JCM Project Design Document Form

A. Project description

A.1. Title of the JCM project

Installation of Aerator for Industrial Wastewater Treatment Facility in Rubber Factory

A.2. General description of project and applied technologies and/or measures

Before the project for Installation of Aerator for Industrial Wastewater Treatment Facility in Rubber Factory (hereinafter referred to as the "project"), PT.ANEKA BUMI PRATAMA (PT.ABP), natural rubber company in Palembang city in South Sumatra province, Indonesia, treated industrial wastewater from rubber producing processes by aeration system with conventional diffuser in the wastewater treatment pond (WWTP) No.1 and No.2 for meeting wastewater quality standards of Palembang city.

Figure 1 WWTP No.1 (left) and No.2 (right) in PT.ABP

The project aims to enhance wastewater treatment capacity in PT.ABP as well as to reduce electricity consumption at blowers by replacing existing diffuser with "Aerator" developed by Suzuki Sangyo Co. Ltd. (hereinafter referred to as the "Suzuki"), which is aeration device with high water-air mixture capacity.

Figure 2 Applied energy saving device of aerator

There are two key points of aerator to reduce electricity consumption at blowers.

- **Pressure loss reduction**: since air pressure loss at aerator (approximately 80mmAq) is much smaller than diffuser (approximately 1,000mmAq), necessary electricity power for blower running can be reduced.
- **Intermittent air supply**: Since aerator enables intermittent air supply from blower (diffuser needs continuous air supply), blower operation can be controlled intermittently

and electricity consumption can be reduced.

A.3. Location of project, including coordinates

Country	Indonesia
Region/State/Province etc.:	South Sumatra Province
City/Town/Community etc:	Jl. Pulokerto Rt. 04 Rw.02 Kec. Gandus Palembang 30149
Latitude, longitude	3°01’30” S, 104°40’46” E

A.4. Name of project participants

The Republic of Indonesia	PT.ANEKA BUMI PRATAMA (PT.ABP)
Japan	Environmental Management and Technology Center (EMATEC)

A.5. Duration

Starting date of project operation	1st November 2020
Expected operational lifetime of project	18 years

A.6. Contribution from Japan

In the beginning of the proposed project, intermittent blower controlling technology, which is applicable only for aerator and enables to reduce electricity consumption at blowers, was introduced thorough the training for factory staff. Also, the proposed 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.

B. Application of an approved methodology(ies)

B.1. Selection of methodology(ies)

Selected approved methodology No.	AM_ID024
Version number	1.0

B.2. Explanation of how the project meets eligibility criteria of the approved methodology

Eligibility criteria	Descriptions specified in the methodology	Project information
Criterion 1	Aerator(s) is(are) installed to replace existing diffuser(s) in existing aeration pond(s) for wastewater treatment.	214 units of aerator, model type S-1 made by Suzuki, in WWTP1 and 288 units of the same aerator in WWTP2 were installed to replace existing diffusers.
Criterion 2	Effluent wastewater quality meets the wastewater quality standards on items such as biochemical oxygen	Effluent wastewater quality of BOD, COD and TSS in wastewater from WWTP1 and WWTP2 are monthly

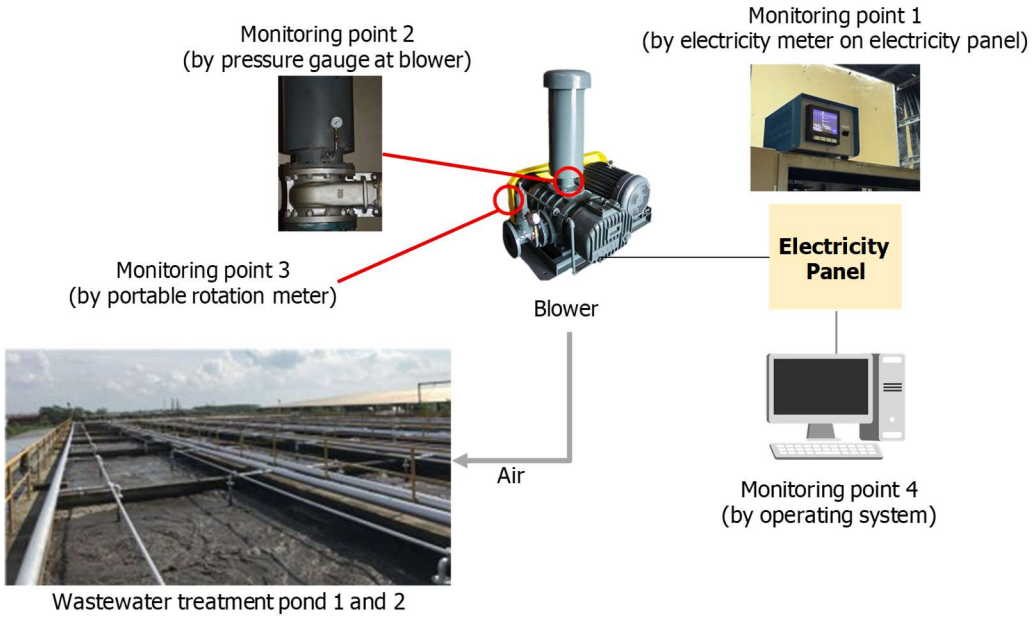
	demand (BOD), chemical oxygen demand (COD) and total suspended solids (TSS) which are applicable to the project site.	monitored and self-checked by the project participant under wastewater quality standard of Palembang city.

C. Calculation of emission reductions

C.1. All emission sources and their associated greenhouse gases relevant to the JCM project

Reference emissions	
Emission sources	GHG type
Electricity consumption by blower(s) which supply air to diffuser(s)	CO_2
Project emissions	
Emission sources	GHG type
Electricity consumption by blower(s) which supply air to aerator(s)	CO_2

C.2. Figure of all emission sources and monitoring points relevant to the JCM project



Monitoring point 1	Electricity consumption monitored by electricity meters
Monitoring point 2	Discharge pressure of blowers monitored by pressure gauge at blowers
Monitoring point 3	Rotation per minutes of blowers monitored by portable rotation meter
Monitoring point 4	Operating time of blowers and stop time of blowers during intermittent operation obtained by operating system

C.3. Estimated emissions reductions in each year

Year	Estimated Reference emissions (tCO_2e)	Estimated Project Emissions (tCO_2e)	Estimated Emission Reductions (tCO_2e)
2021	1,620	1,316	303
2022	1,620	1,316	303
2023	1,620	1,316	303
2024	1,620	1,316	303
2025	1,620	1,316	303
2026	1,620	1,316	303
2027	1,620	1,316	303
2028	1,620	1,316	303
2029	1,620	1,316	303
2030	1,620	1,316	303
Total (tCO_2e)			3,030

Note:
The estimated emission reductions in each year are rounded down after the decimal point.

D. Environmental impact assessment	
Legal requirement of environmental impact assessment for the proposed project	No

E. Local stakeholder consultation

E.1. Solicitation of comments from local stakeholders

In order to collect comments from stakeholders, a local stakeholder consultation has been conducted on 19 September 2018 at PT.ABP where the project was implemented in Palembang, Indonesia. The schedule and participants of the meetings are provided below.

Date: 19th September 2018
Venue: PT.ABP, Jl. Pulokerto Rt. 04 Rw.02 Kec. Gandus Palembang 30149

Agenda:

Time	Activity
13:00 ~ 13:30	Registration
13:30 ~ 13:35	Opening remarks by PT. ABP
13:35 ~ 13:40	Opening remarks by JCM Indonesia
13:40 ~ 13:45	Group photo
13:45 ~ 14:30	Project Overview and Introduced Technology
14:30 ~ 15:30	Site tour
15:30 ~ 15:55	Q&A and comments to receive from the participants
15:55 ~ 16:00	Closing

Local stakeholders:

No.	Organization	Position
1	Indonesia JCM Secretariat	Specialist
2	Coordinating Ministry for Economic Affairs	Head of Sub-Division
3	South Sumatra Provincial Government	Head of Dept.
4	PT. Aneka Bumi Pratama	President Director
5	PT. Aneka Bumi Pratama	Director
6	Environmental Management and Technology Center	Chief Manager

After explanation about the proposed JCM project, questions and comments were solicited from the stakeholders. A summary of the comments received and consideration of those comments are provided in Section E.2. below.

E.2. Summary of comments received and their consideration

Stakeholders	Comments received	Consideration of comments received
Indonesia JCM Secretariat	Effectiveness of aerator needs to be shared to rubber industries.	After the project will be registered, effectiveness of aerator will be reported to the rubber industry association in Indonesia.
Coordinating Ministry for Economic Affairs	Effluent wastewater qualities after aerator installation need to be kept under regulation values.	After installation of aerator (in July 2017), wastewater qualities are under regulation values. No action is required.
South Sumatra Province	To upgrade score of PT.ABP in environmental scoring system (PROPER) is expected in the future because aerator is already put in one of requirements in PROPER.	In the next evaluation of PROPER, ranking of PT.ABP is expected to be upgraded by evaluating introduction of aerator. No action is required.

F. References

N/A

Reference lists to support descriptions in the PDD, if any.

Annex

N/A

Revision history of PDD

Version	Date	Contents revised