# JCM Verification Report Form

## A. Summary of verification

A.1. General Information

| | |
|---|---|
| Title of the project | Small scale solar power plants for commercial facilities in island states |
| Reference number | PW001 |
| Monitoring period | 01/12/2015-31/12/2020 |
| Date of completion of the monitoring report | 12 Jan.2022 |
| Third-party entity (TPE) | Japan Management Association (JMA) |
| Project participant contracting the TPE | Pacific Consultants Co., Ltd. (PCKK) |
| Date of completion of this report | 14 Feb.2022 |

A.2 Conclusion of verification and level of assurance

| | |
|---|---|
| Overall verification opinion | ☒ Positive<br>☐ Negative |
| ☒ Unqualified opinion | Based on the process and procedure conducted, *Japan Management Association* (TPE's name) provides reasonable assurance that the emission reductions for *Small scale solar power plants for commercial facilities in island states* (project name)<br>✓ Are free of material errors and are a fair representation of the GHG data and information, and<br>✓ 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.)*<br>☐ Qualified Opinion<br>☐ Adverse opinion<br>☐ Disclaimer | <State the reasons> |

A.3. Overview of the verification results

| Item | Verification requirements | No CAR or CL remaining |
|---|---|---|
| The project implementation with | The TPE determines the conformity of the actual project and its operation with the eligibility criteria of | ☒ |

| Item | Verification requirements | No CAR or CL remaining |
|---|---|---|
| the eligibility criteria of the applied methodology | 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 equipments 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: Nemoto | First name: Wako |
| Title: Senior Executive of GHG Certification Center, JMA | |
| Specimen signature: [redacted] | Date: 14/02/2022 |

## B. Verification team and other experts

| | Name | Company | Function* | Scheme competence* | Technical competence* | On-site visit |
|---|---|---|---|---|---|---|
| Mr. ☒ Ms. ☐ | Kenji Suzuki | JMA | Team Leader | ☒ | Technical competence qualified | ☐ |
| Mr. ☒ Ms. ☐ | Masao Tomizawa | JMA | Team Member | ☒ | Technical competence qualified | ☐ |
| Mr. ☒ Ms. ☐ | Motoyuki Matsumoto | 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 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>**

Approved methodology "Displacement of Grid and Captive Genset Electricity by a Small-scale Solar PV System, Ver. 01.0 (Ref.2)" was applied to the JCM project. Verification team assessed the compliance of the project implementation and operation with the eligibility criteria of the applied methodology.

Verification team conducted the assessment of the project implementation and operation for the monitoring period (from 1 Dec.2015 to 31 Dec.2020) to confirm the eligibility criteria in the registered PDD (Ref.1).

- Document review was conducted using the checklist based on the "JCM Guidelines for Validation and Verification (Ref.13)".
- Follow-up interviews with all project participants were conducted through the internet. The verification was conducted without on-site visit by the following reasons.
  - Due to the COVID-19 pandemic.
  -The information required for verification, which would normally be verified during on-site

assessment, was verified by alternative methods such as document and photo reviews, interviews via internet, and e-mail.
Also, on 11 July 2021, the Joint Committee between Palau and Japan announced that due to the COVID-19 pandemic, the Joint Committee between Palau and Japan (JC) decided to ease requirements on an on-site visit of the first verification by a third-party entity (TPE) as a temporary measure effective from 11 July until 31 December 2021.
Each criterion in the registered PDD was checked as follows by document review and interviews.

Criterion 1:
The equipment for solar PV system described in the registered PDD was confirmed by desk review and interviews with PPs, checking "Specification of equipment (Ref.3-1-1～3, 3-2-1～3)", and interviews with project participants (PPs). Verification team confirmed that the solar PV system was kept installing at Subproject 1 and 2 during the monitoring period.

Criterion 2:
The following descriptions in the registered PDD were confirmed during interviews with PPs.
-The system of Subproject 1 displaces grid electricity.
-The system of Subproject 2 displaces grid electricity and captive electricity at the project site.
Criterion 2 was confirmed by checking "Connection agreement (Ref.3-1-4, 3-2-4)", and interviews with PPs.

Criterion 3:
The installed PV module (Kyocera KD250GX-LFB2) was confirmed by interviews with PPs and checking Specification of equipment. There was no exchange of the solar PV module during the monitoring period. Verification team confirmed that the "Certificate for design qualifications (IEC 61215) and safety qualification (IEC 61730-1 and IEC 61730-2) (Ref.3-6)" for installed PV module were obtained.

Criterion 4:
Verification team confirmed that the electricity meters were changed to new meters (Subproject 1: 2 Nov.2019, Subproject 2: 11 Feb.2020). New meters were confirmed with the document (Ref.3-1-2-2, 3-2-2-2) submitted by installation vendor for solar PV systems. Also verification team confirmed them visually through interviews with local PPs via the internet.
Verification team confirmed that two units out of six units are measuring the irradiance in Subproject 1. Currently, four sensors for irradiance were not working in Subproject 1. Also, all sensors for irradiance were working in Subproject 2. It was confirmed by interviews through the

internet and photos of irradiance meters.

**<Findings>**

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

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

**<Conclusion based on reporting requirements>**

*Please state conclusion based on reporting requirements.*

Verification team assessed the application of approved methodology of the JCM project with the supporting documents and interviews with PPs via internet.

Verification team confirmed the compliance of the project implementation and operation with the eligibility criteria of the applied methodology.

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

**<Means of verification>**

Verification team assessed the project implementation against the registered PDD by means of checking documents including photographs of current status of project sites and interviews with PPs to Subproject 1 and 2 for this verification.

Verification team checked that physical features of the project in the registered PDD were in place and that the project participants operated the project for the monitoring period as per the registered PDD.

During desk review, Monitoring Report (Ref.7) provided by the PP with following references were checked:

- The registered PDD including Monitoring Plan Sheet and Monitoring Structure Sheet,
- Final version of the validation report (Ref.9), and,
- Approved methodology.

The physical features of the project in the registered PDD were checked by interviews with PPs via internet with following references of the validation report:

- Specification of equipment (Ref.3-1-1～3, 3-2-1～3),
- Reference regarding Net-metering scheme in Palau (Ref.3-3),
- Document of commissioning completion of Solar PV Power Plant (Ref.3-1-5, 3-2-5), and
- Reference of "Expected operational lifetime of project" (Ref.3-4).

Also, project operation as per the registered PDD was checked by interviews with following references:
- Monitoring Structure Sheet of the registered PDD,
- Monitoring manual (Ref.12),
- Minutes of meeting of Local stakeholder consultation (28-29. Oct.2014) (Ref.5), and
- JCM Modalities of Communications Statement Form (Ref.8-1) (MoC).

As the information described in the MoC was changed, CL1 was raised to ask PP to submit the revised MoC.

Monitoring structure was checked by interviews of the following people described in the Monitoring Structure Sheet of the registered PDD. In addition, implementation of QA/QC procedure in line with the registered PDD and methodology requirements were checked.
-Subproject 1: Project Manager/Maintenance Manager/Technical Support
-Subproject 2: Project Manager/Chief Electrician 1/Chief Electrician 2

**<Findings>**

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

CL1:
As the primary authorised signatory of PP (Pacific Consultants Co., Ltd.) was changed, please submit the revised MoC.
⇒Summary of Response and Verification team Conclusion：
As the primary authorised signatory, alternate authorised signatory and contact person of PP (Pacific Consultants Co., Ltd.) described in the MoC were changed, "JCM Modalities of Communications Statement Form ANNEX 1 Annex 1 (Ref.8-2)" (MoC Annex 1) was submitted. Verification team confirmed the revised parts of the MoC.
CL1 was closed.

**<Conclusion based on reporting requirements>**

*Please state conclusion based on reporting requirements.*

The revised parts of the MoC were confirmed with CL1. Project participants of both countries were not changed from the registered PDD. It was confirmed by interviews with PPs and the MoC including the MoC Annex 1.
Verification team confirmed that there was no change from the registered PDD during the monitoring period. In addition, it was confirmed that operational and management structure described in the Monitoring Structure Sheet of the registered PDD was conducted during the monitoring period. The monitoring has been carried out in accordance with the monitoring plan contained in the registered PDD.

Verification team confirmed that the implemented project was operated during the monitoring period in accordance with the registered PDD.

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

**<Means of verification>**

Compliance of calibration frequency and correction of measured values with related requirements were checked in accordance with the applied methodology and the registered PDD.

In the monitoring plan of the registered PDD, calibration frequency of monitoring point No.(1) (the total quantity of the electricity generated in the project) was described that "The electricity meter is calibrated or replaced every five years."

Calibration or replacement of electricity meter was required during this monitoring period.

Each electricity meter at Subproject 1 and 2 was replaced, and the new meter was checked by documents review and interviews with PPs via internet. The former electricity meters were started measuring on the day of commissioning completion (Subproject 1: 23 Oct.2014, Subproject 2: 4 Dec.2014). The electricity meters were replaced on 2 Nov.2019 in Subproject 1, and on 11 Feb.2020 in Subproject 2. The electricity meter should be calibrated or replaced every five years after electricity measurement starts. Therefore, measured data in Subproject 1 was monitored until 2 Oct.2019, and measured data in Subproject 2 was monitored until 1 Dec.2019. Verification team confirmed that the monitoring period of both Subproject 1 and 2 were within five years.

CL2 and CL3 were raised to check the installation date and starting date of calibration period for new electricity meter in Subproject 1 and 2.

**<Findings>**

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

CL2:

Please submit the evidence of the installation date of the new electricity meter (Subproject 1: 2 Nov.2019, Subproject 2: 11 Feb.2020).

⇒Summary of Response and Verification team Conclusion：

JMA confirmed that electricity meters were changed to new meters (Subproject 1: 2 Nov.2019, Subproject 2: 11 Feb.2020). It was confirmed with the document (Ref.3-1-2-3, 3-2-2-3) submitted by installation vendor for solar PV systems, and interviews with local project participant.

CL2 was closed.

CL3:
Please clarify the starting date of calibration period of five years for new electrical meters.
⇒Summary of Response and Verification team Conclusion：
JMA confirmed that the calibration period of new electrical meters are started from the test date at the factory (Subproject 1 and 2: 21 Jun.2018 ). It was conformed by Accuracy Calibration Self-Declaration (Ref.3-1-2-4, 3-2-2-4) and Factory Test Report (Ref.3-1-2-5, 3-2-2-5) .
CL3 was closed.

Verification team confirmed that the electricity meter was replaced for this project at each Subproject 1 and 2 for the duration of calibration period of five years. The starting date of calibration period for new electricity meters in Subproject 1 and 2 were confirmed with CL 3. In Factory Test Report (Ref.3-1-2-5, 3-2-2-5) for new electricity meter, it is written as follows;
"Accuenergy (CANADA) Inc, hereby declares that all Acuvim II series and Acuvim-L series power meters will maintain specified accuracy without recalibration in ten years after factory calibration. "
Verification team confirmed that the calibration is not required for new electricity meters during this monitoring period.

**<Conclusion based on reporting requirements>**
*Please state conclusion based on reporting requirements.*
Verification team confirmed calibration or replacement of electricity meter was done appropriately during this monitoring period in accordance with the monitoring plan of the registered PDD.

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

**<Means of verification>**
Monitoring Report was checked as follows during document review and interviews with PPs via internet to confirm the data and calculation of GHG emission reductions. Monitoring Report was checked with the description of Monitoring Plan Sheet in the registered PDD and the approved methodology.

Parameters used for calculations were checked as follows.
・Parameters monitored ex post (Table 1 of Monitoring Report Sheet) :
Monitored values of electricity meter (Monitoring point No. (1)) were checked as following table.

・Project specific parameters fixed ex ante (Table 2 of Monitoring Report Sheet) :
CO2 emission factor used for the calculation was checked with the registered PDD and the approved methodology.
Verification team verified the reported emission reductions by comparing the source data (Ref.11-1-2, 11-2-2) and CO2 emission factor of the approved methodology.

The comparison of actual CO2 emission reductions with estimates in the registered PDD has been checked by verification team. Total amount of the electricity generated by Subproject 1 and 2 was almost same as the estimated value in the registered PDD.

| Parameters | Monitored values | Method to check values in the monitoring report with sources |
|---|---|---|
| ΣEGi,p | 2414.13 MWh (From 1 Dec.2015 to 31 Dec.2020) | The data used was taken from electricity meters, which were installed at Subproject 1 and 2.<br>CL4, CL5 and CAR1 were raised to check the source data of this monitoring period. As a result of raising CL4, CL5 and CAR1, the source data (the data of logbook) of monitored valuewas checked during document review and interviews with PPs via internet. |
| | | |
| | | |

**<Findings>**
*Please state if CARs, CLs, or FARs are raised, and how they are resolved.*
CL4:
There was no photograph data for the month of Dec.2020 at Subproject 2. Please submit the data of logbook and all photographs data in 2020.
⇒Summary of Response and Verification team Conclusion：
Verification team confirmed the logbook at the end of 2020. In addition, all photograph data in 2020 (From January to July) were checked. After July 2020, electricity meter data could be able to check on the PC by login because there was connection between electricity meter and PC via network. Verification team confirmed that the value of electricity meter which is sent from electricity meter on PC by login. The data on PC was same as the electricity meter. It was confirmed by interviews with PPs via internet. In addition, verification team confirmed that the monitoring procedure of the data in revised monitoring manual (Ref.12).
CL4 was closed.

CL5:
The amount of power generated in the data for the following months is quite large, so please submit the data of logbook for those months and the data of power generation recorded by inverter.
Also, could you explain us the reason why the amount of power generation has increased?
-Subproject 1: February 2020, April 2020
-Subproject 2: March 2020
⇒Summary of Response and Verification team Conclusion：
PP explained that the incorrect data was input for the following months.
-Subproject 1: April 2020
-Subproject 2: March 2020
Verification team checked the corrected monitoring data and the data of logbook for those months. Also, verification team confirmed that the three months data from February to April 2020 in Subproject 1 and March 2020 in Subproject 2 as follows.
Verification team confirmed that the daily generated power per kW of installed PV capacity during the monitoring period was almost same as the estimates value 3.6 (kWh/day/kW) in the registered PDD.
CL5 was closed.

CAR1:
The date when the photo was taken at the final timing of the monitoring period was as follows, which is different from the monitoring period described in the monitoring report. It is necessary to review the monitoring period.
・Subproject1: 4 Jan. 2021, Subproject 2: 4 Jan. 2021 (The photo was scheduled to be taken on 1 Jan. 2021, but it was not carried out.).
⇒Summary of Response and Verification team Conclusion：
The monitoring report has been changed to include the data up to 1 Dec. 2020 recorded. It was confirmed that the monitoring period of the monitoring report is not be changed, and the record for the month of December 2020 is not be included in the monitoring report.
CAR1 was closed.

Verification team conducted interviews with PPs via internet and document review of evidences to confirm the monitoring of generated power in accordance with the registered PDD and the applied methodology. Verification team confirmed that the monitoring was conducted appropriately.

**<Conclusion based on reporting requirements>**

*Please state conclusion based on reporting requirements.*

Verification team confirmed that the appropriate Monitoring Report Sheet of the applied methodology was used for Monitoring Report.

CO2 emission reductions during monitoring period are about 1% smaller than the estimated value in the registered PDD.

A complete set of source data of Monitoring point No. (1) (measured data of electricity meter) for the monitoring period (from 1 Dec.2015 to 31 Dec.2020) was prepared by PPs and checked by verification team. Also, it was confirmed that the appropriate emission factor (0.533 for the reference CO2 emission factor of the grid and captive electricity) was used in accordance with the approved methodology.

Verification team confirmed that the calculation of CO2 emission reductions was conducted appropriately in accordance with the approved methodology.

C.5. Assessment of avoidance of double registration

**<Means of verification>**

The following websites of CDM, JI and VCS were checked whether the projects with similar technology and location had been registered.

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

2) Website of IGES (IGES CDM Project Database, IGES JI Project Database)

3) Website of Verified Carbon Standard

Also, written confirmation that the project was not registered under other international climate mitigation mechanisms was submitted and checked through CL6.

**<Findings>**

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

CL6:

Primary authorised signatory, alternate authorised signatory of PP (Pacific Consultants Co., Ltd.) described in the MoC (Ref.8-1) were changed. Please submit the written confirmation that the project is not registered under other international climate mitigation mechanisms.

⇒Summary of Response and Verification team Conclusion：

Written confirmation (Ref.8-3) that the project was not registered under other international climate mitigation mechanisms was submitted with the revised primary authorised signatory and alternate authorised signatory.

CL6 was closed.

**<Conclusion based on reporting requirements>**

*Please state conclusion based on reporting requirements.*

Verification team confirmed that the project was not registered under other international climate mitigation mechanisms during the monitoring period.

C.6. Post registration changes

**<Means of verification>**

There was no post registration change from the registered PDD and/or methodology which prevented the use of the applied methodology.

**<Findings>**

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

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

**<Conclusion based on reporting requirements>**

*Please state conclusion based on reporting requirements.*

Verification team confirmed that there was no post registration change during the monitoring period.

## 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

There is no remaining issue.

## E. Verified amount of emission reductions achieved

| Year | Verified Reference Emissions ($tCO_2e$) | Verified Project Emissions ($tCO_2e$) | Verified Emission Reductions ($tCO_2e$) |
|---|---|---|---|
| 2014 | | | |
| 2015 | 23 | 0 | 23 |
| 2016 | 270 | 0 | 270 |
| 2017 | 249 | 0 | 249 |
| 2018 | 257 | 0 | 257 |
| 2019 | 245 | 0 | 245 |
| 2020 | 239 | 0 | 239 |
| 2021 | | | |
| 2022 | | | |
| 2023 | | | |
| 2024 | | | |
| 2025 | | | |
| 2026 | | | |
| 2027 | | | |
| 2028 | | | |
| 2029 | | | |
| 2030 | | | |
| Total ($tCO_2e$) | | | 1283 |

## F. List of interviewees and documents received

F.1. List of interviewees

Pacific Consultants Co., Ltd. (PCKK):

Mr.Shigezane Kidoura

Subproject 1 (Western Caroline Trading Company):

Ms. Anna Tsao-Abellera (Principal)

Mr. Clement Gbewonyo (Maintenance Manager)

Mr. Samuel Palingcod (Technical Support) or Mr. Ivan Cater (Technical Support)

Subproject 2 (Surangel and Sons Company):

Ms. Eden Ridep Uchel (Manager)

Mr. Cecilio "Leo" Dionila (Chief Electrician)

Mr. Fernando Arnel Gamboa (Chief Electrician)

| |
|---|
| Mr. Ladrick Ebais Ngedebuu (Administrative Assistant)<br>Island Engineering and Design (local engineering company which installed solar PV systems):<br>Mr.Stephen Swords |

F.2. List of documents received

| |
|---|
| Ref.1: Project Design Document for JCM project "Small scale solar power plants for commercial facilities in island states" 3rd Edition (Registration date: 21 Apr. 2015)<br>Ref.2: Approved Methodology "Displacement of Grid and Captive Genset Electricity by a Small-scale Solar PV System, Ver. 01.0 "<br><br>Reference for Subproject 1 (Western Caroline Trading Company)<br>Ref.3-1-1:Specification of solar PV system<br>(Project documents: JCM model project 220.5kWp PV solar grid tied power plant<br>(Contractor: Island Engineering and Design, Meketii, Koror, Palau,<br>Commissioned: 23 October 2014, Submitted in Dec.2014))<br>Ref.3-1-2-1: Specification of output power meter of the solar PV system<br>(Green Class Meter specification, made by Energy Monitoring Products, Effective date:18/Nov./2013 (Contractor: Island Engineering and Design, Submitted in Dec.2014))<br>Ref.3-1-2-2:Specification of new output power meter of the solar PV system<br>(Acuvim-II-Multifunction-Power-Energy-Meter-Brochure-Datasheet, made by ACCUENERGY)<br>Ref.3-1-2-3:Meter replacement_WCTC<br>(Record of output power meter replacement, made by Island Engineering and Design, made on 2 Nov.2019)<br>Ref.3-1-2-4:Accuracy Calibration Self-Declaration<br>(Made by ACCUENERGY, made on 22 Mar.2013)<br>Ref.3-1-2-5:Factory Test Report<br>(Made by ACCUENERGY, Test date 21 Jun.2018)<br>Ref.3-1-3: Specification of irradiance meter of the solar PV system (Sunny Sensor Boxes and Sunny WebBoxes (Specification sheet from SMA America,LLC),<br>(Contractor: Island Engineering and Design, Submitted in Dec.2014))<br>Ref.3-1-4: Reference regarding grid connection: Connection agreement (Palau Public Utilities Corporation Date:29 May 2014)<br>Ref.3-1-5: Reference of "Starting date of project operation" (Commissioning completion of Solar PV Power Plant): |

Commissioning of WCTC Ace Hardware Warehouse Solar PV Power Plant (Island Engineering and Design (System is commissioned and operating as per design. Warranty is in effect as of October 23, 2014))
Ref.11-1-1: Reference regarding estimated solar PV output:
Estimates are submitted by ISLAND ENGINEERING AND DESIGN (Date:14 Apr.2014)
Ref.11-1-2: Records of measured data of electricity meter (Revenue meter)

Reference for Subproject 2 (Surangel and Sons Company)
Ref.3-2-1: Specification of solar PV system:
(Project documents: JCM model project 150.0kWp PV solar grid tied power plant
(Contractor: Island Engineering and Design, Meketii, Koror, Palau,
Commissioned: 4 December 2014, Submitted in Dec.2014))
Ref.3-2-2-1: Specification of output power meter of the solar PV system
(Green Class Meter specification, made by Energy Monitoring Products, Effective date:18/Nov./2013 (Contractor: Island Engineering and Design, Submitted in Dec.2014))
Ref.3-2-2-2:Specification of new output power meter of the solar PV system
Same as Reference No.3-1-2-2.
Ref.3-2-2-3: Meter replacement SAS
(Record of output power meter replacement, made by Island Engineering and Design, 11 Feb.2020)
Ref.3-2-2-4:Accuracy Calibration Self-Declaration
Same as Reference No.3-1-2-4.
Ref.3-2-2-5: Factory Test Report
(Made by ACCUENERGY, Test date 21 Jun.2018)
Ref.3-2-3: Specification of irradiance meter of the solar PV system (Sunny Sensor Boxes and Sunny WebBoxes (Specification sheet from SMA America,LLC),
(Contractor: Island Engineering and Design, Submitted in Dec.2014))
Ref.3-2-4: Reference regarding grid connection:
Connection agreement (Palau Public Utilities Corporation Date:29 May 2014)
Ref.3-2-5: Reference of "Starting date of project operation" (Commissioning completion of Solar PV Power Plant):
Commissioning of SAS Supercenter Solar PV Power Plant (Island Engineering and Design (System is commissioned and operating as per design. Warranty is in effect as of December 4, 2014))
Ref.11-2-1: Reference regarding estimated solar PV output:
Estimates are submitted by ISLAND ENGINEERING AND DESIGN (Date:15 Apr.2014)
Ref.11-2-2: Records of measured data of electricity meter (Revenue meter):

Ref.3-3: Reference regarding Net-metering scheme in Palau:
The Senate EIGHTH OLBIIL ERA KELULAU (RPPL No.8-39)
Approved by Johnson Toribiong President Republic of Palau: 6 Jan.2012
Ref.3-4: Reference of "Expected operational lifetime of project": Warranty period of PV module (20years) and Inverter (10years) for this project is confirmed by the followings.
-Limited Warranty for Kyocera Photovoltaic Module(s) (KKM-SE-00001-07: 190713)
-SMA America LLC Factory Warranty (US SO 107-0080-001 rev.06)
Ref.3-6: Certificate for design qualifications (IEC 61215) and safety qualification (IEC 61730-1 and IEC 61730-2) (Date of issue: 2 June 2014, Japan Electrical Safety & Environment Technology Laboratories)
Ref.5: Minutes of meeting of Local stakeholder consultation (28-29. Oct.2014)
in island states (submitted by PCKK))
Ref.7: Monitoring Report (Name of Excel file:
JCM_PW001_MP_20151201-20151231,JCM_PW001_MP_20160101-20161231,JCM_PW001_MP_20170101-20171231,JCM_PW001_MP_20180101-20181231,JCM_PW001_MP_20190101-20191231,JCM_PW001_MP_20200101-20201231)
Ref.8-1: JCM Modalities of Communications Statement Form (Date of Submission : 3 Mar.2015)
Ref.8-2: JCM Modalities of Communications Statement Form ANNEX 1 (Date of Submission : 20 Oct.2021)
Ref.8-3: Written confirmation from PCKK (Declaration from Mr.Kazuyoshi SASAKI, PCKK on 1 Nov.2021)
Ref.9: Validation report for PW001 (6 Apr. 2015)
Ref.12: Monitoring Manual Ver.3 (Prepared by Pacific Consultants Co., Ltd., Revised on 7. Dec. 2021)
Ref.13: Joint Crediting Mechanism Guidelines for Validation and Verification (JCM_PW_GL_VV_ver01.0)
Ref.14: Joint Crediting Mechanism Guidelines for Developing Project Design Document and Monitoring Report (JCM_PW_GL_PDD_MR_ver01.0)
Ref.15: Joint Crediting Mechanism Project Cycle Procedure (JCM_PW_PCP_ver02.0)
Ref.16: Joint Crediting Mechanism Glossary of Terms (JCM_PW_Glossary_ver01.0)

## 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.*

# Certificate of Competence
# for Validation/Verification team

GHG Certification Center
Japan Management Association

Scheme:
**The Joint Crediting Mechanism (JCM)**
Project Title:
**Small scale solar power plants for commercial facilities in island states**
Validation or Verification:
**Verification**

| Name | Qualification[*1] | Leader/Member/ Technical expert/ Technical Reviewer(TR) | Qualification of Technical area (Renewables)[*2] | JCM scheme competence |
|---|---|---|---|---|
| Mr. Kenji Suzuki | Lead Validator/ Verifier | Leader | ☑ | ☑ |
| Mr. Masao Tomizawa | Validator/ Verifier | Member | ☑ | ☑ |
| **Competence of Verification 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-110-08)

Date 17 Sep. 2021

[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:

**Small scale solar power plants for commercial facilities in island states**

Validation or Verification:

**Verification**

| Name | Qualification[*1] | Leader/Member/ Technical expert/ Technical Reviewer(TR) | Qualification of Technical area (Renewables)[*2] | JCM scheme competence |
|---|---|---|---|---|
| Mr. Motoyuki Matsumoto | 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-110-08)

Date 17. Sep. 2021

[redacted]

Kenji Suzuki
Director of Validation & Verification Dept.
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