JCM Verification Report Form

A. Summary of verification

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
Monitoring period	01/11/2018-30/06/2019
Date of completion of the monitoring report	20/02/2020
Third-party entity (TPE)	Japan Quality Assurance Organization (JQA)
Project participant contracting the TPE	YAZAKI Parts Co., LTD.
Date of completion of this report	16/03/2020

A.2 Conclusion of verification and level of assurance

Overall verification opinion	☒ Positive ☐ Negative
☒ Unqualified opinion	Based on the process and procedure conducted, JQA provides reasonable assurance that the emission reductions for Introduction of high-efficient wire stranding machines to the factory of YAZAKI EDS VIETNAM Co., LTD. ✓ Are free of material errors and are a fair representation of the GHG data and information, and ✓ Are prepared in line with the related JCM rules, procedure, guidelines, forms and other relevant documents
(If overall verification opinion is negative, please check below and state its reasons.) ☐ Qualified Opinion ☐ Adverse opinion ☐ Disclaimer	<State the reasons> N/A

A.3. Overview of the verification results

Item	Verification requirements	No CAR or CL remaining
The project implementation with the eligibility criteria of the applied methodology	The TPE determines the conformity of the actual project and its operation with the eligibility criteria of the applied methodology.	☒
The project implementation against the registered PDD or any approved revised PDD	The TPE assesses the status of the actual project and its operation with the registered/validated PDD or any approved revised PDD.	☒
Calibration frequency and correction of measured values with related requirements	If monitoring Option C is selected, the TPE determines whether the measuring equipment have been properly calibrated in line with the monitoring plan and whether measured values are properly corrected, where necessary, to calculate emission reductions in line with the PDD and Monitoring Guidelines.	☒
Data and calculation of GHG emission reductions	The TPE assesses the data and calculations of GHG emission reductions achieved by/resulting from the project by the application of the selected approved methodology.	☒
Avoidance of double registration	The TPE determines whether the project is not registered under other international climate mitigation mechanisms.	☒
Post registration changes	The TPE determines whether there are post registration changes from the registered PDD and/or methodology which prevent the use of the applied methodology.	☒

Authorised signatory:	Mr. ☒ Ms. ☐
Last name: Asada	First name: Sumio
Title: Senior Executive	
Specimen signature:	Date: 16/03/2020

B. Verification team and other experts

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

Please specify the following for each item.

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

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

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

C. Means of verification, findings and conclusions based on reporting requirements

C.1. Compliance of the project implementation and operation with the eligibility criteria of the applied methodology

<**Means of verification**>

The project has been registered as a JCM project on 28 May 2019, with applying JCM Approved Methodology VN_AM014 " Introduction of energy efficient wire stranding machines to automotive wire production factory, Version 01.0" under the scheme of Joint Crediting Mechanism between the Socialist Republic of Viet Nam (herein after Vietnam) and Japan.

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).

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

The JCM website indicates the starting date of the project operation is 01 November 2018 and this monitoring period starts from that day. It is confirmed that PPs started the formal monitoring from the day after the installation and commissioning of project equipment.

Through a review of relevant documents, the verification team assessed whether the project implementation and operation after the starting date of project operation

complied with the eligibility criteria of the applied methodology during the monitoring period. After the desk review, an on-site assessment was conducted on 04 February 2020. The verification team conducted a physical inspection and interviews with PPs. The assessment results regarding the eligibility criteria are summarized as below:

JCM_VN_AM014_ver01.0
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).

Criterion 2
Flange diameter of bobbin of a 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].

Though reviewing supporting documents including the specifications, and the physical inspection during on-site assessment, the verification team confirms that the project implementation and operation complied with above eligibility criteria.

<**Findings**>
No out-standing issue was raised.

<**Conclusion based on reporting requirements**>
The verification team concludes that the actual project and its operation are in compliance with the eligibility criteria of the applied methodology during this monitoring period.

C.2. Assessment of the project implementation against the registered PDD or any approved revised PDD

<**Means of verification**>
The verification team assessed the status of the actual project and its operation with the registered PDD by a desk review, an on-site visit and interviews. The assessment results are summarized as below;

[Physical features of the project]

Through the desk review, on-site visit and interview with PPs, it is confirmed that 32 wire stranding machines were installed in total before June 2018. Those wire stranding machines are manufactured by KINREI MACHINERY CO., LTD. The model number of the project wire stranding machines installed is “DT 562.” It is also confirmed all project equipment are operated as per the registered PDD.

[Monitoring points]

One monitoring parameter described below is measured by the meter equipped with the project wire stranding machines, in accordance with the monitoring plan.

$EC_{PJ,i,p}$: Electricity consumption of project wire stranding machine i during the period p

It is confirmed through an on-site inspection and interview with the PPs that the electricity consumption is measured by the meter installed at each wire stranding machine and monitored by a WEB system called “POP System” developed by the PPs. The data of electricity consumption is collected and stored by POP System on a daily basis. It can be accessed via internet by the PPs.

[Monitoring structure]

The monitoring structure has been established and the roles and responsibilities of the personnel are consistent with the description in Monitoring Structure Sheet. Through the interview with PPS, it is confirmed that the monitoring structure is formed and operated in line with the registered PDD during the monitoring period.

The verification team confirms by means of an on-site visit for the first verification, that physical features of the project in the registered PDD are in place and that the PPs have operated the project as per the registered PDD.

<**Findings**>

No out-standing issue was raised.

<**Conclusion based on reporting requirements**>

The verification team concludes that the project has been implemented in accordance with the registered PDD during the monitoring period, and no changes are found from

the description of the registered PDD.

C.3. Compliance of calibration frequency and correction of measured values with related requirements

<**Means of verification**> The measuring equipment used in the project activity is an electricity meter equipped with each wire stranding machine. The model number of the electricity meter is KM50-E manufactured by OMRON Corporation. As stated in the registered Monitoring Plan Sheet, the measuring equipment is not required to be replaced or calibrated for the Expected operational lifetime of project (7 years) according to the manufacturer's recommendation. The evidence of the manufacture's recommendation has been provided by PPs. <**Findings**> No outstanding issues are raised. <**Conclusion based on reporting requirements**> The verification team concludes that the calibration of the meter is not required as per the registered monitoring plan. Hence, no correction of the measured data during the monitoring period is required.

C.4. Assessment of data and calculation of GHG emission reductions

<**Means of verification**> The verification team assessed the data and calculation of GHG emission reductions achieved by the project as below; (a) The corresponding Monitoring Report Sheet of the applied methodology has been used; Through reviewing the monitoring report for the project, titled as " JCM_VN014_MRS_2018_200120" and "JCM_VN014_MRS_2019_200120", the verification team raised an issue. This issues was resolved as explained in "Findings". (b) A complete set of data for the monitoring period for all parameters monitored ex post was provided to the verification team in the form of several kinds of files; PPs provided a complete set of data for the monitoring period for the parameter

monitored ex post ($EC_{PJ,i,p}$) to the verification team in the form of two kinds of files, namely, the daily monitoring data downloaded from POP system and the aggregated data for each year.

Through the desk review and interview with the PPs, it is confirmed that these files contain the evidence and records for the electricity consumption of project wire stranding machines.

It is confirmed through the review of these monitored data that the amount of the electricity consumption of the project wire machines is fully provided for the monitoring period.

(c) Information provided in the monitoring report has been checked with sources such as plant logbooks, inventories, purchase records, laboratory analysis;
The verification team reviewed all the above mentioned complete data set of the monitoring data.

Parameters	Monitored values	Method to check values in the monitoring report with sources
$EC_{PJ,i,p}$	210.4 MWh * (2018) 601.9 MWh *(2019) *In total for 32 wire stranding machines	Amount of electricity consumption is cross-checked with daily monitoring data of 32 units of project wire stranding machines downloaded from POP system.

(d) Any assumptions used in emission calculations have been justified;
Through the review of the MRS and the interview with the PPs, it is confirmed that no assumption has been used in the calculations of emission reductions and hence no justification is required.

(e) Appropriate emission factors, default values, and other reference values have been correctly applied;
Through reviewing the monitoring plan sheet attached to the registered PDD and observation during on-site assessment, it is confirmed that the emission factors and default values are appropriately applied in the calculations of emission reductions in the monitoring report for this monitoring period.

<**Findings**>
< CL 01 >

It is not confirmed whether the corresponding Monitoring Report Sheet of the applied methodology has been used.

< Comments from the PPs >
The Monitoring Report Sheets using the corresponding MRS of the applied methodology, JCM_VN014 are resubmitted.

< Assessment by the TPE >
It is confirmed through the review of the revised Monitoring Report Sheet that corresponding Monitoring Report Sheet of the applied methodology has been used. Thus, CL 01 is closed.

<**Conclusion based on reporting requirements**>
The verification team concludes that the monitored data and the project-specific parameters fixed ex-ante are appropriately and correctly applied in the calculation of GHG emission reductions achieved by the project activity, in accordance with the applied methodology VN_AM014 and the monitoring plan of the registered PDD.

C.5. Assessment of avoidance of double registration

<**Means of verification**>
The verification team received a written confirmation dated 21/02/2020 from the PPs which is signed by Deputy Factory Manager of YP, the primary authorized signatory of YP. It declares that the registered JCM project is not registered under any other international climate mitigation mechanisms other than the JCM, therefore, the project will not result in double counting of GHG emission reductions. It also declares that the same registered JCM project will not be registered under other international climate mitigation mechanisms.
It is confirmed through the review of the written confirmation, the check of the relevant website and the interview with the PPs that the JCM project is not registered under any other international climate mitigation mechanisms other than the JCM
<**Findings**>
No outstanding issue was raised.

<**Conclusion based on reporting requirements**>
The verification team concludes that the project has not been registered under other international climate mitigation mechanisms.

C.6. Post registration changes

<**Means of verification**>

It is confirmed through the review of documents, the on-site assessment and the interview with the PPs that the project has not been changed from the registered PDD and/or methodology.

<**Findings**>

No outstanding issue was raised.

<**Conclusion based on reporting requirements**>

The verification team concludes that the project has not been changed from the registered PDD and/or methodology.

D. Assessment of response to remaining issues

An assessment of response to the remaining issues including FARs from the validation and/or previous verification period, if appropriate

No remaining issues including FARs from the validation, and this is the first verification period, therefore this item is not applicable.

E. Verified amount of emission reductions achieved

Year	Verified Reference Emissions (tCO_2e)	Verified Project Emissions (tCO_2e)	Verified Emission Reductions (tCO_2e)
2013	-	-	-
2014	-	-	-
2015	-		-
2016	-	-	-
2017	-	-	-
2018	291.8	193.3	98
2019	834.8	552.8	281
2020	-	-	-
Total (tCO_2e)			379

F. List of interviewees and documents received

F.1. List of interviewees

Name	Title	Organization
Mr. Daisuke AOKI	Factory Manager	Yazaki EDS Vietnam Co., Ltd
Mr. Masaru YAMAMOTO	Manager, Production Department	Yazaki EDS Vietnam Co., Ltd
Mr. Le Thai Trung	Production Manger	Yazaki EDS Vietnam Co., Ltd
Mr. Tran Lam	Maintenance Manager	Yazaki EDS Vietnam Co., Ltd
Mr. Hirotaka KATSUMATA	A/W EnvironmentTeam	Yazaki Parts Co., Ltd
Mr. Kei SATO	Consultant	Mitsubishi UFJ Research and Consulting Co., Ltd

F.2. List of documents received

1	"Monitoring Report Sheet for the monitoring period JCM_VN014_MRS_2018_200120 JCM_VN014_MRS_2019_200120"
2	Registered PDD (VN014)
3	Validation Report (VN014), 22/03/2019
4	"JCM Approved Methodology JCM_VN_AM014_ver01.0"
5	Monitoring Plan Sheet (JCM_VN_AM014_ver01.0)
6	JCM Modalities of Communication Statement Form (VN014)
7	JCM Glossary of Terms (JCM_VN_Glossary_ver01.0)
8	JCM Project Cycle Procedure (JCM_VN_PCP_ver03.0)
9	JCM Guidelines for Developing Project Design Document and Monitoring Report (JCM_VN_GL_PDD_MR_ver02.0)
10	JCM Guidelines for Validation and Verification (JCM_VN_GL_VV_ver01.0)
11	JCM Verification Report Form (JCM_VN_F_Vrf_Rep_ ver02.0)
12	Location information of the proposed JCM project
13	Company profile of YAZAKI EDS VIETNAM Co., LTD.
14	Company profile of YAZAKI Parts Co., LTD.
15	Company profile of YAZAKI corporation
16	Operation Manual of DT562
17	Blueprint of Flange diameter of bobbin of a wire stranding machine (560mm)
18	Specification of total motor capacity of DT562
19	Layout of 32 project wire stranding machines
20	Specification and user manual of electricity meter KM50-E
21	Single line diagram of the project site
22	Maintenance record of project wire stranding machines
23	Aggregated monitoring data for 2018 and 2019
24	Daily monitoring data of POP system covering the monitoring period
25	Record of replacement of a electricity meter
26	Declaration of avoidance of double registration
27	"revised Monitoring Report Sheet for the monitoring period JCM_VN014_MRS_2018_200217 JCM_VN014_MRS_2019_200217
28	Evidence for lifetime of smart electric energy monitor and calibration issued by OMRON Corporation, the manufacture of electricity meter KM50-E

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

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

Statement of competence

JQA

Name: 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 5.1. Chemical industry	-
TA 10.1. Fugitive emissions from oil and gas	-
TA 13.1. Solid waste and wastewater	2015/11/20
TA 14.1. Afforestation and reforestation	-

Statement of competence

JQA

Name: Dr. Tadashi Yoshida

Qualified and authorized by Japan Quality Assurance Organization.

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

Technical area within sectoral scopes	Date of qualification
TA 1.1. Thermal energy generation	2014/12/22
TA 1.2. Renewables	2014/12/22
TA 3.1. Energy demand	2014/12/22
TA 4.1. Cement and lime production	2015/11/12
TA 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	-