of Technical area 2	JCM scheme competence
Mr. Motoyuki Matsumoto	Lead Validator/ Verifier	Leader	☑	☑
Mr. Toshiaki Takeda	Lead Validator/ Verifier	Member	☑	☑
Competence of Validation Team	-	-	☑	☑

*1Qualification in accordance with "JMACC's Procedures for Contract and Evaluation of Validators/Verifiers and Technical Experts (GA-110)"

*2Competence Requirement in accordance with Competence for Technical area sheet (GA-110-09)

Date 18. Oct. 2018

[redacted]

Kenji Suzuki
Director of Validation & Verification Dept.
GHG Certification Center
Japan Management Association

Certificate of Competence for Technical Review team

GHG Certification Center
Japan Management Association

Scheme:
The Joint Crediting Mechanism (JCM)

Project Title:

Introduction of Amorphous High Efficiency Transformers in Southern and Central Power Grids

Validation or Verification:
Validation

Name	Qualification *1	Leader/Member/ Technical expert/ Technical Reviewer(TR)	Qualification of Technical area *2	JCM scheme competence
Mr. Kenji Suzuki	Lead Validator/ Verifier	Technical Reviewer	☑	☑
Competence of Technical Review Team	-	-	☑	☑

*1 Qualification in accordance with "JMACC's Procedures for Contract and Evaluation of Validators/Verifiers and Technical Experts (GA-110)"

*2 Competence Requirement in accordance with Competence for Technical area sheet (GA-110-09)

Date 23. Feb. 2018

[redacted]

Kenji Suzuki
Director of Validation & Verification Dept.
GHG Certification Center
Japan Management Association