JCM Validation Report Form

A. Summary of validation

A.1. General Information

Title of the project	Introduction of high-efficient wire stranding machines to the factory of YAZAKI EDS VIETNAM Co., LTD.
Reference number	VN014
Third-party entity (TPE)	TPE-VN-002 Japan Quality Assurance Organization (JQA)
Project participant contracting the TPE	YAZAKI Parts Co., LTD.
Date of completion of this report	22/03/2019

A.2 Conclusion of validation

Overall validation opinion	☒ Positive ☐ Negative

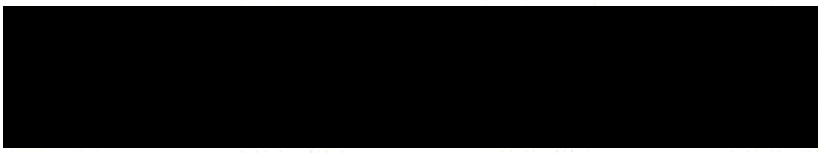
A.3. Overview of final validation conclusion

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:	Date: 22/03/2019



B. Validation team and other experts

	Name	Company	Function*	Scheme competence*	Technical competence*	On-site visit
Mr. ☐ Ms. ☒	Sachiko Hashizume	JQA	Team leader	☒	Authorized	☒
Mr. ☐ Ms. ☒	Aya Watarai	JQA	Team member	☐	-	☒
Mr. ☐ Ms. ☒	Tamami Nagayama	JQA	Team member	☐	-	☐
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>

By reviewing the PDD, it is confirmed that the PDD is 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 (herein after the team) concludes that the PDD is 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 “Introduction of high-efficient wire stranding machines to the factory of YAZAKI EDS VIETNAM Co., LTD.” (herein after the proposed JCM project).

High-efficient wire stranding machines with energy-saving measures such as reinforced frames, friction reduction mechanism and application of smaller, lightweight parts and high-efficient motor are introduced to automotive wire production factory of YAZAKI EDS VIETNAM Co., LTD. located near Ho Chi Minh (HCM) City. Introduction of such high-efficient wire stranding machines leads to reduction of electricity consumption hence reduction of GHG emissions.

In the proposed JCM project, 32 wire stranding machines were installed in total. Wire stranding machines introduced in the proposed JCM project are manufactured by KINREI MACHINERY CO., LTD. The model number of the project wire stranding machines installed is “DT 562.”

The project participant (herein after PP) of the host country is YAZAKI EDS VIETNAM Co., LTD. (herein after YEV), and the PPs of Japan are YAZAKI Parts Co., LTD (herein after YP) and YAZAKI corporation (herein after YAZAKI).

The proposed JCM project is expected to achieve the amount of 98 tCO_{2e} emission reduction in 2018, and 591 tCO_{2e} emission reductions in 2019 and 2020, respectively. The estimated emission reductions of the period between 2018 and 2020 are 1,280 tCO_{2e} as calculated in the PDD.

The starting date of project operation is 01/11/2018 and the expected operational lifetime of the proposed JCM project is 7 years. The equipment installed is classified as “other equipment” of “Iron metal manufacturing industry” on a document, “Statutory lifetime (i.e. legal durable years)” indicated by the website of National Tax Agency (NTA) as the evidence for the "Expected operational lifetime of project". Thus, the PPs determines the expected operational lifetime based on the statutory lifetime by NTA.

The proposed JCM project was partially supported by the Ministry of the Environment, Japan (MOEJ) through the Financing Programme for JCM Model projects, which provided financial support of less than half of the initial investment for the projects in order to acquire JCM credits. The Japanese PPs transfer the technology by the installation of new equipment and the training on operation of that installed equipment through this project.

The team conducted document review, interviews and an on-site visit to confirm the accuracy and completeness of the project description. The documents reviewed during the validation are listed in Section E.2. of this report. The on-site visit including the interviews with the PPs was undertaken on 15/01/2019. The interviewees are listed in Section E.1.

<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 team concludes that the proposed JCM project description in the PDD is accurate and complete.

C.3. Application of approved methodology(ies)

<Means of validation>

The proposed JCM project applies the approved methodology JCM_VN_AM014 "Introduction of energy efficient wire stranding machines to automotive wire production factory" version.01.0. This methodology was approved by JC on 29 August 2018. It is confirmed that the applied version, 01.0, of the methodology is valid at the time of 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: Wire stranding machine(s) with energy-saving measures such as reinforced frames, friction reduction mechanism, energy efficient bow, and lightweight parts is newly installed or installed to replace existing wire stranding machine(s).

Through reviewing a document, “Operation manual of DT 562”, it was confirmed that 32 wire stranding machines with a model number “DT562” manufactured by KINREI MACHINERY CO., LTD. were introduced under the proposed JCM project. “DT 562” is equipped with energy-saving measures such as reinforced frames, friction reduction mechanism, energy efficient bow, and lightweight parts. During the on-site visit, the following points were confirmed;

- 32 wire stranding machines were newly installed under the proposed JCM project,
- Model number of all the wire stranding machines installed was “DT562”

Based on the confirmation mentioned above, the team confirms that Criterion 1 of the approved methodology JCM_VN_AM014 is satisfied.

Criterion 2: Flange diameter of bobbin of a wire stranding machine installed in the

project is 560mm.

Through the document review and the on-site visit, the team confirms that flange diameter of bobbin of each wire stranding machine installed in the project is 560mm.

Criterion 3: Total motor capacity of a project wire stranding machine installed in the project is equal to or less than 11.0 [kW].

Through the document review and the on-site visit, the team confirms that total motor capacity of each wire stranding machine installed the project is 11.0 kW.

<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 team confirms that the project meets each eligibility criterion of JCM_VN_AM014_ver01.0, which is the latest version of the methodology at the time of the validation.

C.4. Emission sources and calculation of emission reductions

<Means of validation>

The sources of reference emissions is electricity consumption by reference wire stranding machines. The sources of project emissions is electricity consumption by project wire stranding machines.

Through document review, it is confirmed that all the emission sources covered by the applied methodology are included.

The Monitoring Plan Sheet (MPS) has been prepared by using JCM_VN_AM014_ver01.0.xlsx. The team confirms that it is not altered, and its required fields are appropriately filled in.

As for two project specific parameters to be fixed ex ante - EF_{elec} (CO_2 emission factor per consumed electricity [tCO_2/kWh]) and ECR (Electricity consumption ratio per production unit), the team assessed the estimated value for each of them by using supporting documents including specifications for project wire stranding machine provided by the PPs. Regarding EF_{elec}, it is confirmed that the PPs apply the CO_2 emission factor of grid electricity for 2016 (0.9185 tCO_2/MWh) issued by Ministry of

Natural Resources and Environment of Vietnam (MONRE) . Regarding ECR, the PPs apply the default value, 1.51, to the proposed JCM project. The team determines that these estimated value for two parameters are fixed in line with the applied methodology.

As for the parameters to be monitored ex-post, the PPs provide an estimated value of $EC_{PJ,i,p}$ (Electricity consumption of project wire stranding machine *i* during the period *p*) to complete the ex-ante estimation of CO_2 emission reductions achieved by the proposed JCM project in Table 3 of MPS (Input sheet). Regarding the assumption and the value of $EC_{PJ,i,p}$, an issue was raised and resolved as mentioned section below.

<Findings>

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

(Issue raised as CL01)

It is confirmed through the review of MPS that the estimated value of $EC_{P,J,i,p}$ (Electricity consumption of project wire stranding machine i during the period p [MWh/p]) is 28.035 MWh/*p*. The PPs are requested to clarify the sources and assumptions of the estimated value (28.035 MWh/*p*).

(Summary of the response on CL01)

No evidence for 28.035 MWh/p was provided by the PPs. The value of $EC_{P,J,i,p}$ was re-calculated based on the actual monitoring conducted by the PPs during November and December 2018. As a result, the electricity consumption is revised to 39.454 MWh/*p* per one project wire stranding machine.

(Assessment result of the responses on CL01)

It is confirmed that the estimated value for $EC_{P,J,i,p}$ is appropriately revised to 39.454 MWh/p, which is based on the actual monitored value of the project wire stranding machine. This issue is closed.

<Conclusion based on reporting requirements>

Please state conclusion based on reporting requirements.

The team reaches the conclusion that the selected emission sources and GHG types are justified for the proposed JCM project. The team assesses the estimated values for project-specific parameters both to be fixed ex-ante and ex-post in the MPS are considered reasonable in the context of the proposed JCM project. The issue raised by the team is fully clarified, which resulted in a revision of the PDD and the MPS.

C.5. Environmental impact assessment

<Means of validation>

The PDD states that no environmental impact assessment (EIA) is required for the project. The PPs referred the following document to confirm the EIA procedures and requirements in the host country;

- Appendix II, Decree No.29/2011/ND-CP of April 18, 2011, providing strategic environmental assessment, environmental impact assessment and environmental protection commitment

Through review of the document above, an issue was raised and resolved as mentioned below.

<Findings>

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

(Issue raised as CL02)

Regarding of “Decree No.29/2011/ND-CP of April 18, 2011, providing strategic environmental assessment, environmental impact assessment and environmental protection commitment," it is not clear if this is the current requirement of EIA in Vietnam. Thus it is not confirmed if no EIA is required for the proposed JCM project.

(Summary of the response on CL02)

Current EIA law in Vietnam is not “Decree No.29/2011/ND-CP of April 18, 2011” but “Decree No.18/2015/ND-CP, ON ENVIRONMENTAL PROTECTION PLANNING, STRATEGIC ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL IMPACT ASSESSMENT AND ENVIRONMENTAL PROTECTION PLANS of February 14, 2015.” The PPs confirm that no EIA is required to this project in Decree No.18.

(Assessment result of the responses on CL02)

It is confirmed that no environmental impact assessment is required for the proposed JCM project in accordance with the current EIA law in the host country.

Therefore, this issue is closed.

<Conclusion based on reporting requirements>

Please state conclusion based on reporting requirements.

The team reaches the conclusion that no EIA is required to the proposed JCM project in accordance with the regulation in Vietnam.

C.6. Local stakeholder consultation

<Means of validation>

A local stakeholder consultation (LSC) meeting has been conducted to invite comments from the stakeholders as below.

Date: 6th December 2017
Venue: YAZAKI EDS VIETNAM Co., LTD.
Lot C3-2, Block C3, Tan Phu Trung I.P, Tan Phu Trung Commune,
Cu Chi District, HCM City, Viet Nam
Time: 13:00-14:30

Agenda
1. Opening remarks
2. Introduction about YAZAKI EDS VIETNAM Co., LTD.
3. Introduction about JCM project
4. Introduction Technology and Facility
5. Q&A and collection of comments
6. Closing

[Local stakeholders]

No.	Organization	Position
1	YAZAKI EDS VIETNAM Co., LTD	Chief of Engineering Department
2	YAZAKI EDS VIETNAM Co., LTD	Management department Regular employee
3	YAZAKI EDS VIETNAM Co., LTD	Production department Manager
4	YAZAKI EDS VIETNAM Co., LTD	Staff

[The PPs]
The PPs: [Viet Nam] YAZAKI EDS VIETNAM Co., LTD.
[Japan] YAZAKI Parts Co., LTD.
[Japan] YAZAKI corporation

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 PPs at the on-site visit that the above-mentioned process and due steps taken for the local stakeholder consultation were 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 team concludes that the LSC of the proposed JCM project has completed appropriately under the EIA.

C.7. Monitoring

<Means of validation>

Through the review of the MPS and Monitoring Structure Sheet (MSS), it is confirmed that they are described in line with the applied methodology VN_AM014 ver 01.0.

The team confirms through the on-site visit that the electricity meter was set up for each wire stranding machine. By the interview with the PPs at the on-site visit, it is confirmed that the PPs monitor and record the electricity consumption data of the project wire stranding machines by using a WEB system called “POP System” developed by the PPs. The data monitored by the electricity meter is to be stored when the electricity data reaches more 0.1 kW automatically. The electricity data is stored into a data server on a daily basis. This server delivers the data of actual operation to POP System. It can be accessed via internet by the both PPs of Japan and Vietnam. The data of electricity consumption is to be collected and stored by POP System on a daily basis.

With respect to the monitoring structure, through the document review and interviews with JCM technical staff and JCM managers of the relevant departments of YEV, it was confirmed that the monitoring plan is feasible and the means of implementation of the monitoring plan, including the data management and quality assurance and quality control procedures, are sufficient for ex-post reporting and verification.

By the interview with the PPs at the on-site visit, it was found that the interval of calibration or replacement of the electricity measuring equipment is determined to be 7 years according to the recommendation by the manufacture. The project wire stranding machines have already operated for 2 years in the proposed JCM project, and the PPs plan to replace the electricity measuring equipment within 5 years. Regarding this interval, an issue was raised and resolved as mentioned section below.

<Findings>

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

(Issue raised as CAR01)

The interval of replacement or calibration of electricity meter is not stated in the MPS. Through the interview with the PPs at the on-site visit, the interval is to be 7 years according to the manufacturer's recommendation. The PPs are requested to provide any document showing the manufacturer's recommendation.

(Summary of the response on CAR01)

The PPs provided a letter in which the manufacture states that the expected lifetime of the electricity meter is 10 years under the condition of 35 degrees or less and 24 hours power supply. Accordingly, the PPs added the 10-year interval of replacement or calibration of electricity meter to the MPS.

(Assessment result of the responses on CAR01)

The team confirms that the document from manufacturer states the expected product lifetime is 10 years in case the temperature of the operational circumstance is 35 degrees or less and the power is supplied 24 hours per day. Considering actual operational circumstance of the project, the PPs set the interval of replacement or calibration of electricity meter as 7 years, which is less than 10 years. The team confirms that the interval is set in line with the manufacturer's recommendation.

Therefore, this issue is closed.

<Conclusion based on reporting requirements>

Please state conclusion based on reporting requirements.

The team confirms that the monitoring plan of the proposed JCM project is in line with the requirements of the methodology and/or PDD and Monitoring Guidelines. It is also confirmed that the PPs have ability to implement the described monitoring plan and the monitoring structure is feasible.

C.8. Modalities of Communication

<Means of validation>

It is confirmed that the Modalities of Communication (MoC) has applied the latest version of MoC form. The date of submission indicated in the MoC is 04/02/2019, and it is 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, the team confirms that the information of all the PPs is correctly completed in the MoC.

<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 team confirms that the MoC complies with all relevant forms and requirements.

C.9. Avoidance of double registration

<Means of validation>

It is confirmed through the 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. The written confirmation of the avoidance of double registration was also provided through the signed MoC. The team cross-checked through the interview with the PPs at the on-site visit.

<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 team confirms that the proposed JCM project is not registered under the other international climate mitigation mechanisms at the stage of validation.

C.10. Start of operation

<Means of validation>

In the PDD submitted for the invitation of public inputs as described in Section D, the start date of operation is indicated as 01/11/2018. Through document review, it was confirmed that 01/11/2018 is the day, on which 32 wire stranding machines were operated and the monitoring of the electric consumption was started. Through the interview with the PPs during the on-site visit, the team cross-checked the starting date of operation and confirmed that 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 team confirms that the start of the operation is determined 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 05/02/2019. The specific JCM website is as below:

https://www.jcm.go.jp/vn-jp/projects/60

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 05/02/2019 to 06/03/2019. Therefore, no action is required to be taken into due account by the PPs.

E. List of interviewees and documents received

E.1. List of interviewees

Name	Position	Organization
Mr. Naoki YANAGAWA	Factory Manager	Yazaki ESD Vietnam Co., Ltd
Mr. Takao NAKAGAME	Engineering Department Manager	Yazaki ESD Vietnam Co., Ltd
Mr. Masaru YAMAMOTO	Production Department Manager	Yazaki ESD Vietnam Co., Ltd
Mr. Hiroyuki WATANABE	Manager, A/W NYS Promotion Office	Yazaki Parts Co., Ltd
Mr. Fumiya SATO	Associate	Mitsubishi UFJ Research and Consulting Co., Ltd

E.2. List of documents received

No.	Document Title (including version No. and/or issue date)
1	Project Design Document (draft) (JCM_VN_F_PDD_ver02.0.docx)
2	Monitoring Plan Sheet and Monitoring Structure Sheet (draft) (JCM_VN_AM014_ver01.0.xlsx)
3	Modalities of communications statement submitted together with the PDD for public comments (JCM_VN_F_MoC_ver02.0.pdf)
4	Modalities of communications statement, a validated version for submission of request for registration
5	JCM Approved Methodology JCM_VN_AM014 " Introduction of energy efficient wire stranding machines to automotive wire production factory, ver. 01.0"
6	JCM_VN_AM014　Monitoring Plan Sheet
7	JCM Glossary of Terms (JCM_VN_Glossary_ver01.0)
8	JCM Project Cycle Procedure (JCM_VN_PCP_ver03.0)
9	JCM Modalities of Communication Statement Form (JCM_VN_F_MoC_ver02.0.pdf)
10	JCM Guidelines for Developing Project Design Document and Monitoring Report (JCM_VN_GL_PDD_MR_ver02.0)
11	JCM Project Design Document Form (JCM_VN_F_PDD_ver02.0.pdf)
12	JCM Guidelines for Validation and Verification

	(JCM_VN_GL_VV_ver01.0.pdf)
13	JCM Validation Report Form (JCM_VN_F_Val_Rep_ver01.0.docx)
14	Location information of the proposed JCM project
15	Company profile of YAZAKI EDS VIETNAM Co., LTD.
16	Company profile of YAZAKI Parts Co., LTD.
17	Company profile of YAZAKI corporation
18	1.Evidence of starting date of project operation 2.Report of wire stranding machine installation
19	Statutory lifetime (i.e. legal durable years) indicated by the website of National Tax Agency (NTA) as the evidence for the Expected operational lifetime of project, https://www.keisan.nta.go.jp/survey/publish/34255/faq/34311/faq_34360.php
20	Operation Manual of DT562
21	Blueprint of Flange diameter of bobbin of a wire stranding machine (560mm)
22	Specification of DT562
23	Layout of 32 project wire stranding machines
24	Degree No.29/2011/ND-CP of April 18, 2011, providing strategic environmental assessment, environmental impact assessment and environmental protection commitment
25	1.Invitation letter for Local Stakeholder Meeting 2.participant list 3.Agenda of Local Stakeholder Meeting 4.Minutes of Local Stakeholder Meeting
26	1.Presentation material for Local Stakeholder Meeting - the proposed JCM project 2.Presentation material for Local Stakeholder Meeting - JCM project scheme
27	1.Source of electricity consumption of project wire stranding machine [MWh/*p*] - Expectation electricity consumption (April 2019 - March 2020) 2.Evidence of electricity consumption of project wire stranding machine - Operation hour
28	User manual of smart electric energy monitor
29	Evidence document of CO_2 emission factor (0.9185 tCO_2/MWh) issued by Ministry of Natural Resources and Environment of Vietnam (MONRE) in 2016
30	Actual data sheet of electric power consumption of project wire stranding machine (Nov. and Dec. 2018)

31	Degree No.18/2015/ND-CP of February 14, 2015, prescribing environmental protection master plan, strategic environmental assessment, environmental impact assessment and environmental protection plan
32	Evidence for lifetime of smart electric energy monitor and calibration issued by OMRON Corporation
33	Project Design Document (revised) (JCM_VN_F_PDD_ver02.0.docx)
34	Monitoring Plan Sheet and Monitoring Structure Sheet (revised) (JCM_VN_AM014_ver01.0.xlsx)

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

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

Statement of competence

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	2018/6/22

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

Statement of competence

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 5.1. Chemical industry	-
TA 10.1. Fugitive emissions from oil and gas	-
TA 13.1. Solid waste and wastewater	2014/12/22
TA 14.1. Afforestation and reforestation	-