JCM Validation Report Form

A. Summary of validation

A.1. General Information

Title of the project	Electrification of communities using Ultra Low Head Micro Hydro Power Generation system
Reference number	KE001
Third-party entity (TPE)	TPE-KE-001, Japan Quality Assurance Organization (JQA)
Project participant contracting the TPE	NTT DATA INSTITUTE OF MANAGEMENT CONSULTING, Inc.,
Date of completion of this report	12/11/2018

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 Republic of Kenya, in line with Kenyan procedures.	☒
Local	The project participants have completed a local stakeholder	☒

Item	Validation requirements	No CAR or CL remaining
stakeholder consultation	consultation process and that due steps were taken to engage stakeholders and solicit comments for the proposed project.	
Monitoring	The description of the Monitoring Plan (Monitoring Plan Sheet and Monitoring Structure Sheet) is based on the approved methodology and/or Guidelines for Developing the Joint Crediting Mechanism (JCM) Project Design Document, Monitoring Plan, and Monitoring Report. The monitoring points for measurement are appropriate, as well as whether the types of equipment to be installed are appropriate if necessary.	☒
Public inputs	All inputs on the PDD of the proposed JCM project submitted in line with the Project Cycle Procedure are taken into due account by the project participants.	☒
Modalities of communications	The corporate identity of all project participants and a focal point, as well as the personal identities, including specimen signatures and employment status, of their authorized signatories are included in the MoC.	☒
	The MoC has been correctly completed and duly authorized.	☒
Avoidance of double registration	The proposed JCM project is not registered under other international climate mitigation mechanisms.	☒
Start of operation	The start of the operating date of the proposed JCM project does not predate January 1, 2013.	☒

Authorised signatory:	Mr. ☒	Ms. ☐
Last name: Asada	First name: Sumio	
Title: Senior Executive		
Specimen signature: [redacted]		Date: 12/11/2018

B. Validation team and other experts

	Name	Company	Function*	Scheme competence*	Technical competence*	On-site inspection
Mr. ☒ Ms. ☐	Hiroshi Motokawa	JQA	Team Leader	☒	Authorized	☒
Mr. ☐ Ms. ☒	Sachiko Hashizume	JQA	Internal reviewer	☒	Authorized	☐
Mr. ☐ Ms. ☐	N/A	-	-	☐	-	☐
Mr. ☐ Ms. ☐	N/A	-	-	☐	-	☐

Please specify the following for each item.

* *Function: Indicate the role of the personnel in the validation activity such as team leader, team member, technical expert, or internal reviewer.*
* *Scheme competence: Check the boxes if the personnel have sufficient knowledge on the JCM.*
* *Technical competence: Indicate if the personnel have sufficient technical competence related to the project under validation.*

C. Means of validation, findings, and conclusion based on reporting requirements

C.1. Project design document form

<Means of validation>

Through a review of the draft PDD, it was checked and confirmed that the PDD was completed using the previous version of the PDD form (JCM_KE_F_PDD_ver02.0) and drafted in line with the previous version of JCM Guidelines for Developing PDD and MR, "JCM_ID_GL_PDD_MR_ver02.0".

<Findings>

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

(Issue raised as **CAR01**)

The PDD for publication was prepared using the previous version of the PDD form, JCM_KE_F_PDD_ver02.0. The latest version of the PDD form shall be applied.

(Summary of the response on **CAR01**)

The PPs have prepared the final PDD using the latest version of the PDD form,

JCM_KE_F_PDD_ver03.0 appropriately.

(Assessment result of the responses on **CAR01**)

It is confirmed that the form version of the final PDD is JCM_KE_F_PDD_ver03.0. Therefore **CAR01** was closed.

<Conclusion based on reporting requirements>

Please state conclusion based on reporting requirements.

The validation team (hereinafter, the Team) concluded that the PDD was completed using the valid form in line with the JCM Guidelines for Developing PDD and MR.

C.2. Project description

<Means of validation>

The proposed JCM project aims to reduce CO2 emissions by introducing Ultra Low Head Micro Hydro Power Generation system (ULH-MHP) to the Republic of Kenya. This ULH-MHP system is installed in the existing irrigation water channel besides Kiuria Village (the community) of Kirinyaga County. Two systems of ULH-MHP are installed in the community and total capacity is 30kW (15kW each), actual output is 20kW (10kW each). Electricity from two ULH-MHPs is integrated by a control panel and supplied to the community.

A part of the community is already electrified by national electricity grid. The electricity generated by the ULH-MHP is supplied to the facilities, which are not connected to national electricity grid, and are owned and managed by the community. The key technology of the proposed JCM project is defined in the approved methodology "Electrification of communities using Micro hydropower generation, version 1.0" (JCM_KE_AM001_ver01.0).

This project was supported by LCET Programme funded by Ministry of Economy, Trade and Industry, Japan and executed by UNIDO (United Nations Industrial Development Organization). The whole initial costs of implementation were provided through LCET Programme.

The emission reductions that would be achieved by the proposed project are estimated to be 82 tCO_{2e} annually. This estimate may vary depending on the amount of rainfall, especially during dry season. The estimated emission reductions of the period from 2018 through 2026 are calculated in the PDD.

The Team conducted document review, and then conducted an on-site inspection on 3rd to 4th of March, 2017, including several follow-up interviews. The location of the proposed JCM project was checked during the on-site inspection. The project descriptions were also cross-checked through the on-site inspection and interviews with the personnel of the PPs as below, who have been involved in the proposed JCM project:

- NTT DATA INSTITUTE OF MANAGEMENT CONSULTING, Inc.,
- National Irrigation Board (hereinafter, NIB),

- Mwea Irrigation Water Users' Association (hereinafter, MIWUA).

Through the interviews with the PPs, the following are confirmed:

- The two sets of the ULH-MHP system has already established,
- And the community center for productive uses to be supplied with the electricity generated by the project have already established;
- The starting date of project operation stated in the PDD is 30/09/2018,
- The PPs assumed that the expected operational lifetime of the proposed JCM project was estimated at ten years considering the actual conditions of Mwea irrigation water channel. According to the statutory durable years (SDYs) of machinery/equipment specified by the ministerial ordinance in Japan, the operating life time of the ULH-MHP employed by the project mainly depends on what type of productive use consumes the electricity generated by the project. In fact, there are several types of productive use in the community center, e.g. cold drink retail, hairdressing parlor, computer & printing service, welding & hand grinding service, etc. The SDYs are indicated on the website of the Japanese National Tax Agency (NTA)as below:
  - Equipment for food & drink retail: 9 years,
  - Equipment for hairdressing business: 13 years,
  - Equipment for other services for daily life: 6 years,
- For the purpose of knowledge transfer of the ULH-MHP operation and maintenance, JAG Seabell Co., Ltd. conducted the 1st Operation and Maintenance training for the "Operators" on 7th December, 2016, in the presence of an UNIDO officer.

<Findings>

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

(Issue raised as **CL01**)

The following are not included in the Section of A.2:

1) The annual ERs of the project;

2) The complete date of the construction;

3) The starting date of project operation;

(Summary of the response on **CL01**)

In the final PDD, the above 1)-3) was provided as below;

1) The annual ERs of the project; The description, "This project can achieve the annual GHG reduction of 82 tCO_{2e}." was added,

2) The complete date of the construction; The description, "In October 2016, the installation of two system of ULH-MHP was completed" was added,

3) The starting date of project operation; The description, "After the installation, commission to the project participants was delayed due to water shortage caused by the draught. Through

an output test for commission, the ULH-MHP started operation in September 2018" was added.

(Assessment result of the responses on **CL01**)

1) The annual ERs of the project calculated by the MPS is provided in the PDD appropriately.

2) The complete date of the construction, October of 2016, is when the pre output test finished and it was confirmed that the following items met the guideline arranged for an output test by UNIDO;

- Initial Run Test,
- Visual Inspection Test,
- Protection Function Test,
- Load Rejection Test,
- Earth Resistance Test and
- Insulation Resistance Test.

It seems to be plausible complete date of the construction.

3) The report on commissioning and operation start provided by project equipment manufacturer, JAG Seabell Co., Ltd. states that the commissioning finished on Sept. 30th, 2018, and immediately the power generation equipment of the project entered into the condition for normal operation.

It is confirmed that the ERs and dates are described in the final PDD appropriately. Therefore **CL01** was closed.

(Issue raised as **CL02**)

Regarding the "Expected operational lifetime of project", the Team raised **CL02**. The initial assumption of the PPs is not considered reasonable taking the SDYs into account. The PPs are requested to appropriately revise the "Expected operational lifetime of project" and the table of "C.3. Estimated emissions reductions in each year" in the PDD.

(Summary of the response on **CL02**)

The PPs revised the "Expected operational lifetime of project" from 10 years to 9 years considering the actual situation of the community center, i.e. substantially difficult situation to specify the main productive use type and to predict future uses accurately. And based on 9 years of the lifetime, the PPs revised the table of "C.3. Estimated emissions reductions in each year", accordingly.

(Assessment result of the responses on **CL02**)

The community center has several types of productive use as mentioned above. The shortest SDYs is 6 years for other services for daily life and the longest is 13 years for hairdressing business. The median of the both is 9.5 years, very close to 9 years of "Equipment for food & drink retail". Considering the PP's initial assumption, 9 years seem to be reasonable. Therefore, **CL02** was closed.

<Conclusion based on reporting requirements>

Please state conclusion based on reporting requirements.

The Team reached the conclusion that the project description is accurate and complete. The issues raised by the Team were clarified.

C.3. Application of approved methodology(ies)

<Means of validation>

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

- JCM_KE_AM001_ver01.0.

It is confirmed that the Monitoring Plan Sheet attached to the PDD was completed using the latest version of the monitoring spreadsheet form (JCM_KE_AM001_ver01.0).

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

Criterion 1:

The project installs a run-of-river micro hydropower generation unit which is not connected to national electricity grid.

Through reviewing the documents and interviewing with the PPs during the on-site inspection, the project information of Criterion 1 described in the PDD, was checked and confirmed as below:

- The two sets of ULH-MHP system are newly established by the project in Kiuria Village, which is covered by the national grid company, Kenya Power;
- The PPs commenced the construction work in August 2015 and was completed in August 2016;
- The pre output teats were implemented in October and December 2016;
- The PPs does not connect the project to the national grid. No wire/cable to the national grid is laid;
- The PPs plan to connect to the facilities to be built in Kiuria Village, however, their construction does not started yet;
- The facilities are supposed to be owned and managed by the community of Kiuria Village.

Criterion 2:

The micro hydropower generation unit is installed in open channel with difference of elevation of 5m or less between the upstream and downstream. The difference can be checked by the on-site inspection as below:

- Through visual inspection at the project site, it is confirmed that the difference of elevation of between the upstream and downstream is as high as a person, clearly less than 5 m;

- There is one huge board indicating that the ULH-MHP systems were established by LCET programme. It states several technical index including "Available Head is 1.7 m".

Criterion 3:

Project monitors the quantity of total electricity consumption by the consumers as a whole.

Through the interviews with the PPs, they claim to install an electricity meter as indicated in "Figure of all emission sources and monitoring points relevant to the JCM" in the section of C.2. in the PDD. However, At the time of the on-site inspection the meter has not installed yet. And no evidence for the meter installation plan has provided.

Therefore, **CL03** was raised.

<Findings>

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

(Issue raised as **CL03**)

Through the interview of the PPs and the community at the on-site inspection, it was confirmed that the PPs planned to install the electricity meter to monitor the total amount of electricity exported to the community center to be constructed soon. However, at the time of the on-site inspection no evidence for the meter installation plan has provided.

(Summary of the response on **CL03**)

The PPs have provided the following:

- Photo of the electricity meter installed at the power house,
- Specification of the electricity meter installed and
- Map showing the locations of power generation equipment, power house and the community center.

(Assessment result of the responses on **CL03**)

By reviewing the evidences provided by the PPs, the electricity meter was installed as planned. The **CL03** was closed.

<Conclusion based on reporting requirements>

Please state conclusion based on reporting requirements.

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

C.4. Emission sources and calculation of emission reductions

<Means of validation>

It is confirmed through desk review that the emission sources and GHGs in the draft PDD are described properly.

The project is executed in an area which is defined as a village where a part of the community is already electrified by national electricity grid, but there are other electricity consumers who

are not connected to national electricity grid on the day of validation. In that case, the project site is defined as “Grid-accessible area”, then the reference scenario assumes emissions due to electricity supplied by the national electricity grid. According to the applied methodology, the emission source of the reference emissions is only "Consumption of electricity from national electricity grid".

As for the Monitoring Plan Sheet (MPS) provided by the PPs, the appropriate form, which is defined in the applied methodology and not altered, is used. It is cross-checked and concluded that the required fields of the spreadsheet are filled in appropriately.

There is one parameter fixed ex ante according to the methodology:

- $EF_{CO2,Grid}$: CO_2 emission factor of national electricity grid.

Default value: 0.5893 tCO_2/ MWh provided by the methodology is applied.

Through reviewing the calculations, it is confirmed that the values of emission reductions for each year, 82.6 t-CO_2 is appropriately calculated as below:

1) $EC_{total,y}$: Total electricity consumption by the consumers in year y of the project= (10kW+10kW) X 24 hours X 365 days X 80% (load factor) =140.16 MWh:

2) ERy: Annual Emission Reductions = 140.16 X 0.5893 = 82 t-CO_2 (disregard decimals).

<Findings>

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

(Issue raised as **CAR02**)

The values in the column of “Estimated Emission Reductions (tCO_2e)”, “82,6” were calculated down to the first decimal place, therefore they were not the same as that of the MPS.

(Summary of the response on **CAR02**)

The PPs have changed 82.6 to 82 (disregard decimals) in the final PDD.

(Assessment result of the responses on **CAR02**)

The values have become the same as that of the MPS, therefore, the **CAR02** was closed.

<Conclusion based on reporting requirements>

Please state conclusion based on reporting requirements.

The Team reached the conclusion that the selected emission sources and GHG types were justified for the proposed JCM project. The Team assessed values for project-specific parameters to be fixed ex ante in the MPS and calculation process to derive the values. As a result, those were considered reasonable in the context of the proposed JCM project. The issue raised by the Team was fully corrected, which resulted in a revision of the PDD.

C.5. Environmental impact assessment

<Means of validation>

The PDD states "No" in the Section of D. and, the JCM Guidelines for Developing Project Design Document and Monitoring Report (JCM_KE_GL_PDD_MR_ver02.0) requires the

letter of exemption from the National Environment Management Authority-Kenya (NEMA), if "No". However, no letter is provided by the PPs yet.

The EIA law established by the Kenyan government, “Environmental Impact Assessment and Audit Regulations, 2003”, does not explicitly stated whether the proposed JCM project is not required to conduct the EIA.

<Findings>

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

(Issue raised as **CL04**)

Though the PDD selects "No", no copy of letter from NEMA attached.

(Summary of the response on **CL04**)

The PPs changed the description in the PDD from “No” to “Yes”, and added the description, “1. National Environment Management Authority “Environmental Impact Assessment License, NEMA/EIA/PSL/2937, on 2nd March, 2016” to the section of “F. Reference”.

Moreover, the PPs provided the copy of the above-mentioned “Environmental Impact Assessment License”.

(Assessment result of the responses on **CL04**)

By reviewing the license issued by NEMA, it is confirmed that the license was issued to the proposed JCM project according to the “Environmental Impact Assessment and Audit Regulations, 2003”. **CL04** was closed.

<Conclusion based on reporting requirements>

Please state conclusion based on reporting requirements.

The Team concluded that the project design of the proposed JCM project was in accordance with the EIA regulation in Kenya.

C.6. Local stakeholder consultation

<Means of validation>

Through the document review and interviews with local stakeholders, the following information was confirmed:

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

The first local stakeholders consultation (LSC) meeting for the local residents was held by the UNIDO on 17/03/2014 at NIB Mwea Irrigation Scheme Guest House, with inviting the representatives of the following organizations respectively:

- Ministry of Energy and Petroleum (MOEP),
- Ministry of Industrialization and Enterprise Development (MOIED),
- National Irrigation Board (NIB),
- Ministry of Economy Trade and Industry, Government of Japan (METI),
- Rural Electrification Authority (REA),

- Japan International Cooperation Agency (JICA),
- District Commissioner Office,
- Irrigation Water Users Association(IWUA),
- Local associations (Coop, etc.),
- Jomo Kenyatta University and
- United Nations Industrial Development Organization, UNIDO.

Moreover, the second LSC meeting for the national stakeholders was held by the UNIDO on 8/05/2014 at Nairobi Serena Hotel, with inviting the representatives of the following organizations respectively:

- MOEP,
- MOIED,
- NIB,
- MOA,
- MOWNR,
- REA,
- County Government of Kirinyaga,
- IWUA and
- Japanese Embassy.

And the third local stakeholders consultation (LSC) meeting was held by the PPs on 21/02/2017 at Ministry of Economy, Trade and Industry of Japan in Tokyo, with inviting the representatives of the following organizations respectively:

➢ Kenyan side,

- Ministry of Environment and Natural Resources,
- NIB,
- Ministry of Industry, Trade and Cooperatives,
- Ministry of Water and Irrigation,
- Ministry of Energy and Petroleum,

➢ Japanese side,

- METI,
- Ministry of the Environment,
- Forestry Agency,
- New Energy and Industrial Technology Development Organization,
- NTT DATA INSTITUTE OF MANAGEMENT CONSULTING and
- UNIDO.

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

The summary of the comments received has been described in the PDD. In fact many comments were offered, however, most of them are not the requests to require the PPs to make any

appropriate responses. Through the interviews with the participants, it is confirmed that those comments have been described in the PDD appropriately.

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

JQA determines that the relevant local stakeholders have been identified appropriate. As a result, it is concluded that no additional actions are required for the comments received.

<Findings>

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

(Issue raised as **CL05**)

The stakeholders invited and invitation process is not described sufficiently and the following are not included:

1) What kinds of stakeholder are identified to be invited and

2) The measures were taken to invite the stakeholders identified.

Furthermore, the stakeholders and their comments are summarized in the table. However, it is not clearly explained whether no comments were raised at 2nd SHC. And, the response to 3rd comments raised by the village chairman, "No actions are required." is not appropriate. Actually the UNIDO has given its support to the community to put their investment for productive use.

(Summary of the response on **CL05**)

The descriptions "The national/local relevant government officers and leading community members living in Kiuria Village were invited by letters and calling on themselves and their phones" and "The national relevant government officers were invited to Japan by letters and e-mails." are added.

"No actions are required." for 3rd comment was deleted and a new description was added. Also “At the second Stakeholder Consultation Workshop on 8th May 2014, they didn’t express comments regarding the installation of ULH-MHP.” was added.

(Assessment result of the responses on **CL05**)

By revisions to the final PDD by the PPs, the information on the LSCs has been described in the PDD appropriately. **CL05** was closed.

<Conclusion based on reporting requirements>

Please state conclusion based on reporting requirements.

The Team concluded that the local stakeholder consultations of the proposed JCM project were adequate.

C.7. Monitoring

<Means of validation>

Through document review and interviews with the project participants, the following

information was confirmed:

As for Monitoring Spreadsheet, the appropriate form, which is defined in the applied methodology and not altered, is used. It is cross-checked and concluded that the required fields of the spreadsheet are filled in appropriately.

Through reviewing the calculations, it is confirmed that the parameter to be monitored ex post is appropriately indicated as below:

- $EC_{total,y}$: Total electricity consumption by the consumers in year y of the project, is to be monitored and recorded continuously. Electricity meter is calibrated in line with international/national standards or manufacturer's specification.

<Findings>

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

(Issue raised as **CL06**)

The following are not indicated in the PDD and MPS;

1) The number corresponding to the number of parameter listed in the Monitoring Plan Sheet,
2) Any descriptions about the period of electronic data archiving,
3) Any personnel for actual monitoring activity and
4) Any personnel for the actual implementation of data collection and storage.

(Summary of the response on **CL06**)

1) The number, (1) was added to the figure of the PDD,
2) The description, "Data monitored and required for verification and issuance is kept and archived electronically for two years after the final issuance of credits." was added,

3)&4) Monitoring structure was revised as below:

i. "Operator" is appointed to be in charge of monitoring activities (data collection and storage), including monitoring equipment calibrations,
ii. "Project Deputy Manager" is appointed to be in charge of monitoring report, and managing and archiving of data after being checked and corrected when necessary.

(Assessment result of the responses on **CL06**)

The **CL06** was appropriately responded and accordingly closed.

<Conclusion based on reporting requirements>

Please state conclusion based on reporting requirements.

The Team concluded that Monitoring Plan of the proposed JCM project complied with the requirements of the methodology and/or PDD and Monitoring Guidelines, and the PPs had ability to implement the described Monitoring Plan, including Monitoring Structure Sheet.

C.8. Modalities of Communication

<Means of validation>

The Modalities of Communication (MoC) was submitted to JQA on 22/02/2017 with the PDD

for publication. It was confirmed that the latest version of the form for the MoC was used. All the four entities listed as PPs in the PDD are included in the MoC. NTT DATA INSTITUTE OF MANAGEMENT CONSULTING is nominated as a focal point entity.
For two entities from Kenya and NTT DATA INSTITUTE OF MANAGEMENT CONSULTING, personnel identities of the authorized signatory was confirmed through the direct communication for this validation. And the Team reviewed the website of "JAG Seabell Co., Ltd." and confirmed the personnel identity.

<Findings>

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

(Issue raised as **CL07**)

Neither each specimen signature & date for the PP (in the section 3, 5, 6 and 7) nor contact information of some PPs (in the section 3 and 5) are not completed. And the "Name of entity" of Project Participant (3) on Page 5, "Irrigation Water users' Association of Kiuria village", is not consistent with that of the PDD, "Mwea Irrigation Water Users' Association".

(Summary of the response on **CL07**)

The MoC was completed by adding all signatures and contact information. And the PP's was corrected.

(Assessment result of the responses on **CL07**)

The **CL07** was appropriately responded.

<Conclusion based on reporting requirements>

Please state conclusion based on reporting requirements.

The Team concluded that the MoC complied with all relevant forms and requirements.

C.9. Avoidance of double registration

<Means of validation>

It was confirmed through review of the relevant website (e.g. UNFCCC website, Markit Environmental Registry, etc.) that the proposed JCM project has not been registered under other international climate mitigation mechanisms. Also, the written confirmation of the avoidance of double registration was provided through the signed MoC, and was cross-checked through interview with PPs, with a satisfactory result.

<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 concluded that the proposed JCM project was not registered under the other international climate mitigation mechanisms at the stage of validation.

C.10. Start of operation

<Means of validation>

Through the interview with the project participants, it was confirmed that based upon the pre output tests in October and December 2016, the PPs has assured that the ULH-MHP system units are able to generate 20kW or more, as long as the water flow in the irrigation canal is enough, And that the starting date of project operation was identified as the expected date just after the output test.

<**Findings**>

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

(Issue raised as **CL08**)

The starting date of a JCM project stated in the PDD, 01/05/2017 seems to be unfeasible due to the fact that constructions of the facilities to be supplied with the electricity generated by the project have not started yet. The PPs were requested to reconsider a feasible "starting date of a JCM project", taking a feasible plan of the facility establishment into account.

(Summary of the response on **CL08**)

The new starting date, September 30, 2018 were provided in the final PDD. And the PPs provided as an evidence, “Kenya Report for UNIDO Sep 27-30, 2018 with signed Report” including the commissioning and project operation start issued by project equipment manufacturer, JAG Seabell Co., Ltd.

(Assessment result of the responses on **CL08**)

The report on commissioning and operation start states that the commissioning finished on Sept. 30th, 2018, and immediately the power generation equipment of the project entered into the condition for normal operation. It is confirmed that the starting date was revised appropriately. **CL08** was closed.

<Conclusion based on reporting requirements>

Please state conclusion based on reporting requirements.

The Team concludes that the start date of the project operation of the proposed JCM project was revised 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. This call for public comments is open from 01 to 30 Mar 2017 (24:00 GMT). The specific JCM website is as below: - https://www.jcm.go.jp/ke-jp/information/201

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; therefore, no action was required to be taken into due account by the project participants.

E. List of interviewees and documents received

E.1. List of interviewees

Motoshi Muraoka, Partner/Senior Executive Manager, NTT Data Institute of Management Consulting, Inc. Shintaro Higashi, Manager, NTT Data Institute of Management Consulting, Inc. Wendot Hosea, Chief Engineer, National Irrigation Board (NIB) Chrisantus Murunga, M&E Officer, NIB Mauris Mutugi, Chairman, Mwea Irrigation Water Users' Association (MIWUA) David em Gikunju, Administration Chief, MIWUA Pauline Muthoni, Member, MIWUA Dras Wanmbui, Administration Clerk, MIWUA (Dr.) Pacifica F. Achieng Ogola, Director Climate Change Programmes Coordination, Minitry of Environment and Natural Resources (MENR)

E.2. List of documents received

Normative References: ➢ JCM Approved Methodology LA_AM001 (JCM_KE_AM001_ver01.0.pdf), ➢ JCM Glossary of Terms (JCM_KE_Glossary_ver01.0) ➢ JCM Guidelines for Developing Project Design Document and Monitoring Report

(JCM_KE_GL_PDD_MR_ver03.0)

- JCM Project Cycle Procedure (JCM_KE_PCP_ver03.0)
- JCM Guidelines for Validation and Verification (JCM_KE_GL_VV_ver01.0)
- JCM Modalities of Communication Statement Form (JCM_KE_F_MoC_ver01.0.pdf)
- JCM Project Design Document Form (JCM_KE_F_PDD_ver03.0.docx)
- JCM Validation Report Form, (JCM_KE_F_Val_Rep_ver01.0.docx)

References provided by the PPs:

1) Project Design Document (draft), (JCM_KE_F_PDD_ver02.0_MICROHYDROv3.docx),
2) Project Design Document (final), (JCM_KE_F_PDD_ver03.0_v3.docx),
3) Monitoring Plan Sheet and Monitoring Structure Sheet (draft), (JCM_KE_AM001_KE001_ver01.0.xlsx),
4) Monitoring Plan Sheet and Monitoring Structure Sheet (final), (JCM_KE_AM001_KE001_ver01.0_v3.xlsx),
5) Modalities of communications statement (submitted with the draft PDD for publication), (JCM_KE_F_MoC_KE001_ver01.0v2),
6) Modalities of communications statement (a validated version for submission of request for registration), (JCM_KE_F_MoC_KE001_ver01.0_v3),
7) Presentation material with the title of "2nd Progress Report for UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION (UNIDO) - Promoting ultra low-head micro hydropower mini grids to increase access to energy for productive uses" used on 21 February 2017
8) Presentation material with the title of "Registration of “Micro Hydro project at Mwea as JCM project" dated January 2017
9) Presentation material with the title of "Result of JCM Feasibility Study“Micro Hydro project in Kenya” dated 21 January, 2017
10) Presentation material with the title of "Progress Update on Installation of ULH‐MHP Project in Mwea, Kirinyaga County, Kenya used on 21 February 2017
11) Contract with the number "3000025104" between UNIDO and Seabell International Co. Ltd. signed on 4 March, 2015
12) UNIDO Terms of reference for "PROJECT SAP ID 120601, Low Carbon Low Emission Clean Energy Technology Transfer Programme ‐ Kenya Component"
13) User mamual and instructions of "SSA~BOOM designed HYBRID CONTROLLER" supplied by Sanjiv Saraf & Associates
14) Kenya Report for UNIDO Sep 27-30, 2018 with signed Report including the map showing the locations of power generation equipment, power house and the community center, the information and photos of the actual productive use in the community, and the

commissioning/starting date of project operation.

15) Statutory useful life (i.e. legal durable years) shown by the website of National Tax Agency as the evidence for the "Expected operational lifetime of project", https://www.keisan.nta.go.jp/survey/publish/34255/faq/34311/faq_34360.php
16) Photo and specifications of the electricity meter actually installed at the power house
17) Environmental Impact Assessment License, NEMA/EIA/PSL/2937 issued by the National Environment Management Authority-Kenya (NEMA) on 2nd March, 2016
18) Minutes of the National Stakeholder Workshop held on 8 May, 2014
19) Report of Mwea Stakeholder Consultation Workshop held on 17 March, 2013
20) Minutes of the stakeholder consultation held on 21st February, 2017
21) Company information of JAG SeaBell Co., Ltd. on the website, http://www.jagseabell.jp/company/profile.html

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: 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	-

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	-