(For in case)
Discussions for Activity 1-4

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EMB MEMORANDUM CIRCULAR
No. 2020 - ____

SUBJECT : GUIDELINES FOR THE TECHNICAL STANDARDS OF WASTE-TO-ENERGY FACILITY ON APPROPRIATELY CONTROLED COMBUSTION ~~WASTE INCINERATION~~ WITH POWER GENERATION

Keep the word of "Incineration"?

Raised by; DOST-ITDI, DENR-SWMD, NEDA-IPG, PPPC, DOE-REMB

Cat.	Items	Commenter	Comments
Title	Waste-to-Energy Facilities on ~~Waste Incineration~~ Appropriately Controlled Combustion with Power Generation	DOST-ITDI DENR-EMB-SWMD	As the conclusion of 6th SGM on 14Oct2020; Removal of the term "incineration" and substituting "Appropriately controlled combustion" instead to avoid controversial matter. > Then it was removed in 2nd draft.
		NEDA-IPG	Suggest to clearly delineate the types of WTE technologies (e.g., incineration)
		DOE-REMB	WTE facility involves not only power applications but also for non-power and other emerging WTE technologies.
		DOE-REMB	On 14Oct2020, it was concluded not to use the term incinerate/incineration in the draft due to the social acceptability of said term. However, the said term is used in Senate Bill No.1789.
		PPPC	Suggest to define "appropriately controlled combustion with power generation"

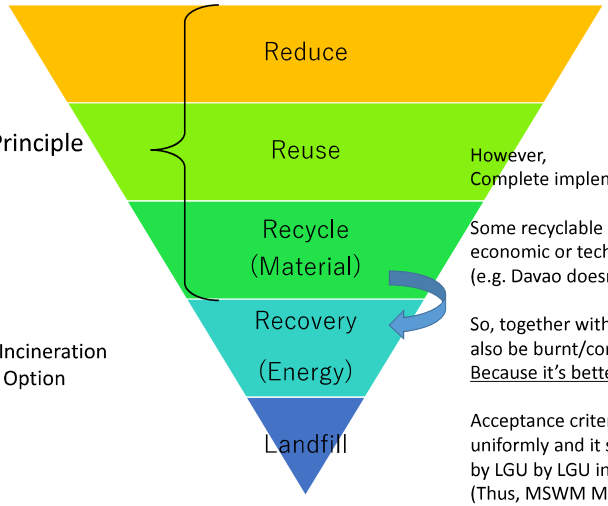
Legal categorization of wastes in Philippines

Categorization by activities/sources

Categorization by possession of haz. property		Agricultural Waste (Agro-waste)	Health Care Waste (HCW)	Chemical/ Industrial Waste	Household/ Domestic Waste	Commercial Waste	Institutional Waste	Street Litters	Const. & Demolish Waste
	Legal basis	RA9003 SB1789	DOH HCW Management Manual	RA9003 SB1789	RA9003 SB1789	RA9003 SB1789	RA9003 SB1789	RA9003 SB1789	RA9003 SB1789
	Municipal Waste	Solid Waste ????? (according to RA9003 and SB1789	General Waste						
	Hazardous Waste	Not generated?	Hazardous Health Care Waste/ Biomedical Waste	Much; Separately collected?	Less; Separately collected? Mixed with MSW?	Less; Separately collected? Mixed with MSW?	Less; Separately collected? Mixed with MSW?	Less; Separately collected? Mixed with MSW?	??? Separately collected?
	Source	Fields Process yards	Clinics Hospitals	Factories Laboratory	House	Offices Shops	Schools Gov. offices	Street	Const. sites
	Present disposal	Used in fields	Landfill or Thermal Treat	Landfill	Landfill	Landfill	Landfill	Landfill	Landfill
	With WtE disposal	Used in fields	Incineration	Incineration	Incineration	Incineration	Incineration	Incineration	Landfill

E-waste, batteries, etc.

Waste management hierarchy



3R Principle

WtE Incineration is 4th Option

However,
Complete implementation of 3R is unrealistic;

Some recyclable components are not recycled due to economic or technology availability reasons.
(e.g. Davao doesn't have plastic recycle factory)

So, together with non-recyclables, some recyclables will also be burnt/converted to Energy.
Because it's better than landfilling.

Acceptance criteria for WtE facility can't be specified uniformly and it shall be specified by LGU by LGU in its procurement.
(Thus, MSWM Master Plan is essential.)

Appendix 11

Definition of WTE Feedstock

Raised by; DOE-REMB, DENR-SWMD, NEDA-IPG, PPPC, Quezon City,

Source	Definitions of "WTE feedstock"	JET comments
DAO2019-21	**Feedstock** refers to the segregated biodegradable or residual waste materials supplied to the WtE facility to generate heat or electricity	As stated in previous slide, in many cases WtE has no choice to receive other than "segregated biodegradable or residual waste materials" so it shall be a bit more flexible.
	Residual Waste shall refer to any material generated after the implementation of 3Rs (Reduce, Reuse, Recycle) with fuel value.	The intention is to limit only 3R residuals with fuel value can be fed to WtE as "Feedstock". But this definition doesn't consider about 3R residuals w/o fuel value, such should also be "residual waste".
Senate Bill 1789	**WTE feedstock** refers to the waste martials with calorific-value that are taken in for WTE processing in a WTE facility	In contrast with above, this definition lead recyclables to be fuel even if there is still opportunity for material recycle.
JET proposed definition in draft T/S	**WtE Feedstock** shall refer to any residual waste after the implementation of 3Rs (Reduce, Reuse, Recycle) by LGUs at optimum economical extent to be supplied to the facility for the purpose of recovering its thermal energy.	The concept of this is that LGUs have to design and implement maximum effort for the 3Rs at that moment. WTE can accept such remain which has value to be energy as the feedstock.

Consistency with Senate Bill 1789

Raised by; DOE-REMB, NEDA-IPG

- Proposed mandates to NSWMC are same with TCP activities;

Section 6. NSWMC shall (cont. from page 7);

(b) Act as the lead agency in ensuring streamlined standards, criteria, and guidelines for WTE facilities to avoid inconsistent and conflicting issuances;
(c) Regularly determine, review, and publish the following:
(i) Standards, criteria, and guidelines for:
1. Characterization and composition of solid waste utilized as WTE feedstock for WTE facilities to ensure emissions are compliant with Republic Act No. 8749 and other relevant laws, rules, and regulations,
2. Transport, storage, and pre-processing of WTE feedstock,
3. Pre-operation, siting, design, operation, and maintenance of WTE facilities,
4. Quality control and operational control of WTE facilities,
5. Management of residue from WTE facilities, if any;
6. Pollution abatement, emissions monitoring, environmental monitoring, and public health and safety monitoring in relation to WTE facilities,
7. Decommissioning, closure, and abandonment of WTE facilities, and
8. Other guidelines pursuant to relevant laws, rules, and regulations, and
(ii) Minimum standards, criteria, and guidelines, in determining a fair, equitable, and reasonable processing fee for WTE facilities taking into consideration, among others, the cost of construction, operation, and

No.3 & 7 will be guided in **Activity 1-6** **"Prepare manual for planning, evaluation, formulation & supervision for WTE projects"**,

No. 4, 5 & 6 are presently prepared in **Activity 1-4** **"Prepare draft technical standards for WTE facility focused on waste incineration with power generation"**,

Appendix 11

2nd ITWG Meeting

"Tentative observations and suggestions"

Activity 2-5 Define points & issues to be addressed for formulating WTE projects in the target LGUs

3rd December 2020

The Technical Cooperation Project (TCP) for Capacity Development on Improving Solid Waste Management (SWM) through Advanced/Innovative Technologies

1. Tentative Observation and Suggestion

NIPPON KOEI

1. Tipping fees for waste

Observation

- Present SWM cost shouldered by LGUs is NOT enough/reasonable to support desirable SWM
- Thus, some SWM components can not be improved to be appropriate level
- LGUs can not accept further increase of T/F (tipping fees) associated with WTE

Suggestion

- Cost for appropriate SWM shall be estimated based on actual needs and prices and be reflected in 10-year SWM plan as well as budgetary plan of LGUs
- T/F shall be reasonably decided based on the estimated cost above

2. Misunderstanding on SWM-PPP including WTE

Observation

- "Through PPP scheme, the waste can be converted to money" is not true.
- Two types of PPP projects
  1. revenue generated and revenue sharable PPP project (such as toll road, power generation, water distribution projects)
  2. service fee payment-based PPP
- SWM project is 2nd type, where service fee (T/F) shall be paid by LGU to private entity

Suggestion

- In SWM-PPP projects, LGUs shall pay T/F in the project period to private investor to recover their initial investment.
- Total government expenditure through project period is mostly same in both government-own and PPP in BOT or DBO. (it is called as "Public Sector Comparator" In Japan)

Appendix 11

3. Responsibility of LGUs

Observation

- The meaning of “primarily responsibility of LGU” in RA9003 are really understood by LGUs?
- Waste Treatment and Cleanness Law (1970) of Japan
  - "even if LG contract out the construction, O&M of SWM to private entities, LGU still have all responsibilities of it.”

Suggestion

- Any suspension of SWM is failure of LGU
  - private company failed to comply with environmental standard
  - bankrupt and cease operation
- All risks shall be removed in procurement of WTE project
  - Proper evaluation both technical and financial aspects
  - Avoidance/recovery plan before the start of SWM facility operation, so as to ensure non-stop operation of SWM
- LGUs shall continuously monitor performance of the WTE, while EMB regional office is in charge of monitoring too.

4. Needs of technical expertise in LGUs

Observation

- No experts on WTE technology in LGUs
  - LGUs need expertise to evaluate proposed projects that sometimes misleading and unrealistic
- LGUs that don‘t have technical capability; they tend to outsource all SWM activities, usually to a single private company.
  - Too much reliance on one company has much risks such as;
    - private company may cease the operation by their discretion if project is no longer profitable,
    - To find out successor of operation in particular patented/complex facility is not possible in short time,
    - private company requests LGUs to increase processing cost (T/F) and LGU is compelled to agree it

Suggestion

- LGU shall be prepared to have technical capability
- To hire experienced WTE expert in other countries
- NSWMC/DENR to train/educate/support for WTE projects

5. Solicited Approach based on SWM plan

Observation

- Difficulties for LGUs to evaluate unsolicited proposal without idea of “proper” development approach of WTE.

Suggestion

- LGUs to realize what SWM they need
- LGUs can specify and require what SWM they need by solicited approach
- Solicited approach for WTE to be considered, same like other public service infrastructure
- Waste Quality and Quantity:
  - LGUs must know its MSW stream and how much of waste, what kind waste they can supply to the WTE
- Scope of project:
  - LGUs to clarify components that LGU manages and private sector will be in charge of

6. Definition of waste category, 7. segregation in RA9003
8. Waste category in WACS

Observation

- IRR of RA9003,
  - In Rule VIII: “Waste segregation and collection shall be conducted at the barangay level specifically for **biodegradable/compostable** and **reusable/recyclable** wastes. The collection and disposal of **non-recyclable/non-recoverable** materials and special wastes shall be the responsibility of the city or municipality.”
  - In Rule IX: The requirement for the segregation; “Responsibility for sorting and segregation of **biodegradable** and **non-biodegradable** wastes shall be at the household level”
- Some terms in these provision are not clear
  - Difference between “**non-recyclable/non-recoverable**” and “**residual**”?
  - “**Residual**” waste generated in LGUs commonly contains not only “**non-recyclable/non-recoverable**” materials but also “**biodegradable**”, **reusable/recyclable**” material in case of neither appropriate segregation/recovery system nor sufficient demand in the local market of recyclables and compost

6. Definition of waste category, 7. segregation in RA9003
8. Waste category in WACS

Suggestion

- Definition of "residual waste"
  - "waste which can not be reduced, reused and recycled, in economically and/or technically, in the LGU's waste treatment system including material recovery and utilization industries and other circumstances"
- LGUs to define **materials** classified into the residual waste in their SWM plan.
- LGUs understand the meanings and necessity of WACS for "residual waste" to consider how to control/manage/minimize their "residual waste".
- Waste category in WACS shall be in **material** basis and not the **usage** basis so that treatment/recycling options by material can be studied.

9. Accumulated data of solid waste quantity and quality

Observation

- LGUs do not have waste quantity and quality data
  - with sufficient period
  - with weekly, seasonal and annual fluctuations

Suggestion

- LGUs to have "at least" statistic quantity data of MSW disposal because SWM processing facility shall need the information of "target waste" quantity, in planning any facility such as WTE or MRF
- Waste category in WACS in continuous manner is also required to prepare appropriate project capacity.
- In addition, simple WACS result is not enough/usable.
- Study report which includes implemented period (season, time), detail sampling and analytical procedure, etc. should be available for technical analysis

10. Address to Environmental NGOs

Observation

- The environmental NGOs, they sometimes put all incineration technologies in one basket. When they hear burning, they are automatically against it.

Suggestion

- Program must be developed to educate the LGUs how to consult with the NGOs.

11. Change of administration/Long-term WTE development plan

Observation

- Political risk (e.g. New elected government official might cause a change of decision) is the one of biggest risks for the private investor. It shall be taken by LGU side (and guaranteed by NG, etc.) for long-term contract.
- In case of QC, MPIC's proposal was evaluated and agreed with previous administration, but not yet agreed with present Mayor. This affects city's sanitation continuity plan as well as budget for MSWM.
- Similar change on the decision for WTE is observed for Cebu City due to change of city administration.

Suggestion

- LGUs to have a consistent long-term MSWM Plan including WTE development backed by LGUs' budgetary plan
- Long term plan to be disclosed so that citizens, politicians and investors can be aware of it

Any Comments from members?

NIPPON KOEI

Appendix 11

2nd ITWG
for

Output 3: Enhancement of the National government's capacity of environmental monitoring for WTE project

3rd December 2020

The Technical Cooperation Project (TCP) for Capacity Development on Improving Solid Waste Management (SWM) through Advanced/Innovative Technologies

Contents of the Presentation (Output 3)

1. Objectives and Activities of Output 3
2. Outline of the Progress of Each Activities
   a. Review the current capacity/activities and analyze gap
   b. Formulate training plan based on the gap analysis
   c. Training for formulating SOPs
3. Topics Related to Dioxin/Furan Measurement

1. Objectives and Activities of Output 3

- Objective: The enhancement of the National government's capacity of environmental monitoring for WTE project

- Specific activities
  - **3.1 Review the current capacity/activities** for sampling/analysis/QA/QC of Dioxins and Furans (D&F)in ambient air, emission gas and other media (Soil/Surface water/Sediments) in Central and Regional Offices of EMB
  - **3.2 Analyze gap** between the present capacity of the EMB Central Office and required capacity for proper sampling/analysis/QA/QC of D&F in ambient air, emission gas and other media (Soil/Surface water/Sediments) and formulate the training plan
  - **3.3 Prepare Standard Operation Procedures (SOP)** for sampling/analysis/QA/QC of D&F in ambient air and emission gas
  - **3.4 Conduct training of sampling/analysis/QA/QC** of D&F in ambient air and emission gas in EMB Central Office
  - **3.5 Prepare Sampling Plan (Design)** for the collection of D&F in ambient air
  - **3.6 Implement sampling/analysis/QA/QC** of D&F in ambient air and emission gas by EMB Central Office at existing SWM facilities based on SOP in output 3.3.

2. Overview of the Progress of Each Activities

a. Review the current capacity/activities and analyze gap (3.1 & 3.2)

Item	Key Findings
Monitoring Planning	[Small gaps] Monitoring manuals for emission gas, ambient air and water has already been prepared, and manuals for sediment and soil are under preparation.
Sampling	[Some gaps] Isokinetic sampling is a key technique of emission gas; it can be conducted by Regional offices and AQMS. Some specific technique for D&F sampling (i.e. contamination control and preparing capturing/ adsorbent materials) need to be enhanced.
Pretreatment	[Some gaps] ERLSD has got various techniques through the POPs analysis, but some specific technique (especially for contamination control) for D&F pretreatment need to be enhanced.
Analysis	[Some significant gaps] Operation verification of GC/HRMS is still undergo. Operation of software (DIOK: D&F analysis program) need to be enhanced. Experience of regular/ routine maintenance of GC/HRMS is still not enough particularly for the case of the local service provider.

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2. Overview of the Progress of Each Activities

Item	Key Findings
QA/QC	[Some gaps] POPs analysis has been conducted appropriately, but since the D&F sampling/ monitoring is not frequent, QA/QC method for D&F analysis is still to be strengthened
Common items (SOP, etc.)	[Some gaps] Since the D&F sampling/ monitoring is not frequent, existing SOP for D&F analysis needs refinement. The existing SOP was prepared not only based on EPA method, but also based on the knowledge obtained from the training in NMI Australia.
Continuity of monitoring	[Some gaps] In case the GC/HRMS malfunctions, lead time will be much longer because there is only one GC/HRMS. Ability of each staff is very high, but the number of staffs might not be sufficient if more frequent D&F monitoring will be conducted.

2. Overview of the Progress of Each Activities

b. Formulate training plan based on the gap analysis (3.2)

Item	Training Plan (Proposal from JET)
Prepare SOPs	JET reviewed the existing SOP (based on EPA Method 1613, provided by ERLSD) and sent some advices which included some recommendations for developing SOPs. Based on the advices, ERLSD will prepare SOPs for stack gas and ambient air analysis, then JET will review them. As for sampling, manuals are already prepared by AQMS, and sampling works are implemented without problems. Thus, existing manuals can be referred/ utilized for sampling SOPs. JET will recommend specific information which should be added for D&F sampling (i.e. preparation and preservation of capturing/adsorbent materials), and ERLSD will prepare supplemental documents for the existing manuals.
Conduct training of sampling, analysis and QA/QC of Dioxins and Furans	Stack gas sampling training: ERLSD will join stack gas sampling training organized by AQMS and acquire skills for isokinetic sampling (the most important technique). For specific technique for Dioxin/ Furan sampling, ERLSD is able to learn from supplier of stack sampler. JET will provide some knowledge for contamination control based on Japanese experiences.

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2. Overview of the Progress of Each Activities

Item	Training Plan (Proposal from JET)
Conduct training of sampling, analysis and QA/QC of Dioxins and Furans	Ambient air sampling training: ERLSD will ask AQMS to learn about on-site calibration and routine maintenance. JET will provide some knowledge for contamination control based on Japanese experiences.
	Operation verification of GC/HRMS [MOST URGENT]: Some verification activities as required by EPA Methods 1613, TO-9A and Method 23 needs to be prioritized. JET will review the results once ERLSD sends these to JET.
	Analysis training: Basically, the training will be conducted by spike and recovery test. Blank test will be included in the training.
Prepare Sampling Plan (Design) for ambient air samples	JET will recommend ambient air sampling plan of baseline/ follow-up survey for WTE facilities, considering laws and policies for EIA in Philippine and experiences of Japan.

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2. Overview of the Progress of Each Activities

Item	Training Plan (Proposal from JET)
Implement sampling, analysis and QA/QC of Dioxins and Furans	For ambient air: Sampling will be conducted rooftop of DENR-EMB laboratory, by considering utility like electricity and accessibility for staff. For stack gas: If possible, sampling will be conducted at cement kiln facility at the same time of its annual monitoring. To realize the sampling, AQMS/ regional office's cooperation is necessary.

2. Overview of the Progress of Each Activities

☐ Training for formulating SOPs (3.3)

Main recommendation for preparing the D&F SOPs is:
◆ Making comparison table between SOP and EPA method

ERLSD has drafted D&F SOP based on EPA method 1613, the contents include some techniques which are not described in EPA method. These differences should be clarified with reasons and validity.
The comparison table will make it possible to:

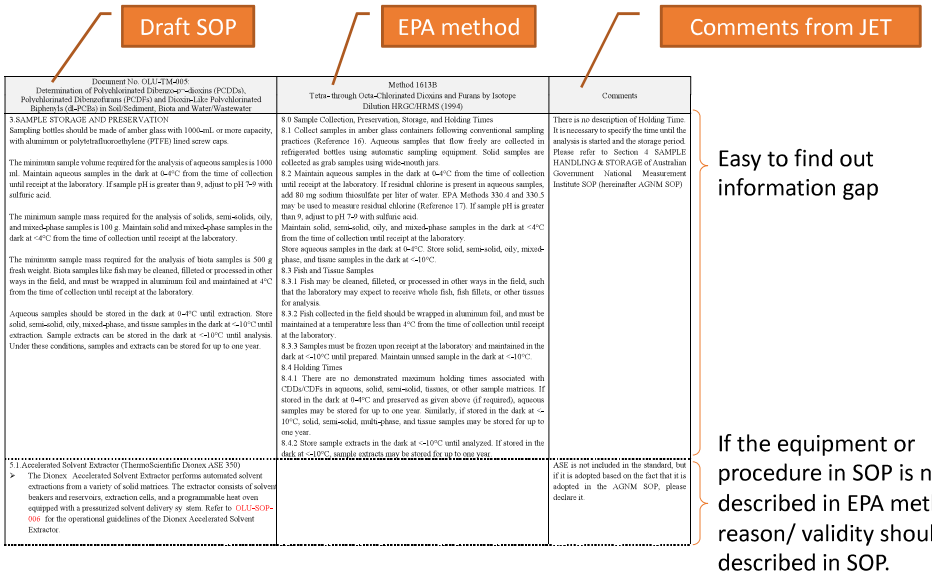
- ➢ Identify every difference between SOP and EPA method very easily.
- ➢ Decide a necessity of validation/ verification test
- ➢ Judge whether the description is sufficient.

Moreover, making comparison table will surely help to establish Philippine official standard method in future.

☐ JET already sent recommendations for SOP in June 2020 and would like to start discussion once the training plan was accepted.

2. Overview of the Progress of Each Activities

Example of comparison table



Document No. OLU-TM-005: Determination of Polychlorinated Dibenzo-p'-dioxins (PCDDs), Polychlorinated Dibenzofurans (PCDFs) and Dioxin-Like Polychlorinated Biphenyls (dl-PCBs) in Soil/Sediment, Biota and Water/Wastewater	Method 1613B Tetra- through Octa-Chlorinated Dioxins and Furans by Isotope Dilution HRGC/HRMS (1994)	Comments
3.SAMPLE STORAGE AND PRESERVATION Sampling bottles should be made of amber glass with 1000-mL or more capacity, with aluminum or polytetrafluoroethylene (PTFE) lined screw caps. The minimum sample volume required for the analysis of aqueous samples is 1000 mL. Maintain aqueous samples in the dark at 0–4°C from the time of collection until receipt at the laboratory. If sample pH is greater than 9, adjust to pH 7–9 with sulfuric acid. The minimum sample mass required for the analysis of solids, semi-solids, oily, and mixed-phase samples is 100 g. Maintain solid and mixed-phase samples in the dark at <4°C from the time of collection until receipt at the laboratory. The minimum sample mass required for the analysis of biota samples is 500 g fresh weight. Biota samples like fish may be cleaned, filleted or processed in other ways in the field, and must be wrapped in aluminum foil and maintained at 4°C from the time of collection until receipt at the laboratory. Aqueous samples should be stored in the dark at 0–4°C until extraction. Store solid, semi-solid, oily, mixed-phase, and tissue samples in the dark at <–10°C until extraction. Sample extracts can be stored in the dark at <–10°C until analysis. Under these conditions, samples and extracts can be stored for up to one year.	8.0 Sample Collection, Preservation, Storage, and Holding Times 8.1 Collect samples in amber glass containers following conventional sampling practices (Reference 16). Aqueous samples that flow freely are collected in refrigerated bottles using automatic sampling equipment. Solid samples are collected as grab samples using wide-mouth jars. 8.2 Maintain aqueous samples in the dark at 0–4°C from the time of collection until receipt at the laboratory. If residual chlorine is present in aqueous samples, add 80 mg sodium thiosulfate per liter of water. EPA Methods 330.4 and 330.5 may be used to measure residual chlorine (Reference 17). If sample pH is greater than 9, adjust to pH 7–9 with sulfuric acid. Maintain solid, semi-solid, oily, and mixed-phase samples in the dark at <4°C from the time of collection until receipt at the laboratory. Store aqueous samples in the dark at 0–4°C. Store solid, semi-solid, oily, mixed-phase, and tissue samples in the dark at <–10°C. 8.3 Fish and Tissue Samples 8.3.1 Fish may be cleaned, filleted, or processed in other ways in the field, such that the laboratory may expect to receive whole fish, fish fillets, or other tissues for analysis. 8.3.2 Fish collected in the field should be wrapped in aluminum foil, and must be maintained at a temperature less than 4°C from the time of collection until receipt at the laboratory. 8.3.3 Samples must be frozen upon receipt at the laboratory and maintained in the dark at <–10°C until prepared. Maintain unused sample in the dark at <–10°C. 8.4 Holding Times 8.4.1 There are no demonstrated maximum holding times associated with CDDs/CDFs in aqueous, solid, semi-solid, tissues, or other sample matrices. If stored in the dark at 0–4°C and preserved as given above (if required), aqueous samples may be stored for up to one year. Similarly, if stored in the dark at <–10°C, solid, semi-solid, multi-phase, and tissue samples may be stored for up to one year. 8.4.2 Store sample extracts in the dark at <–10°C until analyzed. If stored in the dark at <–10°C, sample extracts may be stored for up to one year.	There is no description of Holding Time. It is necessary to specify the time until the analysis is started and the storage period. Please refer to Section 4 SAMPLE HANDLING & STORAGE of Australian Government National Measurement Institute SOP (hereinafter AGNM SOP)
5.1 Accelerated Solvent Extractor (ThermoScientific Dionex ASE 350) ➢ The Dionex Accelerated Solvent Extractor performs automated solvent extractions from a variety of solid matrices. The extractor consists of solvent beakers and reservoirs, extraction cells, and a programmable heat oven equipped with a pressurized solvent delivery sy stem. Refer to OLU-SOP-006 for the operational guidelines of the Dionex Accelerated Solvent Extractor.		ASE as not included in the standard, but if it is adopted based on the fact that it is adopted in the AGNM SOP, please declare it.

3. Topics Related to Dioxin/Furan Measurement

☐ In January 2020, EPA proposed revisions to Method 23 and announced about public participation.
https://www.federalregister.gov/documents/2020/01/14/2019-27842/epa-method-23-determination-of-polychlorinated-dibenzo-p-dioxins-and-polychlorinated-dibenzofurans

✓ New method 23 will be developed to reflect improvements in sampling and analytical techniques. Method 1613 was introduced as an example of newer method.
✓ PCBs and PAH will be added to list of target compounds of new method 23.

☐ JET suppose it will not be long before revised Method 23 is published. JET would like to recommend ERLSD will prepare new SOP based on revised Method 23.

Appendix 11

2nd ITWG

Output 4: Enhancement of The National Government's Capacity to identify issues and provide suggestions/recommendations for other SWM technologies other than WTE

3rd December 2020

The Technical Cooperation Project (TCP) for Capacity Development on Improving Solid Waste Management (SWM) through Advanced/Innovative Technologies

Agenda

1. **Outline of Output 4**
2. Review the activity 4-1 and the activity 4-2
3. Review the activity 4-3
4. How to proceed with future activities of output4

Agenda

1. Outline of Output 4
2. Review the activity 4-1 and the activity 4-2
3. Review the activity 4-3
4. How to proceed with future activities of output4

1. Outline of Output 4

Output 4

National Government's and target LGUs' capacity to identify issues and provide suggestion/recommendation for other SWM technologies than WTE is enhanced.

Specific activities

4.1 Grasp the current situation by National SWM strategy and 10 year SWM plan in the target LGUs.

4.2 Identify the current issues for other SWM technologies in the target LGUs.

4.3 Collect the information of "Good practice/Good technology" of other SWM technologies in Japan/third world countries.

4.4 Summarize and provide suggestion/recommendation to improve utilization of other SWM technologies to target LGUs.

4.5 Seminar for disseminating suggestion/recommendation is held.

1. Outline of Output 4

Schedule of activities

Activities	1st Year Mar/'19 - Mar/'20	2nd Year Apr/'20 - Mar/'21	3rd Year Apr/'21 - Mar/'22
4.1			
4.2			
4.3			
4.4			
4.5			
Sub-Group MTG	13-Feb ★	24-Jun ★ 3-Sep ★	
Main activity	• Grasp the current situation and Identify the current issues by National SWM strategy and 10 year SWM plan in the target LGUs.	• Collect the information of "Good practice/Good technology" of other SWM technologies in third countries. • Summarize and provide suggestion/recommendation to improve utilization to target LGUs.	• Seminar for disseminating suggestion/recommendation is held.

Activity 4-1 and 4-2

i. Review of 10 years plan of LGUs regarding other technologies than WTE

ii. Observations on the present situation of SWM of target LGUs

Agenda

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2. Review the activity 4-1 and 4-2

Challenges for SWM in target LGUs

1. Budget of Waste Management

- With increasing residents and their waste generation, how to secure the budget for SWM?
- Challenges to collect the fee; e.g. How to agree with people for appropriate and reasonable rate of garbage fee
- Planned budget for SWM Plan can be allocated by/from central government? How can the LGUs request increase of budget allocation?

Next Step

- ➢ Research methods on obtaining budget and funding by/in other countries
- ➢ Analyze the suitable method to obtain funding for each LGU

2. Waste Generation Quantity and Quality

- Analysis and evaluation of the waste data (generation trend, physical composition, chemical composition etc.) by LGUs are still a challenge

Next Step

- ➢ Refer to the WACS methods and data management of/in other countries

Appendix 11

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2. Review the activity 4-1 and 4-2

Challenges for SWM in target LGUs

3. Collection and Transportation of Waste

- Incomplete segregation and separate collection

Next Step

- Research good examples of segregation and separate collection of other countries
- Analyze the suitable segregation methods, including type of wastes in segregation, for each LGU

4. Intermediate treatment facility /3R

- Segregation does not make sense without recycling including recycling facilities.
- There is no budget and land for recycling facility.

Next Step

- Research the method of recycling for each kind of waste in LGU
- Research the scheme of implementation; e.g. subsidy from national government, PPP and selling a by-product
- Analyze the suitable recycling facility and implementation scheme for each LGU

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Agenda

1. Outline of Output 4
2. Review the activity 4-1 and the activity 4-2
3. **Review the activity 4-3**
4. How to proceed with future activities of output4

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2. Review the activity 4-1 and 4-2

Challenges for SWM in target LGUs

5. Landfill

- Necessity of the infrastructure rehabilitations for waste overflow and rough road

Next Step

- Identify the need for rehabilitation or new landfill

6. Education of Waste Management

- Insufficient understanding of responsibilities of residents for SWM

Next Step

- List the items for SWM that should be understood by residents; e.g. reduce the waste, segregation, collection of garbage fee
- Research the IEC method for the items listed above
- Analyze the suitable method for each LGU

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3. Review the activity 4-3

Allocation of the Activity 3

Item	Research for "Good practice/Good technology"	The Organization in Charge
Budget	• methods on obtaining budget and funding by/in other countries	JET
Waste Generation Quantity and Quality	• WACS methods and data management in other countries	DOST
Collection and Transportation	• Good examples of segregation and separate collection of other countries	Cebu City
Intermediate treatment facility /3R	• Method of recycling for each kind of waste in LGU • The scheme of implementation; e.g. subsidy from national government, PPP and selling a by-product	DOST
Landfill	• Identify the need for rehabilitation or new landfill	Davao City
Education (IEC)	• List the items for SWM that should be understood by residents • The IEC method for the items listed above	Quezon City

EJEC

Appendix 11

3. Review the activity 4-3

Good Practice of Collection and transportation

1. Segregation	Station collection
• Decide the point of collecting garbage in advance and collect specific waste on a fixed day. Since unsorted garbage is not collected, the accuracy of separation of residents increases. • Recyclable products are divided into cans, bottles, PET bottles, Styrofoam, and cardboard. For recyclable product, separation boxes need to be installed.	

3. Review the activity 4-3

Good Technology of Intermediate treatment facility /3R

Title	**URENCO Refuse Paper and Plastic Fuel (RPF)** Hanoi, Vietnam
Outline	• Refuse paper and plastic fuel (RPF) is a subclass of RDFs and serve as a compacted burning source with high calorific value • Calorific value can be adjusted by changing the mixing ratio of waste paper and waste plastic. • RPF's ash percentage is less than 6%(Coal's ash percentage is 12-15%) • RPF production led by URENCO company in Hanoi together with Ichikawa Kankyo Engineering (IKE) cooperation in Japan. Aims to produce over 12000 T of RPF pellets • Suitable technology for industrial waste like those from paper factory because the waste is already segregated. • Refuse paper and plastics from household wastes must be segregated and collected separately

URENCO 11 RPF Facility

RPF pellets

Truong N. 2018. Solid Waste Management in Vietnam: Current situation, challenges and strategies for development. Metropolia University of Applied Sciences

3. Review the activity 4-3

Good Technology of Landfill

Title	**Surface Liner Facility**
Outline	• Vertical piping system placed in the landfill to collect gas for treatment or productive use as an energy source; **Positive Point:** • Allows for the escape and avoid build-up of methane and other gases in the landfill. **Negative Point:** • Regular inspection of pipes (leachate collection and gas vents) to ensure efficiency of system. Prone to obstruction and damage.

Title	**Surface Liner Facility**
Outline	• A system of clay layers and/or geosynthetic membranes used to contain leachate. **Positive Point:** • Reduce or prevent contaminant flow to groundwater. **Negative Point:** • May be prone to damage or breakage due to passage of equipment or other factors.

3. Review the activity 4-3

Good Practice and Technology Case study (Booklet and Web site)

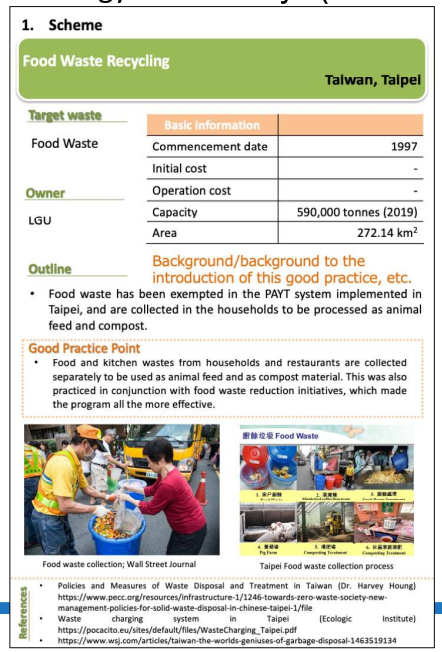
Booklet Sample


1. Scheme
Title of Good Practice
Country, (Prefecture)
Target waste
XXXX
Basic information
Commencement date 199X/X
Initial cost
Operation cost
Capacity
Area XXX m2
Owner
XXXX City
Outline
Good Practice Point
XXXXX
XXXXXX
XXXXXX
XXXXXXXXXXXXXX
XXXXXXXXXXXXXX

3. Review the activity 4-3

Good Practice and Technology Case study (Booklet and Web site)

Booklet Sample



1. Scheme

Food Waste Recycling — Taiwan, Taipei

Target waste: Food Waste

Owner: LGU

Basic information	
Commencement date	1997
Initial cost	-
Operation cost	-
Capacity	590,000 tonnes (2019)
Area	272.14 km²

Outline: Background/background to the introduction of this good practice, etc.

- Food waste has been exempted in the PAYT system implemented in Taipei, and are collected in the households to be processed as animal feed and compost.

Good Practice Point

- Food and kitchen wastes from households and restaurants are collected separately to be used as animal feed and as compost material. This was also practiced in conjunction with food waste reduction initiatives, which made the program all the more effective.

Food waste collection; Wall Street Journal

Taipei Food waste collection process

References

- Policies and Measures of Waste Disposal and Treatment in Taiwan (Dr. Harvey Houng) https://www.pecc.org/resources/infrastructure-1/1246-towards-zero-waste-society-new-management-policies-for-solid-waste-disposal-in-chinese-taipei-1/file
- Waste charging system in Taipei (Ecologic Institute) https://pocacito.eu/sites/default/files/WasteCharging_Taipei.pdf
- https://www.wsj.com/articles/taiwan-the-worlds-geniuses-of-garbage-disposal-1463519134

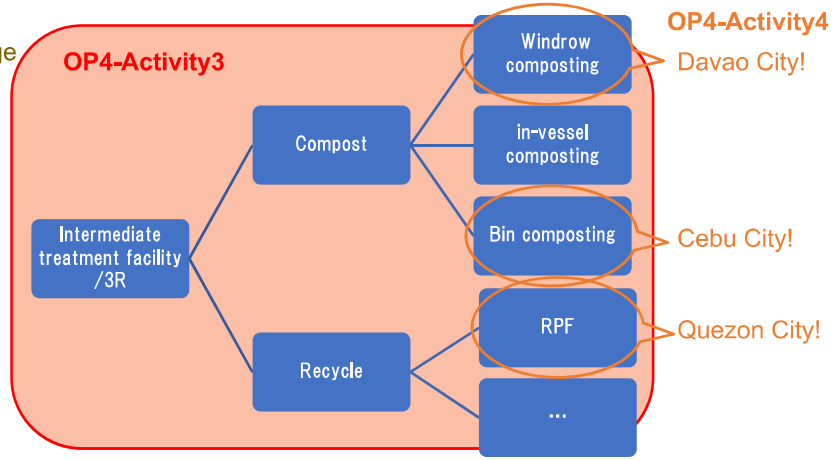
Agenda

1. Outline of Output 4
2. Review the activity 4-1 and the activity 4-2
3. Review the activity 4-3
4. **How to proceed with future activities of output4**

4. How to proceed with future activities of output4

- At Activity 4 (summarize recommendation to target LGUs), suitable technology will be found from the information of OP4-Activity3.
- At Activity 5 , target LGUs make a presentation about the result of suitable technology for each LGU at the seminar.

Image



Thank you very much!

Updated Project Schedule and Activities

(Proposal)

3rd December 2020

The Technical Cooperation Project (TCP) for Capacity Development on Improving Solid Waste Management (SWM) through Advanced/Innovative Technologies

Contents

Addition in the TCP activities

Output 1 (as additional activity)

Review and modification of Sanitary Landfill regulations considering possible disposal of incineration ash (Activity 1-8)

1. Background
   - Nature of residues from WTE facility is different from usual municipal wastes
   - These residues may be disposed of at the sanitary landfills
   - Required function and environmental standards for the landfill must be reviewed and amended as appropriate to accept residues from WTE
2. Actual works
   - Review of present operation of sanitary landfill
   - Review and suggestion on modification of requirement in terms of:
     - facility [function],
     - management/operation,
     - Environmental aspects such as effluent standards of leachate
3. Expected person in charge:
   - SWMD, HWMS with supports by JET

Nature of WTE residue, Protests to the operation of sanitary landfill

- Heavy metal contents and their accumulation → to be considered in standards of effluent
- Facility function, operation, management → to be adjusted for receiving and disposing WTE residues
- Because of concern on leakage of heavy metals in water bodies, many conflicts between general people and LGUs (landfill operators) were observed in Japan

Appendix 11

Activity 2-6 of Output 2

Support to SWM PPP projects to clarify responsibilities of LGUs under PPP scheme

Activity2-6: Define the proper responsibility (including financial responsibility) of LGU in promoting WTE project under PPP scheme.

1. Background
   - SWM PPP projects other than WTE are also promoted by the Governments
   - PPPC take important role to support LGUs to develop PPP project
   - PPPC faced difficulties to evaluate the SWM technologies in some cases
   - SWMD to know what kind of SWM PPP project and how these projects are developed.
2. Actual works
   - Review SWM PPP projects to check responsibilities of LGUs under PPP scheme
   - Evaluate SWM PPP projects in terms of technology, finance and social/environment
     * PPP projects discussed in LGUs other than the target LGUs can be selected
     * SWM technologies can be WTE technologies other than waste combustion
3. Expected person in charge
   - SWMD, PPPC with support by JET

Activity 3-4 of Output 3

Reinforce software operation of Dioxin/Furans analysis equipment

Activity3-4: Conduct training of sampling, analyzing and QA/QC of Dioxins and Furans in ambient air and source emission gas in central EMB.

1. Background
   - DENR has procured the equipment of Dioxin/Furans.
   - The software to operate the equipment is developed and pre-installed which is a specific, tricky and requires experience.
   - ERLSD has faced the difficulties in its software operation
2. Actual works
   - Incorporate the contents of software operation in the training
3. Expected person in charge
   - ERLSD with support by JET

Extension of the project period (proposal)

- Factors of extension
  - Delay in commencement of the project (formulation of JCC/ITWG, appointment of ITWG members)
  - Influence of pandemic of COVID-19
    1. WTE projects suspended in LGUs
    2. Difficult close communication for activities between CPs and JET
    3. Delayed activities such as seminar(s), preparation for trainings
  - Reinforcement and addition in activities are desired

Extension of the project period (proposal)

- Extension is necessary to ensure outcomes of the TCP
- JICA HQ understands (prior consultation):
  1. Necessity of extension of the TCP period
  2. Reinforce/addition will contribute the TCP outcome
- Modification of the project period and activities requires approval by JCC.

TCP activities in 2021

- Continuation of on-going project activities
  * updated project schedule is distributed
- Meeting
  1. JCC: 1time in May
  2. ITWG meeting: 4times in Feb, May, Aug, Nov)
  3. ITWG Subgroup meeting for Project Outputs: once a month, depending on the progress of activities
- Event
  1. Training in Japan: November
     (Note: 2times → 1time in project period)
  2. Technology dissemination Seminar: 1st QTR

Thank you for your attention!

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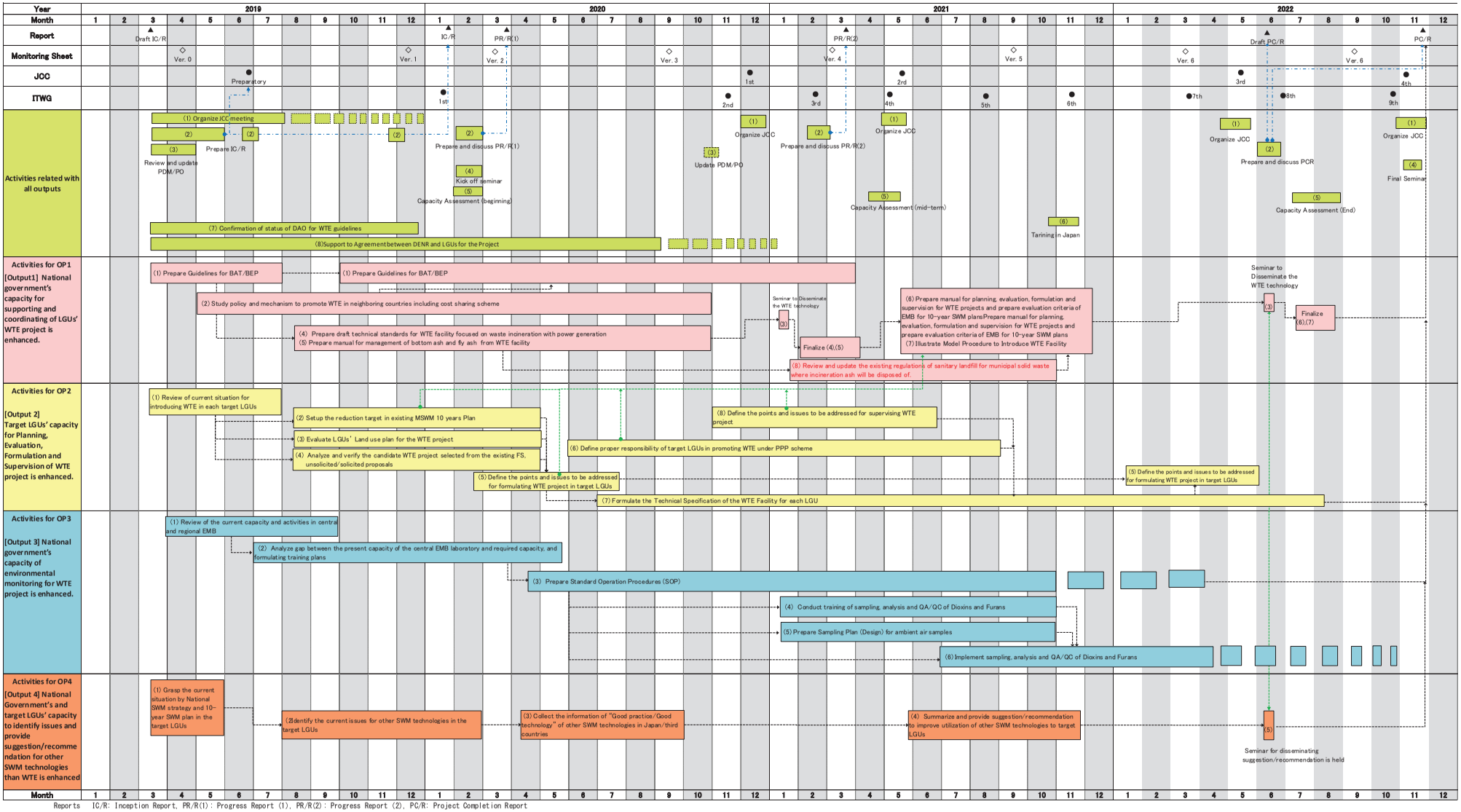

Work flow of the Project

Appendix 11

Tentative Project Design Matrix
Project Name: The Project for Capacity Development on Improving Solid Waste Management through Advanced/Innovative technologies
Target Area: The whole country **Duration: 2019.3–2022.12(3 years)**
Target Group:-DENR-EMB, NSWMC, LGUs: Quezon City, Davao City, Cebu City, **Ver.2 (tentative)**

Narrative Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumption
Overall Goal Improvement of Philippine SWM system through the adoption of WTE and other SWM technologies	1. The outputs of the Project are utilized by more than one LGU. 2. Recommendation by the Project is reflected in the National SWM strategy (2023-28). 3. Result of dioxins analysis is reported in the annual report of EMB.	Interview with stakeholders National SWM strategy (2023-28)	
Project Purpose National government and target LGUs' capacity for improving solid waste management utilizing WTE and other SWM technologies is enhanced.	1. Recommendations are made for the National SWM strategy (2023-28) based on the Project's output. 2. Formulation of WTE project is promoted in target LGUs. 3. The dioxins analysis is periodically implemented.	● Report of the Project ● Report of the Seminar ● Interview with C/Ps	● The National and Local governments' policy and laws/ordinance for promoting WTE in waste management will not change drastically
Outputs 1. National government's capacity for supporting and coordinating of LGUs' WTE project is enhanced.	1-1.BAT/BEP guideline and Technical Standard for WTE facility (including Standard for O&M of WTE facility) is endorsed by the Project to DENR-EMB for adoption. 1-2.Manual for planning, evaluation, formulation and Supervision of WTE project is endorsed by the Project to DENR-EMB for adoption.	● Report of the Project ● BAT/BEP guideline ● Manual for evaluation, formulation and supervision for WTE project	● The counterpart personnel will not change or transfer drastically during the implementation of the Project
2. Target LGUs' capacity for Planning, Evaluation, Formulation and Supervision of WTE project is enhanced.	2-1.Updated 10 year SWM plan which reflected the waste volume reduction target and plan is approved by NSWMC in each Target LGU. 2-2.Compiled experiences of target LGUs' WTE project in PPP scheme are reported to NSMWC.	● Interview with C/Ps ● Report of the Project ● Updated 10 year SWM plan of each LGU	● Target Group of the Project will secure the enough budget for implementing of the Project
3. National government's capacity of environmental monitoring for WTE project is enhanced.	3-1.Standard Operation Procedure (SOP) for monitoring, analyzing and QA/QC of Dioxins and Furans in ambient air and source emission gas is endorsed by the Project to DENR-EMB for adoption.	● Report of the Project ● SOP ● Report for trainings	
4. National Government's and target LGUs' capacity to identify issues and provide suggestion/recommendation for other SWM technologies than WTE is enhanced	4-1. Report of identified issues and recommendation/suggestion is prepared.	● Report of the Project	

Activities	**Inputs**	
<Common> ・Capacity for proper solid waste management through WTE and other SWM technologies of Target group is assessed at the beginning and end of the Project. ・C/P trainings in Japan and/or third country is implemented. ・Seminar/workshop to share the Project's output is held.		
Output 1. National government's capacity for supporting and coordinating of LGU's WTE project is enhanced. 1-1. Prepare BAT/BEP guideline based on the information of good practices and technologies of WTE in neighboring countries. 1-2 Study policies and mechanism to promote WTE in neighboring countries including cost sharing scheme. 1-3 Seminar to disseminate the WTE technology is held. 1-4 Prepare technical standards for WTE facility including for installation and O&M of WTE facility referring the information from neighboring countries. 1-5 Prepare manual for management of incineration ash and fly ash referring the information in neighboring countries. 1-6 Prepare manual for planning, evaluation, formulation and supervision for WTE project based on the information from Output 2 and neighboring countries, including evaluation criteria of EMB for 10 year SWM plans. 1-7 Illustrate model procedures to introduce WTE facility in accordance with WTE guidelines including environmental and social aspects. 1-8. Review and update the existing regulations of sanitary landfill for municipal solid waste where incineration ash will be disposed of.	**Japanese Side** a. Assignment of Experts Long-term/Short-term Expert b. Equipment (if necessary) c. C/P Trainings	**Philippines Side** a. Assignment of Counterpart Personnel b. Provision of office space and other necessary facilities c. Allocation of enough budget including operational cost for the Project
Output 2. Target LGUs' capacity for Planning, Evaluation, Formulation and Supervision of WTE project is enhanced. 2-1. Review current situation for introducing WTE in each target LGUs. 2-2. Clarify the current waste flow/amount, set the target of reducing volume carried to final disposal site and estimate amount of solid waste through WTE facility and other method in the 10 year SWM plan of target LGUs. 2-3. Evaluate the land use plan for WTE projects. 2-4. Analyze and verify the candidate WTE project selected from the existing FS, unsolicited/solicited proposal and others. 2-5. Define the points and issues to be addressed for formulating WTE project.		

2-6 Define the proper responsibility (including financial responsibility) of LGU in promoting WTE project under PPP scheme. 2-7. Formulate the technical specifications of WTE facility for each target LGU. 2-8. Define the points and issues to be addressed for supervising WTE project.			
Output 3. National government's capacity of environmental monitoring for WTE and other SWM technologies is enhanced. 3-1. Review the current capacity/activities for monitoring/analysis/QA/QC of Dioxins and Furans in ambient air, and other media (Soil/Surface water/Sediments) in central and regional EMB. 3-2 Analyze gap between the present capacity of the central EMB and required capacity for proper monitoring/analysis/QA/QC of Dioxins and Furans in ambient air, source emission gas and other media (Soil/Surface water/Sediments) and formulate the training plan. 3-3. Prepare Standard Operation Procedure (SOP) for sampling, analyzing and QA/QC of Dioxins and Furans in ambient air and source emission gas. 3-4 Conduct training of sampling, analyzing and QA/QC of Dioxins and Furans in ambient air and source emission gas in central EMB. 3-5 Prepare Sampling Plan (Design) for the collection of Dioxins and Furans in ambient air samples. 3-6 Implement sampling, analyzing and QA/QC of Dioxins and Furans in ambient air and source emission gas by central EMB at existing SWM facilities based on SOP in 3-3.			
Output 4. National Government's and target LGUs' capacity to identify issues and provide suggestion/recommendation for other SWM technologies than WTE is enhanced 4-1. Grasp the current situation by National SWM strategy and 10 year SWM plan in the target LGUs. 4-2. Identify the current issues for other SWM technologies in the target LGUs. 4-3. Collect the information of "Good practice/Good technology" of other SWM technologies in Japan/third countries. 4-4. Summarize and provide suggestion/recommendation to improve utilization of other SWM technologies to target LGUs. 4-5. Seminar for disseminating suggestion/recommendation is held.			<u>Pre-Conditions</u> All stakeholders including head(mayor) of local target group fully and actively cooperate and participate to the Project

***Note:**

1.All target LGUs are complying the process which the WTE guidelines indicate though, the progress of WTE projects are different in each target LGU. Assess the actual situation and progress in each target LGU along with the activities for Output 2 at the beginning of the project.

2. Activity 1-1 and 1-3 in Output 1 and activity 2-1 and 2-2 in Output 2 shall cover various kinds of WTE technology. Target WTE technology in other activities (1-2, 1-4 to 1-6 and 2-3 to 2-8) shall be an appropriately controlled combustion with power generation because this is the technology discussed in target LGUs for adoption in order to treat their huge volume of solid waste.

3. “Other SWM technologies” refer to technologies on “Recycling /Composting/Waste segregation/Improving MRF operation”

UPDATED ACTIVITIES SCHEDULE

2-Dec-20

Output1	Activity	Status	Completion
National government's capacity on supporting and coordinating LGUs' WTE projects is enhanced.	1-1: Prepare Best Available Technique (BAT) / Best Environmental Practice (BEP) guideline	Ongoing	March. 2021
	1-2: Study policy & mechanism to promote WTE projects	Ongoing	March. 2021
	1-3: Hold seminar to disseminate WTE technology	Not started yet	January 2021, June. 2022
	1-4: Prepare draft technical standards for WTE facility focused on waste incineration with power generation	Ongoing	October. 2020
	1-5: Prepare manual for management of bottom & fly ash discharged from WTE facility	Ongoing	March. 2021
	1-6: Prepare manual for planning, evaluation, formulation & supervision for WTE projects, and prepare evaluation criteria for EMB on 10-year SWM plans	Not started yet	August. 2022
	1-7: Illustrate model procedure to introduce WTE facility	Not started yet	August. 2022
	1-8: Review and update the existing regulations of sanitary landfill for municipal solid waste where incineration ash will be disposed of.	Additional (Not started yet)	October. 2021
Output2	Activity	Status	Deadline
Target LGUs' capacity on planning, evaluation, formulation & supervision of WTE projects is enhanced.	2-1: Review current situation on introducing WTE facilities in the target LGUs	Done	July. 2019
	2-2: Clarify current waste flow & amount, set target on waste reduction in the existing SWM 10-year plans	Done	April. 2020
	2-3: Evaluate LGUs' land use plan for WTE projects	Done	August. 2020
	2-4: Analyze & verify candidate WTE projects selected from the existing F/S, unsolicited/solicited proposals	Done	April. 2020
	2-5: Define points & issues to be addressed for formulating WTE projects in the target LGUs	Ongoing	June. 2022
	2-6: Define proper responsibility of the target LGUs in promoting WTE projects under PPP scheme	Not started yet	August. 2021
	2-7: Formulate technical specification of WTE facilities in each target LGU	Not started yet	July. 2022
	2-8: Define points & issues to be addressed for supervising WTE projects in the target LGUs	Not started yet	June. 2021
Output3	Activity	Status	Deadline
National government's capacity on environmental monitoring for WTE projects is enhanced.	3-1: Review current capacity & activities on monitoring, analysis & QA/QC of Dioxins and Furans (DXNs) in the central & regional EMBs	Done	September. 2019
	3-2: Analyze gap between present and required capacity of the central EMB Lab., and formulate training plan	Done	May. 2020
	3-3: Prepare Standard Operation Procedures (SOP) for sampling, analysis & QA/QC of DXNs in ambient air & emission gas	Ongoing	March. 2022
	3-4: Conduct training on sampling, analysis & QA/QC in ambient air & emission gas for the central EMB	Not started yet	October. 2021
	3-5: Prepare sampling plan (design) for DXNs in ambient air	Not started yet	October. 2021
	3-6: Implement sampling, analysis & QA/QC of DXNs in ambient air & emission gas	Not started yet	October. 2022
Output4	Activity	Status	Deadline
National Government's & target LGUs' capacity to identify issues &provide suggestion/recommendation for SWM technologies other than WTE is enhanced.	4-1: Grasp current situation by studying National SWM strategy & the 10-year SWM plans in the target LGUs	Done	May. 2019
	4-2: Identify current issues for other SWM technologies in the target LGUs	Done	February. 2020
	4-3: Collect information on "Good practice & Appropriate technology" of other SWM technologies in Japan & the third countries	Ongoing	February. 2021
	4-4: Summarize & provide suggestion & recommendation to improve utilization of other SWM technologies in the target LGUs	Not started yet	November. 2021
	4-5: Hold seminar to disseminate suggestion & recommendation	Not started yet	June. 2022

PROJECT ACTIVITY: **2nd Inter-agency Technical Working Group (ITWG) Meeting**
DATE/TIME : **3 December 2020, 1:00PM-5:00PM (Philippine Time)**
VENUE : **Video Conference through Microsoft Teams**
MATERIALS : https://bit.ly/Filesfor2ndITWGMtg

Agenda Topics	Issues/Discussions/Actions	Comments/Agreements/ Timelines	Required Actions/Responsible Agency/Person
1.) Opening/ Welcoming Remarks (EMB OIC Director William P. Cuñado)	● On behalf of Director William P. Cuñado, EMB-OIC Assistant Director Vizminda A. Osorio, stood as chairman of the meeting, and commenced the ITWG Meeting with quorum reached and all presenters present. ● In her opening/welcome speech, she recognized the importance of solid waste management in solving pressing problems in the country, and how DENR can solve this problem through its various programs, and this project. She emphasized the need for inter-agency cooperation in the success of this project.		
2.) Discussion of Objectives of the Meeting & Acknowledgement of the ITWG Members and Sub-group Members (Ms. Elvira S. Pausing)	● Ms. Pausing started her presentation by saying that ITWG meetings for 2020 have been reduced from a supposed quarterly frequency, to just twice this year due to delays brought by the COVID-19 pandemic. ● She presented and discussed the objectives and purpose of the meeting, and the agenda for today's ITWG meeting with a brief introduction of what each presentation will be discussed.		

Appendix 11

	● Lastly, meeting participants were acknowledged one by one to introduce each one to the rest of the panel. ● Upon presentation of the objectives/purposes and acknowledgement of participants, Ms. Raquel Rosario Reyes, the assigned emcee for the ITWG meeting, turned-over the floor to the Chairman and Co-Chairman of the ITWG meeting to purposely preside the meeting. ● Ms. Ruby de Guzman from DOE-REMB temporarily assumed the Chairmanship due to the non-availability of both designated officials from EMB and DOE.		
3.) Project Overview and Basic Elements of the Technical Cooperation Project (TCP) (Mr. Takahiro Kamishita)	● Mr. Kamishita discussed the project outline-covering the project timeline, project design, and the JCC and ITWG structure that supports the implementation of the TCP. ● He also touched on in his discussion pressing SWM issues that JET is looking into: WTE Bills and the urgent problem of plastic debris. JET believes that the Philippines' problem with plastic can be aided with the establishment of WtE facilities that will be made possible with this TCP. ● Mr. Kamishita ended his presentation with discussing SB 1789 and how he hopes the TCP will be harmonized with this bill, with the help of the support of the member agencies, as it reinforces the objective of the project.		

4.) Updates on the Implementation of the TCP for Capacity Development on Improving Solid Waste Management (SWM) through Advanced/Innovative Technologies (Ms. Roxanne Barcenas on behalf of Ms. Maria Delia Cristina Valdez)	• Ms. Roxanne Barcenas presented the general updates of the project on behalf of Ms. Delia Valdez who was unable to join today's meeting. • The targets for each activity under each of the four outputs were juxtaposed with the accomplishments and the status of ongoing activities. • The presentation ended with the summary of meetings held for 2020, noting that a lot of scheduled meetings have been cancelled and deferred to a later date due to the COVID-19 pandemic.	• Ms. Ruby De Guzman asked about the MOU signing of the 3 target LGU's. o Ms. Nica Obmerga of FASPS replied that discussions between FASPS, PMO, JICA and JET have been facilitated, where the MOU has been revised guided by the comments of the participants in the MOU meeting. She mentioned that a more thorough update will be discussed later on in the meeting. • Mr. Christian Perez of JICA Philippines raised a comment on the presentation pertaining to an outstanding request for information from JICA (page 19: Approved by JICA- paperwork is yet to be finalized). o This item pertains to the request of JET to enrich some activities and add additional activities for the TCP. Mr. Kamishita proposed a modification to this item, clarifying that paperwork has yet to begin because these additions will still have to be approved by ITWG and JCC first.	*discussed in Agenda item 8 • [For PMO] Modification of presentation to reflect that there is no pending paperwork in JICA since the request to add more activities for the project has to be approved first in the ITWG and JCC meetings.

Appendix 11

		○ Mr. Kamishita mentioned that a preliminary meeting has been conducted with JICA Headquarters and that the said additional activities under the project have been understood and agreed in principle.	
5.a) Presentation on the Detailed Updates of the Major Activities and Accomplishments per Project Output: - Output 1: Preparation of BAT/BEP Guidelines (Mr. Satoshi Higashinakagawa)	● Mr. Higashinakagawa discussed the methodology of how the BAT/BEP information has been collected, and the plan to release a survey, endorsed by DENR, to complement the gathered information. ● He presented a sample analysis of the BAT/BEP data that has already been collected. He emphasized that the completeness and accuracy of the information that will be gathered through this BAT/BEP activity will be critical in finding the specifications of the WtE facility that is most apt for the Philippine setting. Moreover, it is important that the LGUs are heavily involved in the developing process of their WTE project.		
5.b) Presentation on the Detailed Updates of the Major Activities and Accomplishments per Project Output: - Output 1: Preparation of Technical Standards for WtE Facility on Waste Incineration & Power Generation - (Mr. Makoto Kosaka)	● Mr. Kosaka prepared a recorded presentation to facilitate the discussion of the updates on Activity 1-4. ● The presentation began with the review of the background of the activity- for the purpose of providing EMB with a set of technical standards that will be used in	[from open forum] Ms. Joan Flores of EMB asked if under the proposed activity under OP1, the review and modification of the SLF regulation, if it refers to the categorized disposal facility for MSW, or the Category C disposal facility for treated incineration ash.	

	managing WtE facilities in the Philippines. ● Mr. Kosaka presented a brief summary of the technical standards incorporated in the MC, and a table detailing the comments of the OP1 subgroup members on the working draft. ● Due to time constraints, he only identified some items that he wished to be discussed in this meeting <u>Title</u> - Changing to "Appropriately Controlled Combustion" instead of "Incineration"	- Mr. Kamishita replied that JET is currently looking into reviewing SLF guidelines, and discussed the details of this additional activity in his proposal presentation in Agenda item 7 [from open forum] • Mr. Gilbert Kintanar of NEDA wants to clarify why there is a hesitation in using "incineration" if the same term is already being used in SB 1789. • Mr. Kamishita reviewed that the term incineration was requested to be replaced by Engr. Esguerra of DOST to address the concern of social acceptability. Engr. Esguerra added that though the term "incineration" is already being used in SB 1789, it is still only a bill now and not yet effective. • From the 6th SG Meeting for OP1, the outstanding proposal was to find an alternative term to incineration, and JET opted to use "appropriately controlled combustion" which was the term used in the Records of Discussions of the TCP. • Mr. Kamishita proposed to keep the term "incineration" and asked if the ITWG members if they are amenable to that o Mr. Kintanar clarified that any term is acceptable, for as long as it is defined	

		accordingly in the terms in the MC. • Ms. Momoko Otsuka asked where the MC should be endorsed- JCC or ITWG for approval, and if there is still room for revision once approved by ITWG. ○ Ms. Pausing replied by saying that this MC has to be approved by ITWG members in today's meeting, that will determine if the MC will be endorsed to JCC. ○ Ms. Ruby De Guzman discussed that the Memorandum Circular has to be reviewed more thoroughly by the ITWG members first prior to endorsement to JCC. ○ Ms. Pausing replied by saying that the MC has already been presented, discussed, and opened for comments to the OP1 subgroup members. ○ Ms. De Guzman deferred giving her endorsement to the Technical Standards, and proposed to solicit more comments first from ITWG members.	• Pending endorsement of Draft Technical Standards for presentation to JCC. ITWG members are expected to give comments on the draft provided, to allow JET to incorporate their comments in the revision. • In the interest of time, a separate meeting between PMO and JET to clarify the strategy to finalize MC.

5.c) Presentation on the Detailed Updates of the Major Activities and Accomplishments per Project Output: - Points and issues to be addressed for formulating WTE project in target LGUs based on the analysis on the target LGUs' WtE projects (Mr. Takahiro Kamishita) - Project Output 2: Updates on WTE project (LGU representatives from Quezon City, Cebu City, and Davao City)	● Mr. Kamishita presented the updates for project output 2, summarizing the issues that the team has observed during the data collection, and the team's suggestions on how to address the observed issues: o Tipping fees for waste o Misunderstanding on SWM-PPP including WTE o Responsibility of LGU's o Needs of technical expertise in LGUs o Solicited approach based on SWM plan o Definition of waste category o Segregation in RA 9003 o Waste category in WACS o Accumulated data of solid waste quantity and quality o Address environmental NGO's opposition of incineration o Change of administration/ Long-term WTE development plan ● LGU Representatives were called on to present the updates on WTE project: <u>Quezon City</u> o Project is still under review by the Investment Affairs Office, and no further updates were noted. <u>Cebu City</u>		

Appendix 11

	○ JVSC has resumed negotiations with New Sky after a halt due to the pandemic. ○ The previously identified location for the site (Brgy. Inayawan) is being disputed and a new site is being located. ○ CLUP is still being finalized. ○ JVSC has not yet forwarded the Joint Venture Agreement to CCENRO. <u>Davao City</u> ○ According to Engr. Madrazo, there were some updates incorporated in their F/S which was why it took longer to finish than expected, but it has already been finalized and submitted to SWMD for comments ○ Ms. Pausing mentioned that the SWMD comments on the F/S has already been submitted to the Office of the Director. ○ If the result of the F/S is approved, paperwork will be endorsed to the Department of Finance and NEDA.		

5.d) Presentation on the Detailed Updates of the Major Activities and Accomplishments per Project Output: - Output 3: Training Plans on the sampling, analysis and QA/QC of Dioxins and Furans - Preparation of Standard Operating Procedures (Mr. Satoshi Miyaichi)	● Mr. Miyaichi presented the updates for project output 3, beginning with the discussion of the objectives of project output 3 and the activities that are under them. ● The presentation then covered the gaps that were identified in ERLSD on its current SOP's for monitoring, sampling, treatment, QA/QC and analysis of dioxins and furans. ● Mr. Miyaichi presented the status of the progress of each of the activities in output 3, mentioning the bottlenecks encountered, and proposing preliminary recommendations based on the currently available data.		
5.e) Presentation on the Detailed Updates of the Major Activities and Accomplishments per Project Output: - Output 4: Collection of Good Practice/Good Technology of other SWM Technologies in Japan and other countries - Identification of current issues for other SWM Technologies of the target LGUs (Ms. Kyoko Kimura)	● Ms. Kimura presented the updates for project output 4, discussing the objectives of the activities under OP4, and the progress of each of the activities. ● The methodology used to achieve the activities was also discussed, understanding current SWM practices in the Philippines and benchmarking on good practices exercised in other countries. ● A few examples on BAT/BEP summary were presented to show how research is summarized and assessed.		
6.) Open Forum (Director William P. Cuñado, Director Mylene C. Capongcol)	Facilitated by Ms. Ruby de Guzman, Ms. Elvira S. Pausing and Ms. Raquel Rosario Reyes due to the unavailability of both EMB & DOE officials.	Ms. Marla Agas of DILG asked if the environmental monitoring form in accordance with DAO 27 s.2003 be	

		modified to adopt these new standards in the MC. - Mr. Kamishita replied that environmental standards considered in the MC were only adopted from existing regulations in the Philippines, and should still agree with the regulations currently exercised. - Ms. Raquel Reyes of EMB added that this matter will be on EMB where forms have to be developed to complement the technical standards developed here.	
7.) Presentation on the Updated Project Schedules for CY 2021 **Presentation on the Identified additional activities under the TCP** (Mr. Takahiro Kamishita)	● Mr. Kamishita presented the proposed addition and enrichment of activities ○ Activity 1-8 (new) Review and modification of SLF regulations considering possible disposal of incineration ash ○ Activity 2-6 (reinforcement) Define the proper responsibility (including financial responsibility) of LGU in promoting WTE project under PPP scheme ○ Activity 3-4 (reinforcement) Reinforce software operation of dioxin/furans analysis equipment ● Mr. Kamishita also raised a proposal to extend the project period due to the delay	● There were no contentions to the proposal; ITWG members accept and endorse the proposal presented.	

	of the commencement of the project, the effect of the pandemic, and with the proposed additional activities. ○ With JCC's approval of this proposal, a revised PDM will be drafted incorporating the necessary changes ● The updated project schedule for 2021 was also presented, including the training in Japan should conditions become more favorable.		
8.) Presentation and Updates on the Revised Memorandum of Understanding (MOU) between DENR and Target LGUs (Dir. Angelito Fontanilla)	● Due to time constraints and per request by Ms. Momoko Otsuka , the presentation on the updates of the revised MOU was deferred. Nevertheless, Ms. Pausing mentioned that the revised MOU has already been forwarded to the LGUs for their further comments and/or possible approval/signature. Updates from the LGUs are as follows: ○ Cebu City has submitted the draft MOU to their legal office and shall submit comments to DENR by next week should there be any, otherwise it will be moved for approval/signing ○ Davao City is still reviewing the document. ○ Quezon City still has some comments on the running draft, and they should be able to submit it to DENR by next week.		• Pending comments from Quezon City and Davao City, to be submitted to PMO and FASPS on or before Dec 11, 2020, for finalization and signing.

9.) Way forward, Schedule of the next meetings (Director William P. Cuñado, Director Mylene C. Capongcol)	• Ms. Otsuka asked when the JCC meeting will be conducted. ○ Ms. Pausing mentioned that the realistic date for it is last week of January 2021. ○ Ms. Otsuka requested for DENR to provide several schedules when DENR officials can be available.		• JCC meeting scheduled on January; PMO to submit a list of possible dates for the meeting to ease scheduling.
10.) Wrap-up, Required Actions, and Agreements (Ms. Andrei Mallare)	• Ms. Andrei Mallare of JET wrapped up the earlier discussions and reiterated the arrangements and timelines as agreed.	• No clarifications and/or alterations raised by the subgroup members.	
11.) Closing Remarks (Ms. Momoko Otsuka)	• Ms. Momoko Otsuka gave a brief closing remarks to formally end the program, thanking everyone for attending the meeting and for their continuous support and participation in the project despite all the setbacks that we are currently facing. She ends by enjoining everyone to keep continue with making this project a success, to promote a better solid waste management future for the Philippines.		

Prepared by:

Ms. Nikole Andrei Louise Mallare
Research Assistant
JICA Expert Team

Reviewed by:

Ms. Elvira S. Pausing
Supervising EMS & Assistant Project Manager, SWMD-PMO
DENR-EMB-SWMD

Mr. Takahiro Kamishita
Chief Advisor
JICA Expert Team (JET)

Recommended by:

Ms. Ruby De Guzman
Chief, Biomass Energy Management Division
Department of Energy

Approved by:

Engr. Vizminda A. Osorio
OIC Assistant Director
DENR-EMB

Appendix 11-1:
ITWG Meeting

11-1-3 : 3rd ITWG Meeting

3nd Inter-agency Technical Working Group (ITWG) Meeting

DENR/JICA Technical Cooperation Project (TCP) for Capacity Development on Improving Solid Waste Management (SWM) through Advanced/Innovative Technologies

26 April 2021, 9:00 AM – 12:00 NN (*Via MS Teams*)

TENTTIVE PROGRAMME

TIME	ACTIVITY	SPEAKER
9:00 AM	Philippine National Anthem Invocation	SWMD-Project Management Office (PMO)
9:10 AM	Opening/Welcome Remarks	**Engr. Vizminda A. Osorio** *Assistant Director, EMB*
9:20 PM	Presentation on the Meeting Objectives, Tentative Agenda, & Acknowledgement of the ITWG Members and Sub-group Members	**Ms. Elvira S. Pausing** *Supervising EMS, EMB-SWMD-SWMPPDS & Assistant Project Manager, SWMD-PMO*
Meeting will be presided by: **ITWG Chairman - Director William P. Cunado,** EMB-DENR **ITWG Co-Chairman- Ms. Ruby B. de Guzman,** REMB-BEMD, DOE • Welcome Message/Call to Order • Approval/Adoption of the Agenda		
9:40	**Project Output 1**: • Presentation of the draft BAT/BEP Guidelines including the comments/inputs provided by the SG1 members • Status on the endorsement and Procedure on the Approval of the WTE Technical Standards	**Mr. Satoshi Higashinakagawa** SWM3/WTE3, *JICA Experts Team (*JET) **Ms. Ma. Delia Cristina M. Valdez** *Chief, SWM Division, EMB* *Both Speakers shall be supported by EMB-SWMD-PMO & all Sub-group members for OP1
10:10	**Project Output 2**: • Brief updates on LGU's WTE project • Status of Approval/Signing of the Memorandum of Understanding (MOU)	**Representatives of partner LGUs**
10:30	**Project Output 3**: • Updates on the Training Plans on the sampling, analysis and QA/QC of Dioxins and Furans • Updates on the Preparation of Standard Operation Procedures	**Mr. Satoshi Miyaichi,** EMP/ESC, *JICA Experts Team (*JET) **Speaker to be assisted/supported by the EMB-ERLSD & EQMD & all Sub-group members for OP3*
10:50	**Project Output 4**: • Updates on the Collection of Good Practice/Good Technology of other	**Ms. Kyoko Kimura** Public Enhancement/Training Arrange/Coordinator, *JICA Experts Team (*JET) **Ms. Iku Sato**

	SWM Technologies in Japan and other countries • Updates on the TCP Newsletter	Waste treatment/3R, *JICA Experts Team (*JET) *Speaker to be supported by SWMD-PMO & all Sub-group members for OP4
11:00	• Updates on the Identified additional activities under the TCP	**Mr. Takahiro Kamishita** *Project Advisor, JICA Experts Team (JET)*
11:10	***Open Forum***	
11:25	Way forward/Next Steps	• **ITWG Chairman** (DENR-EMB) • **ITWG Co-Chairman** (DOE)
11:40	Wrap-up (Issues/Agreements/Timelines)	**Ms. Andrei Mallare** *Project Assistant, JICA Experts Team (JET)*
12:00	Closing Remarks	**Ms. Ruby B. de Guzman** *Chief, Biomass Energy Management Division, REMB, DOE*
Master of Ceremonies		**Ms. Raquel Rosario Reyes** *Senior EMS, EMB-SWMD-SWMPPDS*

TECHNICAL COOPERATION PROJECT (TCP) FOR CAPACITY DEVELOPMENT ON IMPROVING SOLID WASTE MANAGEMENT (SWM) THROUGH ADVANCED/ INNOVATIVE TECHNOLOGIES

3RD INTER-AGENCY TECHNICAL WORKING GROUP (ITWG) MEETING

26 APRIL 2021, 9:00 AM -12:00 PM, MONDAY
(MS TEAMS)

SPECIFIC PURPOSE OF THE MEETING

1. To provide the general updates on the implementation of the Technical Cooperation Project (TCP);
2. To present and discuss the details of the major activities and accomplishments specifically on the:
   - Updates of the four (4) project outputs of the TCP implementation; and
   - Updates on the WtE projects of the partner LGUs and the approval/signing of the Memorandum of Understanding (MOU) between DENR and Partner LGUs.
   - Updates on the endorsement and approval/signing of the MC for the Technical Standards for WtE Facility
3. To present the updates on the identified and approved additional activities under the TCP.

MEETING OBJECTIVES

1. To strengthen the relationships among stakeholders in the implementation of this project;
2. To serve as a venue to take a closer look on how it can help in achieving the goals of this project in a more inclusive course of actions.
3. To reach a common understanding among ITWG members on the challenges, and the strategies to resolve them; and
4. To set the right directions geared towards the smooth implementation of this project.

3RD INTER-AGENCY TECHNICAL WORKING GROUP (ITWG) MEETING

26 APRIL 2021, MONDAY, 9:00 AM-12:00 NN
(MS TEAMS)

TENTATIVE AGENDA

TIME	ACTIVITY	SPEAKER
9:00 AM	Philippine National Anthem Invocation	SWMD-Project Management Office (PMO)
9:10 AM	Opening/Welcome Remarks	**Engr. Vizminda A. Osorio** *Assistant Director, EMB*
9:20 PM	Presentation on the Meeting Objectives, Tentative Agenda, & Acknowledgement of the ITWG Members and Sub-group Members	**Ms. Elvira S. Pausing** *Supervising EMS, EMB-SWMD-SWMPPDS & Assistant Project Manager, SWMD-PMO*
Meeting will be presided by: ITWG Chairman - **Director William P. Cunado**, EMB-DENR ITWG Co-Chairman- **Ms. Ruby B. de Guzman**, REMB-BEMD, DOE • Welcome Message/Call to Order • Approval/Adoption of the Agenda		

Appendix 11

3RD INTER-AGENCY TECHNICAL WORKING GROUP (ITWG) MEETING

TENTATIVE AGENDA

TIME	ACTIVITY	SPEAKER
9:40	**Project Output 1:** • Presentation of the draft BAT/BEP Guidelines including the comments/inputs provided by the SG1 members • Status on the endorsement and Procedure on the Approval of the WTE Technical Standards	**Mr. Satoshi Higashinakagawa** SWM3/WTE3, JICA Experts Team **Engr. Roxanne B. Barcenas** *Technical Assistant, SWMD-SWMPPDS, PMO* **Both Speakers to be assisted/supported by EMB-SWMD-PMO & all Sub-group members for OP1*
10:10	**Project Output 2:** • Brief updates on LGUs' WTE project • Status of Approval/Signing of the Memorandum of Understanding (MOU)	**Representatives of partner LGUs**
10:30	**Project Output 3:** • Updates on the Training Plans on the sampling, analysis and QA/QC of Dioxins and Furans • Updates on the Preparation of Standard Operation Procedures	**Mr. Satoshi Miyaichi** *EMP/ESC, JICA Experts Team* **Speaker to be assisted/supported by the EMB-ERLSD & EQMD & all Sub-group members for OP3*

TECHNICAL COOPERATION PROJECT (TCP) FOR CAPACITY DEVELOPMENT ON IMPROVING SOLID WASTE MANAGEMENT (SWM) THROUGH ADVANCED/ INNOVATIVE TECHNOLOGIES

ACKNOWLEDGEMENT OF PARTICIPANTS

26 APRIL 2021, MONDAY

3RD INTER-AGENCY TECHNICAL WORKING GROUP (ITWG) MEETING

TENTATIVE AGENDA

TIME	ACTIVITY	SPEAKER
10:50	**Project Output 4:** • Updates on the Collection of Good Practice/Good Technology of other SWM Technologies in Japan and other countries • Updates on the TCP Newsletter	**Ms. Kyoko Kimura** *Public Enhancement/Training Arrange/Coordinator, JICA Experts Team* **Ms. Iku Sato** *Waste treatment/3R, JICA Experts Team (JET)* **Speaker to be assisted/supported by SWMD-PMO & all Sub-group members for OP4*
11:00	Updates on the Identified additional activities under the TCP	**Mr. Takahiro Kamishita** *Chief Advisor, JICA Experts Team*
11:10	***Open Forum***	
11:25	Way forward/Next Steps	• **ITWG Chairman (DENR-EMB)** • **ITWG Co-Chairman (DOE)**
11:40	Wrap-up (Issues/Agreements/Timelines)	**Ms. Andrei Mallare** *Project Assistant, JICA Experts Team*
12:00	Closing Remarks	**Ms. Momoko Otsuka** *Assistant Representative, JICA Philippines*
Master of Ceremonies		**Ms. Raquel Rosario Reyes** *Senior EMS, EMB-SWMD-SWMPPDS*

LIST OF PARTICIPANTS

NO.	NAME	AGENCY/OFFICE	CONFIRMED
CONCERNED GOVERNMENT AGENCIES			
1	Ms. Mylene C. Capongcol	DOE-REMB	
	Ms. Ruby De Guzman	DOE-REMB	
	Mr. Romeo M. Galamgam	DOE-REMB	
	Ms. Charisse Jane Pascual	DOE-REMB	✓
	Ms. Letty Abella	DOE-REMB	
	Ms. Gemmalyn Galang	DOE-REMB	✓
2	Mr. Nonilo Peña	DOST-PCIEERD	
	Ms. Emelita A. Dimapilis	DOST-PCIEERD	
3	Engr. Reynaldo L. Esguerra	DOSI-ITDI	✓
	Mr. Dante C. Vergara	DOST-ITDI	
	Engr. Rochelle L. Retamar	DOST-ITDI	
4	Mr. Carlo Mari Crisregienald C. Tan	DILG-BLGS/NAPOLCOM Center	
	Atty. Ma. Rhodora Flores	DILG-BLGS/NAPOLCOM Center	
	Ms. Marla Clarisol L. Agas	DILG-BLGS/NAPOLCOM Center	✓

LIST OF PARTICIPANTS

NO.	NAME	AGENCY/OFFICE	CONFIRMED
CONCERNED GOVERNMENT AGENCIES			
5	Mr. Aldwin U. Urbina	NEDA-IPG	
	Mr. Kevin Gilbert M. Manzano	NEDA-IPG	
	Mr. Gilbert V. Kintanar, Jr.	NEDA-IPG	✓
	Ms. Marina Ferrer	NEDA-IPG	
7	Ms. Justine E. Padiernos	PPP Center	✓
	Atty. Phebean Belle A. Ramos-Lacuna	PPP Center	
	Ms. Aislyn Janelle L. Yao	PPP Center	✓
DENR-EMB REGIONAL OFFICE			
8	Engr. Alma P. Ferareza	EMB-NCR	✓
	Mr. Mikko M. Caniezo	EMB-NCR	
	Mr. John Roy B. Kyamko	EMB Region VII	✓
9	Ms. Angelli Marie Jacynth A. Egar	EMB Region VII	
10	Ms. Socorro A. Mallare	EMB Region XI	
	Ms. Virginia R. Lobaton	EMB Region XI	

LIST OF PARTICIPANTS

NO.	NAME	AGENCY/OFFICE	CONFIRMED
PARTNER LOCAL GOVERNMENT UNITS			
11	Mr. David John S. Vergara	LGU Quezon City	✓
	Mr. Vincent Ferdinand Paul G. Vinarao	LGU Quezon City	
	Mr. Richard S. Santuile	TFSWCCDSM - LGU Quezon City	
	Mr. Louie Sabater	TFSWCCDSM - LGU Quezon City	✓
	Ms. Patricia Orante	TFSWCCDSM - LGU Quezon City	✓
12	Engr. Editha D. Peros	LGU Cebu City	
	Engr. Glory Rose C. Manatad	LGU Cebu City	✓
	Atty. Dwight Tristan P. Domingo	LGU Davao City	
13	Engr. Elisa P. Madrazo	LGU Davao City	
	Engr. Lakandiwa Soliman R. Orcullo	LGU Davao City	

LIST OF PARTICIPANTS

NO.	NAME	AGENCY/OFFICE	CONFIRMED
DENR-EMB CENTRAL OFFICE			
14	Ms. Consolacion P. Crisostomo	EMB-PPPDD	
	Engr. Majoe Cristobal	EMB-PPPDD	✓
	Ms. Mary Esther D. Ofiaza	EMB-PPPDD	
	Engr. Marcelino N. Rivera, Jr.	EMB-EQMD	✓
	Engr. Jundy T. Del Socorro	EQMD-AQMS	✓
	Engr. Wyona Kay C. Rativo	EQMD-AQMS	✓
	Ms. Fatima Anneglo R. Molina	EMB-ERLSD	✓
	Mr. Roger C. Evangelista Jr.	EMB-ERLSD	
	Mr. Sammy L. Aytona	EMB-ERLSD	
	Atty. Janice R. Pammit	EMB-Legal Division	
	Ms. Fatima E. Millan	EMB-Legal Division	
DENR-FOREIGN ASSISTED AND SPECIAL PROJECT SERVICE			
15	Dir. Angelito V. Fontanilla	DENR-FASPS	✓
	Mr. Eddie Abugan Jr.-	DENR-FASPS	✓
	Ms. Marianica Philina L. Obmerga	DENR-FASPS	✓

LIST OF PARTICIPANTS

NO.	NAME	AGENCY/OFFICE	CONFIRMED
JICA PHILIPPINES			
16	Ms. Momoko Otsuka	JICA Philippines	✓
	Mr. Christian Vic Perez	JICA Philippines	✓
JICA EXPERTS TEAM (JET)			
17	Mr. Takahiro Kamishita	JICA Experts Team	✓
	Mr. Satoshi Higashinakagawa	JICA Experts Team	✓
	Mr. Makoto Kosaka	JICA Experts Team	✓
	Mr. Satoshi Miyaichi	JICA Experts Team	✓
	Ms. Kyoko Kimura	JICA Experts Team	✓
	Ms. Iku Sato	JICA Experts Team	✓
	Mr. Tomoyuki Hosono	JICA Experts Team	✓
	Engr. Nikole Andrei Louise Mallare	JICA Experts Team	✓
	Mr. Eric Cea	JICA Experts Team	✓

LIST OF PARTICIPANTS

NO.	NAME	AGENCY/OFFICE	CONFIRMED
SWMD-PMO TECHNICAL & SUPPORT STAFF			
18	Ms. Ma. Delia Valdez	EMB-SWMD-PMO	
	Ms. Elvira S. Pausing	EMB-SWMD-PMO	✓
	Ms. Raquel Rosario Reyes	EMB-SWMD-PMO	✓
	Ms. Nelie Dimer	EMB-SWMD-PMO	✓
	Engr. Jedidiah Mangubat	EMB-SWMD-PMO	✓
	Ms. Rodeth Antonio	EMB-SWMD-PMO	✓
	Engr. Roxanne Barcenas	EMB-SWMD-PMO	✓
	Ms. Kris Morada	EMB-SWMD-PMO	✓

3RD INTER-AGENCY TECHNICAL WORKING GROUP MEETING

DENR/JICA TECHNICAL COOPERATION PROJECT (TCP) FOR CAPACITY DEVELOPMENT ON IMPROVING SOLID WASTE MANAGEMENT (SWM) THROUGH ADVANCED/INNOVATIVE TECHNOLOGIES

26 APRIL 2021, MONDAY, 9:00 AM – 12:00 PM (MS TEAMS)

WRAP UP

3RD INTER-AGENCY TECHNICAL WORKING GROUP MEETING

DENR/JICA TECHNICAL COOPERATION PROJECT (TCP) FOR CAPACITY DEVELOPMENT ON IMPROVING SOLID WASTE MANAGEMENT (SWM) THROUGH ADVANCED/INNOVATIVE TECHNOLOGIES

26 APRIL 2021, MONDAY, 9:00 AM – 12:00 PM (MS TEAMS)

WAY FORWARD/NEXT STEPS

3RD INTER-AGENCY TECHNICAL WORKING GROUP MEETING

DENR/JICA TECHNICAL COOPERATION PROJECT (TCP) FOR CAPACITY DEVELOPMENT ON IMPROVING SOLID WASTE MANAGEMENT (SWM) THROUGH ADVANCED/INNOVATIVE TECHNOLOGIES

26 APRIL 2021, MONDAY, 9:00 AM – 12:00 PM (MS TEAMS)

ADJOURNMENT

Appendix 11

3rd Inter-agency Technical Working Group Meeting

Output 1-1

"Explanation of Presentation of the draft BAT/BEP Guidelines including the comments/inputs provided by the SG1 members"

26th April 2021 (Monday)

The Technical Cooperation Project (TCP) for Capacity Development on Improving Solid Waste Management (SWM) through Advanced/Innovative Technologies

Contents of Today's Presentation

1. Preparation Process of BAT/BEP guideline
2. Brief Explanation of Draft BAT/BEP Guideline
3. Main Comments and answer for them
4. Further step

Preparation Process of BAT/BEP Guideline

SG meeting	Date	Main Presentation/Discussion
1st OP1 SG	18 Feb. 2020	- Discussion of the target countries and type of WtE facility - Presentation of survey format for each member
2nd OP1 SG	5th Mar. 2020	- It was agreed that case studies mainly focus on combustion. - JET requested members to investigate what they are interested.
3rd OP1SG	4th Jun. 2020	- Confirmation of selection criteria and survey format - Presentation of 4 collected case studies base on the survey format (Japan, Singapore, Netherland and France)
4th OP1 SG	7th Jul. 2020	- Explanation of summary of 15 cases - Explanation of major salient features such as scale of WtE facility, utilization of thermal energy, air pollution control standard, etc
5th OP1 SG	20th Aug. 2020	- Brief explanation of collected 36 cases

Preparation Process of BAT/BEP Guideline

Meeting	Date	Main Presentation/Discussion
6th OP1 SG	14th Oct. 2020	- Presentation of summary of 46 BAT/BEP cases that have been collected - The target countries have been determined as 60 countries including EU, USA, Asia and Japan
2nd ITWG	3, Dec. 2020	- Explanation of Survey Procedure of Case Studies of BAT/BEP Guideline - Introduction of A Case Study - Presentation of summary of 60 BAT/BEP cases (Japan:30, Asia except Japan: 10, EU and USA:20) that have been collected
4th OP4 SG	25, Mar. 2021	- Submission of the draft BAT/BEP guideline on 17th of March - Explanation of the summary of draft BAT/BEP guideline to obtain the comments until the beginning of April
7th OP1 SG	23, Apr. 2021	- Presentation of the answer for the comments - Explanation of some additional information for the comments

Appendix 11

Contents of BAT/BEP Guideline

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Summary of BAT / BEP Guideline

Technical Aspect

Item	Summarization
Capacity of WtE	WtE capacity shall be designed by the waste collection amount and/or MSWM system of LGU, (one LGU or clustering LGUs)
Required Area	The smallest area size is around 1 ha in this case studies
Target Waste	The range of lower calorific value is 6,000 to 14,000 [kJ/kg] in this case study
Energy recovery	Application of recovered heat in WtE are; electric power, district Heating, provision of hot water, etc In case of power, the relationship between electric power generation and the capacity of WtE facility is approximately 20MW/1000 [ton/day].
Ash Treatment and Disposal	Majority of LGUs dispose bottom/fly ash at sanitary landfill for MSW after stabilization or hazardous waste landfill site Some of LGUs utilize them for construction material/cement aggregates by shouldering their expense
Environmental Pollution Control	Many facility utilize own standard stricter than national standard (for public acceptance, etc)

Summary of BAT / BEP Guideline

Institutional/Financial Aspect

Item	Summarization
Business Scheme	In case of Japan, most of case studies are Public Own & Operate and DBO. In case of EU, around a half of case studies is DBO and another half is BOT In case of Asian countries, most of project are being BOT or BOO.
Development approach	Most of cases in EU, USA , Japan and Singapore applies solicited approach, which LGUs prepare F/S and technical requirement. LGUs in developing countries tend to apply unsolicited approach.
Implementation Schedule	Planning (2-3 years), Design (around 1-2 years), Construction (2-4 years), Operation period is around 20 to 30 years
CAPEX	The range of capital expenditure is from 100,000 to 700,000 US$ per ton/day - The unit cost of capital expenditure (US$ per ton/day) can be reduced as the capacity of WtE increase
OPEX	The range of OPEX is around from 50 to 100 US$/ton.
Social Acceptance (citizen participation)	During the planning process, through the EIA or SEA, public consultation meetings have been held. There are some cases of displaying environmental monitoring data through panel display.

Example of A Case Study (Suginami Incineration Plant)

Name	Suginami Incineration Plant	Location	Suginami ward, Tokyo, Japan
Impl. Body	Clean Authority of TOKYO	Footprint	3.6 ha
Capacity	600t/d (300 x 2lines)	Heat Usage	Power 24.2MW
Target Waste	Combustible municipal solid waste	Waste Quality	8,854 kJ/kg

History

	Dev. Plan	Demolish	Bid	Const. St/Fin		Op. Start/Fin		Demolish
Original	-	-	-	-	-	-	-	-
Actual	-	-	-	2012	2017	2017	-	-

Capex			
Opex	1.01 B-JPY/yr (2019)	Source	LG + TF + Energy
Fin. Scheme	Public Build (DB) and Own	Dev. approach	Solicited

Coverage (SOW)	Collection	Transp.	Incineration	Power sale	Bottom ash	Fly ash
	LG (ward)	LG (ward)	LG	LG	LG	LG

Process Type	Stoker type		EPC / Tech	Hiz (JPN)	
Pollution Control	Exhaust Gas	Wastewater	Bottom ash	Fly ash	Other
	Stricter Standard (Scrubber + SCR + Bag Filter)	Discharge to Sewage	Eco-cement or SLF	SLF after chemical treatment	

Appendix 11

Example of A Case Study (Suginami Incineration Plant)

Description of salient features as the case study of BAT/BEP

Salient Features	Explanation
1. Utilization of surplus heat after electricity generation	The surplus heat after electricity generation is utilized by providing adjacent public facilities such as hot water pool, botanical garden, cultural center.
2. Implementation of site tour	Site tours are periodically implemented to be understand by residents about the WtE facility
3. IEC through of museum of waste management history or hot water pool	In the WTE facility, there is museum of Tokyo Gomi Senso (Experience to tackle with opposition by the residents of Suginami ward for WtE facility construction), which describe the background, opposition of the WTE facility by the residents

Example of A Case Study (Nong Khaem WTE plant)

Name	Nong Khaem WTE plant			Location	Nong Khaem, Thailand			
Impl. Body	C&G Environmental Protection Holdings Limited (C&G)			Footprint	? ha			
Capacity	500 t/day			Heat Usage	Power 9.8MW			
Target Waste	Municipal solid waste			Waste Quality	? KJ/kg			
History		Plan	Bid	Const. St/Fin		Op. Start/Fin		Demolish
	Original	-	-	-	-	-	-	-
	Actual	-	-	-	2014	2014	2034	-
Capex	THB900 million			Fund Source	BMA			
Opex	1000 Bahts/ton			Fund Source	Tipping fee from BMA + energy sale ?			
Fin. Scheme	BOT			Dev. approach	?			
Coverage (SOW)	Collection	Transp.	Processing	Energy sale	Bottom ash	Fly ash		
	C&G	C&G	C&G	C&G ?	BMA ?	BMA ?		
Process Type	Stoker type			EPC / Tech	New Sky /Hiz ?	(Remarks if any)		
Pollution Control	Exhaust Gas		Wastewater	Bottom ash	Fly ash	Other		
	?		?	?	?	?		

Example of A Case Study (Nong Khaem WTE plant)

Description of salient features as the case study of BAT/BEP

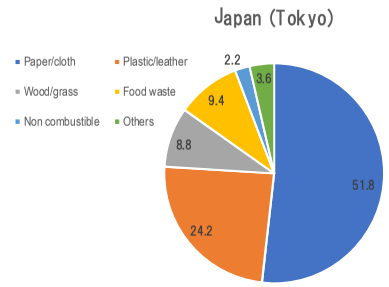
Salient Features	Explanation
1. First WtE plant in Metropolitan Bangkok.	This is first WtE plant in Metropolitan Bangkok which operates until now. However, it is not sufficiently disseminated about operation and maintenance information such as environmental monitoring or receiving waste amount or characteristics, etc

Main Comments and Answer on Draft BAT/BEP Guideline

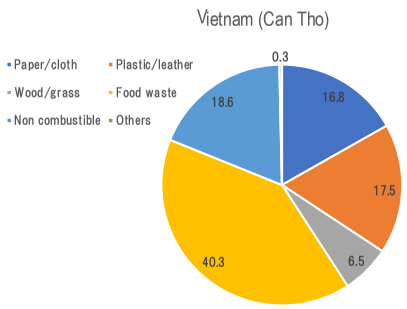
Item	Comments	Answer
Target waste	Describe the suitable target waste for WtE facility	Explain optimal range of target waste (three components, etc)
Suitable LGUs for WtE facility	Possibilities of cluster LGU for WtE facility	Depend on the situation of LGU like small LGU, difficulty of consensus building, site selection of WtE, etc
Wastewater treatment	Describe the collection and disposal system	Describe the collection and disposal system
Ash treatment	Possibility of revenue source of ash Describe the leachate treatment of ash landfill site	Describe the examples in BAT/BEP guideline Describe leachate treatment of ash landfill site
Business scheme	Elaborate the role and responsibility of business scheme for WtE	Describe the role and responsibility in BAT/BEP guideline
CAPEX and OPEX	Describe the breakdown of CAPEX and OPEX	Introduce the example breakdown of CAPEX and OPEX in BAT/BEP guideline
Environmental Monitoring	Describe the monitoring frequency	Describe the cases of Japan and EU

Appendix 11

Target waste (Typical or Acceptable Range, etc)



Source: Metropolitan Tokyo



Source: Can Tho City

Rate (%)

Physical composition (dry base)	Paper/ cloth	Plastic/ Leather	Wood/ grass	Food waste	No-combustible	Others
Japan (average)	51.8	24.2	8.8	9.4	2.2	3.6
Japan (max)	63.5	32.0	19.3	19.6	5.9	13.6
Japan (min)	42.6	17.4	2.4	5.3	0.7	0.0

Source: Metropolitan Tokyo

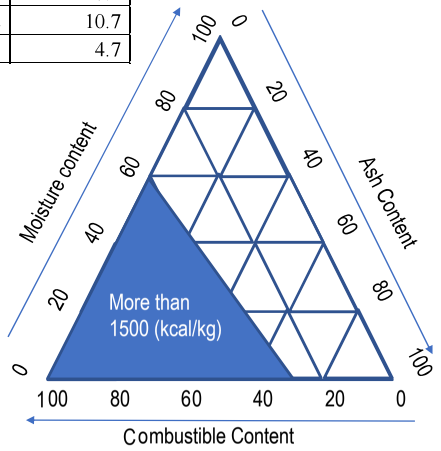
Target waste (Typical or Acceptable Range, etc)

Bulk density, Moisture, Combustible, Ash Contents of the Case Studies in Japan

	Bulk density (kg/L)	Moisture contents (%)	Combustible (%)	Ash (%)
Japan (average)	145.8	40.9	52.0	7.1
Japan (max)	235.0	52.6	60.2	10.7
Japan (min)	104.2	33.3	41.1	4.7

- As one of examples, suitable moisture, combustible and ash contents are within the range of right figure.

- In the case study, moisture, combustible and ash contents are above table, which is within the range of right figure.



Source: National Institute for Environmental Study

Role and responsibilities of public and private

	PFI			DBO	DBM	Public + Long term contract	Public works	Remarks
	BOO	BOT	BTO					
Degree of public involvement	←						→	
Role	weak						strong	
Construction								
Design	Private	Private	Private	Public	Public	Public	Public	
Construction	Private	Private	Private	Public	Public	Public	Public	
Funding	Private	Private	Private	Public	Public	Public	Public	
Operation								
Operation	Private	Private	Private	Private	Public	Private	Public	
Maintenance	Private	Private	Private	Private	Private	Private	Public	
Ownership of facilities								
Construction period	Private	Private	Private	Public	Public	Public	Public	
Operation period	Private	Private	Public	Public	Public	Public	Public	

: Role of the private sector

Note: In the PFI system, the private sector own the facility, while in DBO/DBM and Public works, the public will be the installer.

Financial Aspect (Operation and Maintenance Expenditure)

Example of Japan

(million US$)

Item	Shinkoto WtE plant		Toshima WtE plant		Ota WtE plant	
Pesonnel cost	7.0	22%	1.9	13%	0.7	5%
Utility cost	2.3	7%	0.8	5%	0.9	6%
Maintenance	13.8	44%	5.2	37%	2.0	13%
Ash handling	4.7	15%	1.3	9%	3.2	21%
Others	3.6	12%	5.0	35%	8.3	55%
Total O&M cost	31.4	100%	14.2	100%	15.0	100%
Total wase amount (thousand ton/year)	411.6	-	92.1	-	173.1	-
O&M cost (PHP/ton)	76.4	-	154.1	-	86.8	-

Source: Metropolitan Tokyo, Year2018

Appendix 11

Environmental Monitoring

Examples of EU and Japan

Item	O&M/S in Japan (Section 17 above)	Circular (Kansei 95) MOE Japan	EU directive 2000/76 (EU Directive 2010-75)	WTE Technical Standards (under endorsement) in the Philipiness
	Mandatory	Recommendatory	Mandatory	
Target capacity of WtE	All	For >200t/d		
DXNs	1/year	-	2/year	1/year
SOx	2/year	6/year	Continuous	2/year
Dust	2/year	6/year	Continuous	2/year
HCl	2/year	6/year	Continuous	2/year
NOx	2/year	6/year	Continuous	2/year

Summarization of Progress

- Draft BAT/BEP guideline is presented in the end of March.
- Comments from SG member were received.
- Answer on comments are prepared to revise BAT/BEP guideline

Further Step

- According to the comments, this draft BAT/BEP guideline will be revised and improved until the end of May
- Presentation of the updated BAT/BEP guideline in the next subgroup meeting of output 1 for endorsement to JCC

Maraming salamat po !

3rd Inter-agency Technical Working Group Meeting

DENR/JICA Technical Cooperation Project (TCP) for Capacity Development on Improving Solid Waste Management (SWM) through Advanced/Innovative Technologies

26 April 2021, Monday, 9:00 AM – 12:00 PM (*via Teams*)

UPDATES

Endorsement of the Memorandum Circular (MC) for Technical Standards of WtE Facility

PROJECT OUTPUT 1

- Status on the endorsement and procedure on the Approval of the WtE Technical Standards
  1. SWMD-PMO drafted the Complete Staff Work (CSW) for the endorsement of the Technical Standard for WtE Facility
     - 07 April 2021: Endorsement of the CSW to the Department of Energy for Approval/signature as JCC Co-Chairman
     - 22 April 2021: Received from DOE the approved/signed CSW
     - 22 April 2021: Endorsed to DENR-FASPS for approval/signature of Undersecretary Leones as the JCC Chairman
  2. Endorsement of the T/S to the EMB Director
  3. Endorsement to the EPTWG for further deliberation

Appendix 11

TASK FORCE
ON
SOLID WASTE MANAGEMENT

Quezon City
Waste to Energy
Project Status

QC WTE PROJECT

Project Description

- The project involves the design, financing, construction, operation, and maintenance of a biodegradable source separated waste treatment and residual combustible waste treatment facility

Project Cost : PhP 22 Billion

Procurement Mode : Unsolicited

PPP Structure : Joint Venture

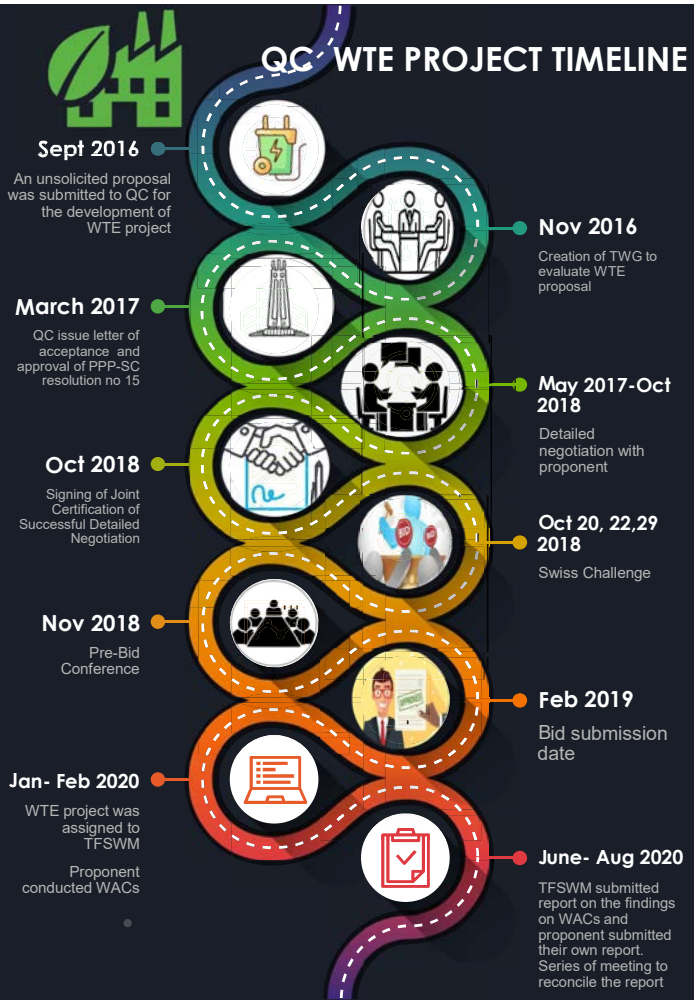
Cooperation Period : 35 years

Energy output : 36 MWe

Capacity : 3,000 MTD

Source : PPP Center
https://ppp.gov.ph/ppp_projects/quezon-city-integrated-solid-waste-management-facility-project/r

QC WTE PROJECT TIMELINE



Maraming Salamat po

3rd Inter-agency Technical Working Group Meeting

Output 3

"Explanation of Progress of implementation status for Dioxin and Furan Monitoring Training"

26th April 2021 (Monday)

The Technical Cooperation Project (TCP) for Capacity Development on Improving Solid Waste Management (SWM) through Advanced/Innovative Technologies

Progress of implementation status for OP3 training

◆ The latest training plan is shown in the Progress Report 2, based on the discussion with ERLSD and JET.

Item	Progress
Operation Verification of GC/HRMS [Most Urgent]	- Due to several reasons, it has not yet been possible to accurately measure the standard solutions. - Training will be held on-line by using TeamViwer. - JET is waiting for the communication from ERLSD about the possible date for next meeting or training.
Sampling for Stack Gas and Ambient Air	- JET is planning to advise on contamination control for preparation of sampling materials. - To make this plan concrete, JET has sent a request to AQMS in last May to provide some documents described in Stack Testing Manuals.
Preparing SOPs	- JET recommended to create a comparison table between SOP and referenced standard EPA method. - JET will help to create the comparison table for EPA method 23 and waiting for the draft SOP for EPA Method 23.

NIPPON KOEI
EJEC

3rd ITWG Meeting
for

Output 4: Enhancement of The National Government's Capacity to identify issues and provide suggestions/recommendations for other SWM technologies other than WTE

26th April 2021

The Technical Cooperation Project (TCP) for Capacity Development on Improving Solid Waste Management (SWM) through Advanced/Innovative Technologies

Outline of Output 4

Output 4

National Government's and target LGUs' capacity to identify issues and provide suggestion/recommendation for other SWM technologies than WTE is enhanced.

Specific activities

4.1 Grasp the current situation by National SWM strategy and 10 year SWM plan in the target LGUs.

4.2 Identify the current issues for other SWM technologies in the target LGUs.

4th SG meeting was held on 25th March

4.3 Collect the information of "Good practice/Good technology" of other SWM technologies in Japan/third world countries.

4.4 Summarize and provide suggestion/recommendation to improve utilization of other SWM technologies to target LGUs.

4.5 Seminar for disseminating suggestion/recommendation is held.

Sub-group Meeting for OP4 on 25th March

"Good practice/Good technology" of other SWM technologies

3. Intermediate treatment /3R

3-11. Promotion of recycle
Waste bank (Bank Sampah)
Indonesia

Target waste: Recyclable wastes

Implementation entity: Government of the City etc.,

Outline
- Residents(Customers) bring recyclable waste to the waste bank and the profit generated when the recyclable waste is sold to a recycler is returned to the customers.
- In 2012, the Ministry of the Environment of Indonesia published implementation guidelines, which stipulate the roles of facilities, measuring of the weight and recording methods, etc.

Good Practice Point
- When collecting recyclable waste, the market value equivalent of recyclable waste is recorded in the "deposit passbook". Customers will be able to hand over recyclable waste to the waste bank, save money in their account, and withdraw cash after a certain period of time.
- By transferring the responsibility of waste treatment, the cost shouldered by the local government is reduced.


Malang Waste bank


Recyclable waste classified into 72 types


Waste bank counter

5. Information Education and Communication (IEC)

5-2. Promotion of segregation
Leaflet explaining waste segregation
Mandaue City , Philippines

Target waste: All type wastes

Implementation entity: Mandaue City

Outline
- Mandaue City in the province of Cebu shows the type of waste and collection date in leaflet.

Waste Classification in Mandaue City


Waste classification leaflet in Mandaue City

Good Practice Point
- Residents can check the waste classification and the collection day with the leaflet, and it can prevent improper waste disposal.

Similar cases

Target waste: All type wastes

Implementation entity: Kawasaki City, Japan

Outline
- List separation and discharge methods for each waste type is detailed in the local government website and public relations brochure.


Sorting and Disposal of Recyclable Materials and Garbage in Kawasaki

Starting of Activity 4-4

Activity 4-4
Summarize and provide suggestion/recommendation to improve utilization of other SWM technologies to target LGUs.

- Activity 4-4 will be started with the evaluation of the technical examples. However, additional examples may be added to the technical example document as needed.
- In Activity 4-4, the goal is for the C/P to be able to evaluate every technology, taking into account the characteristics of the LGU.
- LGUs are expected to evaluate the technical examples in each waste management stage (theme) from the following perspectives:
  - ✓ Technical viability
  - ✓ Economical feasibility
  - ✓ Cultural acceptability
  - ✓ Environmental soundness

Appendix 11

Schedules of the Sub-group meeting for OP4

Beginning of June 2021
- ✓ Meeting with each target LGU and JET (1st time)
- ✓ Review and discussion of the Evaluation of Technology prepared by target LGUs

Beginning of August 2021
- ✓ Meeting with each target LGU and JET (2nd time)
- ✓ Review and discussion to finalize Evaluation of Technology prepared by target LGUs

Beginning of October 2021
- ✓ All SG members
- ✓ Target LGUs to give a presentation on the results of the Evaluation of Technology

Beginning of December 2021
- ✓ All SG members
- ✓ Summarize and provide suggestions/recommendations for target LGUs and other LGUs

For Activity 4-5, target LGUs will give a presentation on the seminar.

The 1st Newsletter

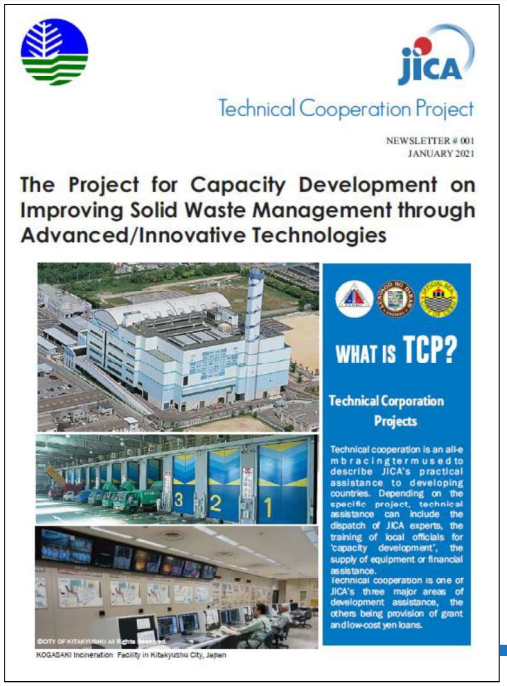


Table of Contents

- ◆ Project Outline
- ◆ Role of Government institutions
- ◆ On goring effort into the target LGUs <Quezon City>
- ◆ Environmental Monitoring with Output 3
- ◆ Achieved Events and Meeting in the Project

The details of the 2nd Newsletter will be discussed at the next meeting with PMO/FASPS.

Appendix 11

Updates on the Identified additional activities

The Third ITWG Meeting

The Technical Cooperation Project (TCP) for Capacity Development on Improving Solid Waste Management (SWM) through Advanced/Innovative Technologies

Updates

Conditions for modification of the R/D

- The procedure to modify the R/D has not been completed.
- The signing on a minutes between JICA and DENR is required for the procedure.

Activity 1-8:

- Wait the modification of R/D

Activity 2-6:

- JET and PPPC had two times of meeting to discuss/confirm how to coordinate the activities of SWM-PPP
- PPPC/JET are working to develop the work plan on the activity
- The activity would be started from May, as a part of Activity 2-6 even if the minutes between DENR and JICA could not be concluded.

Reinforcements and addition in the TCP activities

1. Activity 1-8: addition
   Review and modification of Sanitary Landfill regulations considering possible disposal of incineration ash

2. Activity 2-6
   Define the proper responsibility (including financial responsibility) of LGU in promoting WTE project under PPP scheme.
   -Support to SWM PPP projects to clarify responsibilities of LGUs under PPP scheme

3. Activity 3-4
   Conduct training of sampling, analyzing and QA/QC of Dioxins and Furans in ambient air and source emission gas in central EMB.
   -Reinforce software operation of Dioxin/Furans analysis equipment

Thank you for your attention!

PROJECT ACTIVITY : **3rd Inter-agency Technical Working Group (ITWG) Meeting**
DATE/TIME : **26 April 2021, 9:30AM-12NN (Philippine Time)**
VENUE : **Video Conference through Microsoft Teams**
MATERIALS : http://bit.ly/Filesfor3rdITWGMtg

Agenda Topics	Issues/Discussions/Actions	Comments/Agreements/ Timelines	Required Actions/Responsible Agency/Person
1.) Opening/ Welcoming Remarks (EMB OIC Assistant Director Vizminda A. Osorio on behalf of EMB OIC Director William P. Cunado)	• On behalf of Director William P. Cuñado, EMB OIC Assistant Director Vizminda A. Osorio stood as chairman of the meeting, and commenced the ITWG Meeting with quorum reached and all presenters present. • In her opening/welcome speech, she emphasized how SWM is not just in the hands of DENR, but would take the immersive participation of related agencies, as being exercised in this Inter-agency Technical Working Group.		
2.) Discussion of Objectives of the Meeting & Acknowledgement of the ITWG Members and Sub-group Members (Ms. Elvira S. Pausing, EMB-SWMD-PMO)	• Ms. Elvira Pausing reviewed the proceedings of the last ITWG Meetings on January 24, 2020 and on December 3, 2020, where the Technical Standards were reviewed and later on approved and endorsed to the JCC. • The meeting objectives were presented along with the meeting agenda. • Lastly, meeting participants were acknowledged one by one to introduce each one to the rest of the panel. • Upon presentation of the objectives/ purposes and acknowledgement of participants, Ms. Raquel Reyes of EMB-SWMD-SWPPDS, the assigned emcee for		

Appendix 11

	the ITWG meeting, turned over the floor to AD Osorio to formally preside over the meeting. • With quorum reached, and no further comments from the body, AD Osorio asked for a move to adopt the agenda as presented, which was moved for adoption and seconded by the representatives of NEDA and DILG respectively.	• Agenda was moved without further modifications.	
3.) Project Output 1: **Presentation of the draft BAT/BEP Guidelines including the comments/inputs provided by the SG1 members** (Mr. Satoshi Higashinakagawa, JICA Experts Team)	• Mr. Satoshi Higashinakagawa presented the working draft of the BAT/BEP Guidelines, the process by which it was prepared, and the comments of the Subgroup 1 members on the draft. • Sample case studies were presented to illustrate the salient points gathered in the data collection process. • Mr. Higashinakagawa also mentioned that the first draft of the BAT/BEP Guidelines was then routed to the Subgroup 1 members and presented during the Subgroup 4 Meeting, where DOE, PPPC, EMB, and Davao City extended comments for consideration. The comments were discussed by Mr. Higashinakagawa, explaining briefly how each comment will be addressed and adopted.	• Answers to the comments are currently being prepared, for close coordination with the commenters. • Target finish of the 2nd Draft BAT/BEP Guidelines will be at the end of May 2021, for target discussion and approval in the next OP1 SG Meeting in June and for target approval in the next ITWG Meeting.	• [JET] Prepare responses to the comments of the OP1 subgroup meeting members. • [JET] Provide the 2nd Draft of BAT/BEP Guidelines by end of May.
3.) Project Output 1: **Status on the endorsement and procedure on the Approval of the WTE Technical Standards** (Ms. Roxanne Barcenas on behalf of Ms. Ma. Delia Cristina M. Valdez)	• Ms. Roxanne Barcenas presented the updates on the endorsement of the Technical Standards on behalf of Ms. Delia Valdez. • Ms. Barcenas presented the timeline, noting that the approved/signed CSW has	• Next steps include the endorsement to the EMB Director and later on to the EMB Policy Technical Working Group (EPTWG) for further deliberation. • Mr. Christian Perez of JICA Philippines asked Ms. Barcenas for an estimate on	

	been received from DOE, and was promptly forwarded to FASPS to facilitate the approval and signing of DENR Undersecretary Jonas R. Leones.	how long the next steps are forecasted to take. ○ Ms. Barcenas mentioned that they cannot estimate at the moment, but will give updates as the process progresses. • Mr. Perez clarified if further approval from the Executive Committee of DENR will be needed to officialize the Technical Standards after the EPTWG deliberations. ○ Ms. Pausing relays that EPTWG will decide on whether the TS will be adopted as an MC or a DA, the process will depend on the decided adoption outcome. ○ AD Osorio suggests for PMO to calendar the deliberation with the EPTWG. ○ Ms. Pausing agrees, but stresses that the CSW should first be endorsed by USec. Leones before the deliberation can be scheduled.	• [PMO] PMO to provide updates to the ITWG on the progress of the paperwork. • [PMO] PMO to calendar the deliberation with the EPTWG once CSW is signed by USec. Leones.
4.) Project Output 2: **Brief updates on LGU's WTE project**	• Engr. Louie Sabater of QC-TFSWM presented the updates on the QC WTE Project, discussing the project description,		

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(Engr. Louie Sabater, Quezon City Task Force on Solid Waste Management (TFSWM)) **Status of Approval/ signing of the MOU** (Mr. David John Vergara, Quezon City LGU)	cost, and the timeline of the pertinent activities relating to the project. • Mr. Sabater further relays that this task has just been recently turned over to QC-TFSWM, and turnover of files are still being facilitated. • Mr. David Vergara reported that the Assistant City Administrator is still currently assessing the MOU and has recently asked for clarification on Section 4.a, but the inquiry has been addressed by the team of Mr. Vergara.		
4.) Project Output 2: **Brief updates on LGU's WTE project** **Status of Approval/ signing of the MOU** (Engr. Glory Manatad, Cebu City LGU)	• According to Ms. Glory Manatad of Cebu City LGU, as discussed with the JVSC, the WtE project is still currently in the negotiation stage. From the last meeting, the proponent still had some issues with the location for the project but has not gotten back to them yet for further discussion. • The Sangguniang Panlungsod (City Council) has conditionally approved the MOU. For the final review and approval, they are requesting for a signed copy of the minutes of the meeting held last October 22, 2020 on the discussion between PMO, FASPS, JET and concerned LGUs pertaining to the updating of the MOU. • Once approved by the City Council, the MOU will be endorsed to the Mayor for final review and signing.		• [PMO] Provide signed copy of October 22, 2020 MOU Meeting Minutes to Ms. Manatad for submission to Cebu City Sangguniang Panlungsod.

Appendix 11

4.) Project Output 2: **Brief updates on LGU's WTE project** **Status of Approval/ signing of the MOU** (Davao City LGU)		• PMO noted that Davao City was not able to send representatives to attend in today's meeting, and PMO will facilitate communication with them to solicit updates on the status of the MOU signing and WTE project implementation.	• [PMO] Follow up with Davao City on updates on their WTE project and MOU signing.
5.) Project Output 3: **Updates on the Training Plans on the sampling, analysis and QA/ QC of Dioxins and Furans**	• Mr. Satoshi Miyaichi showed the latest training plan based on the discussion with ERLSD and JET following the last ITWG meeting. • Mr. Miyaichi determined that the Operation Verification of GC/HRMS is the most urgent activity. Remote training through TeamViewer is also pending.	• Ms. Fatima Molina of ERLSD relays that the recent power outages have affected their operations but the lab has just resumed their normal operations. Verification works coordinated with JET have been progressing well for the operation of the GC/HRMS.	• [ERLSD] Ms. Molina will coordinate with Mr. Roger Evangelista and Mr. Sammy Aytona to facilitate the remote training through TeamViewer.
	• For the Sampling for Stack Gas and Ambient Air, JET has sent clarificatory inquiries to AQMS but has yet to receive a reply.	• Mr. Jundy Del Socorro of AQMS acknowledges the request pertaining to the Stack Testing Manual, and agrees to provide a copy to JET. Currently, they only have the hard copy, and will still have to look for the softcopy.	• [AQMS] AQMS to provide requested documents pertaining to Stack Testing Manual to JET.
Updates on the Preparation of Standard Operating Procedures (SOP) (Mr. Satoshi Miyaichi, JICA Experts Team)	• From the discussions between JET and ERLSD, the comparison table for Method 23 will be drafted by JET, to be reviewed and revised by ERLSD. SOP for Method 23 is still being requested to allow JET to work on the comparison table.	• ERLSD is currently preparing for the documentation materials for their ISO application and still waiting for approval to give access to JET to this controlled document. • Ms. Molina inquires on the significance of the comparison table being required, given that proper method validation and verification are already being facilitated in the process of ISO application.	• [ERLSD] Ms. Molina will ask EMB management for approval to disclose controlled documents to JET.

		○ Mr. Miyaichi will discuss this in detail in a close coordination meeting with ERLSD once SOP is provided.	
6.) Project Output 4: **Updates on the Collection of Good Practice/ Good technology of other SWM Technologies in Japan and other countries** **Updates on the TCP Newsletter** (Ms. Kyoko Kimura, JICA Experts Team)	• Ms. Kyoko Kimura relayed the updates as discussed in the recent OP4 Subgroup Meeting. She emphasized the Evaluation of Technology that was given to the LGUs, and detailed that individual meetings with the LGUs will be facilitated to discuss their working draft. • The 1st TCP Newsletter was also presented, relaying that a more recent version of the newsletter was submitted to EEID through SWMD-PMO.	• Mr. Perez asked who the target recipients of the newsletter are. ○ Ms. Kimura relayed that once EEID approves of the more recent draft, the newsletter will be uploaded in the EMB website open for public access. • Mr. Kamishita asked Ms. Pausing on the updates of the EEID review of the revised newsletter. ○ Ms. Pausing clarified that the first draft of the TCP Newsletter has been posted on the EMB website. However, JET pointed out that the material was still a draft, and an updated material is prepared for reposting.	

		○ Ms. Pausing received the updated material from JET and has endorsed it to the OIC-Chief, SWMD and eventually forwarded to EMB-EEID for reposting. ○ AD Osorio suggested for PMO to also present updates on the newsletter in the next ITWG Meeting.	• [PMO] PMO to follow up with EEID in the posting of the updated TCP Newsletter.
7.) Updates on the identified additional activities under the TCP (Mr. Takahiro Kamishita, JICA Experts Team)	• Mr. Kamishita explained the additional reinforcement activities of the TCP: Activity 1-8 (addition), Activity 2-6 (reinforcement), and Activity 3-4 (reinforcement) • The amendment of the R&D by the minutes between DENR and JICA must be finished in order to officialize the adoption of the additional activities and the extension of the project duration. The process is still currently ongoing. • The revised R&D is needed before Activity 1-8 is commenced, but the reinforcement activities 2-6 and 3-4 can already be started. • In line with Activity 2-6, coordination meetings between JET and PPPC have already been facilitated twice and the activity is expected to formally commence this May.		• [PMO] Facilitate the revision of the R/D, reflecting the reinforcement activities and extended project period.

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8.) Open Forum (EMB OIC AD Vizminda A. Osorio)	• AD Osorio facilitated the open forum. • Mr. Perez inquired on the MOU Updates of the LGUs, particularly for Davao City. ○ Ms. Pausing confirmed that the most recent updates received from Davao City LGU was the one presented in the JCC Meeting. Ms. Pausing mentions that PMO will follow up on updates given that no participants from Davao City are present in this meeting. ○ Ms. Manatad clarified that a signed minutes is needed by the City Council. The next meeting will be facilitated next Wednesday, May 5, and requests the signed minutes from SWMD-PMO before then.	• Ms. Morada relays that the minutes are still for Ms. Delia Valdez' signature	• [PMO] Follow up with Davao City on updates on their WTE project and MOU signing. • [PMO] PMO through Ms. Morada to follow up with Ms. Valdez on her signature for the minutes of discussion on the MOU meeting.

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9.) Wrap-up, Required Actions, and Agreements (Ms. Andrei Mallare, JICA Experts Team)	• Ms. Andrei Mallare of JET wrapped up the earlier discussions and reiterated the arrangements and timelines as agreed. • [JET] Prepare responses to the comments of the OP1 subgroup meeting members. • [JET] Provide the 2nd Draft of BAT/BEP Guidelines by end of May. • [PMO] PMO to provide updates to the ITWG on the progress of the paperwork. • [PMO] PMO to calendar the deliberation with the EPTWG once CSW is signed by USec. Leones. • [PMO] Provide signed copy of October 22, 2020 MOU Meeting Minutes to Ms. Manatad for submission to Cebu City Sangguniang Panlungsod. • [ERLSD] Ms. Molina will coordinate with Mr. Roger Evangelista and Mr. Sammy Aytona to facilitate the remote training through TeamViewer. • [AQMS] AQMS to provide Stack Sampling Manual to JET. • [ERLSD] Ms. Molina will ask EMB management for approval to disclose controlled documents to JET. • [PMO] PMO to follow up with EEID in the posting of the updated TCP Newsletter • [PMO] Facilitate the revision of the R/D, reflecting the reinforcement activities and extended project period.	• Ms. Pausing clarified that prior to the endorsement of the BAT/BEP Guidelines to JCC, it must be endorsed first to the ITWG for deliberation and approval. • Ms. Molina requested for the record to reflect that the verification works for the GC/HRMS equipment is *progressing well currently, following* the operational interruptions brought about by the recent power outages. • No further clarifications and/or alterations were raised by the other attendees.	

Appendix 11

	• [PMO] Follow up with Davao City on updates on their WTE project and MOU signing. • [PMO] PMO through Ms. Morada to follow up with Ms. Valdez on her signature for the minutes of discussion on the MOU meeting.		
10.) Closing Remarks (Ms. Momoko Otsuka, JICA Philippines)	• Ms. Momoko expressed her gratitude to the ITWG members for their continuous support to the TCP, and emphasizes that the collective effort of the agencies will be key to the success of the TCP.		

Prepared by:

Ms. Nikole Andrei Louise Mallare
Research Assistant
JICA Experts Team

Reviewed by:

Ms. Elvira S. Pausing
Supervising EMS & Assistant Project Manager, SWMD-PMO
DENR-EMB

Mr. Takahiro Kamishita
Chief Advisor
JICA Experts Team

Recommended by:

Ms. Ruby De B. Guzman
Chief, Biomass Energy Management Division
DOE-REMB

Approved by:

Engr. Vizminda A. Osorio
OIC-Assistant Director
DENR-EMB

Appendix 11

Appendix 11-1:
ITWG Meeting

11-1-4 : 4th ITWG Meeting

4th Inter-agency Technical Working Group (ITWG) Meeting

Technical Cooperation Project (TCP) for Capacity Development on Improving Solid Waste Management (SWM) through Advanced/Innovative Technologies

02 August 2021, Monday, 1:00 PM – 4:00 PM

(*Via MS Teams*)

PROGRAMME

TIME	ACTIVITY	SPEAKER
1:00 PM	Invocation	EMB-SWMD-PMO
	Opening/Welcome Remarks	**Engr. William P. Cuñado** *OIC-Director, EMB*
1:10 PM	Meeting Objectives, Tentative Agenda, & Acknowledgement of the ITWG Members and Sub-group Members	**Ms. Elvira S. Pausing** *Supervising EMS, EMB-SWMD & Assistant Project Manager, SWMD-PMO*
Meeting will be presided by: **ITWG Chairman - Director William P. Cunado,** EMB-DENR **ITWG Co-Chairman- Ms. Ruby B. de Guzman,** REMB-BEMD, DOE • Welcome Message/Call to Order • Adoption of the Agenda		
1:30 PM	**Project Output 1**: • Presentation of the draft Case Study Analysis for the Guideline of Best Available Technique / Best Environmental Practice (BAT/BEP) • Status on the endorsement and Approval of the WTE Technical Standards	**Mr. Takahiro Kamishita** Chief Advisor, JET **Ms. Ma. Delia Cristina M. Valdez** *OIC-Chief, SWM Division, EMB* **Both Speakers shall be supported by EMB-SWMD-PMO & all Sub-group members for OP1*
2:00 PM	**Project Output 2**: • Updates on the Project Activities • Status of Approval/Signing of the Memorandum of Understanding (MOU)	**Mr. Makoto Kosaka** SWM/PPP, JET **Representatives of partner LGUs**
2:30 PM	**Project Output 3**: • Updates on the Project Activities	**Mr. Satoshi Miyaichi,** EMP/ESC, JET **Speaker to be assisted/supported by the EMB-ERLSD & EQMD & all Sub-group members for OP3*
2:45 PM	**Project Output 4**: • Updates on the Project Activities: Assessment of the SWM technologies by LGUs	**Ms. Kyoko Kimura** Public Enhancement/Training Arrange/Coordinator, JET **Speaker to be supported by SWMD-PMO & all Sub-group members for OP4*

3:00 PM	***Open Forum***	
3:10 PM	Way forward/Next Steps	• **ITWG Chairman** (DENR-EMB) • **ITWG Co-Chairman** (DOE-BEMD)
3:20 PM	Wrap-up (Issues/Agreements/Timelines)	**Ms. Andrei Mallare** *Project Assistant, JET*
3:30 PM	Closing Remarks	**Ms. Ruby B. de Guzman** *Chief, Biomass Energy Management Division, REMB, DOE*
Master of Ceremonies		**Engr. Roxanne Barcenas** *Technical Assistant, EMB-SWMD-PMO*

The Technical Cooperation Project (TCP) for
Capacity Development on
Improving Solid Waste Management (SWM) through
Advanced/Innovative Technologies

4th Inter-Agency Technical Working Group (ITWG)

Activity 1-1

"The Final Draft BAT/BEP Guidelines "

2nd August 2021 (Monday)

The Technical Cooperation Project (TCP) for Capacity Development on Improving Solid Waste Management (SWM) through Advanced/Innovative Technologies

Contents

Rationale

- The DAO 2019-21, otherwise known as the Guidelines Governing WtE Facilities for the Integrated Management of MSW:
  To give the minimum requirements for the development and operation of WtE facilities
- Section 12, the NSWMC Resolution 669-2016:
  the NEC to prepare the Best Available Technologies (BAT) /Best Environmental Practices (BEP) guidelines for Waste to Energy (WtE) technologies
- The objective: to provide information from existing case studies that can be references for WtE facilities of LGUs.

2. Formulation Process of BAT/BEP Guidelines

Schedule planned before COVID-19 (at 2nd SGM held in March 2020)

SG MTGs in 2020	1st	2nd	3rd	Seminar	4th	5th	6th	2021
Date	18Feb	05Mar	15May	July	20Aug	12Oct	05Nov	(cont.)
Team Setup	X							
Collection criteria of WTE BAT/BEP	X Draft	X Finalize						
Collection of WTE BAT/BEP	→	→	→	→	→	→		
Review collected WTE BAT/BEPs		X	X		X	X		
Report at dis. Seminar				X				
Draft BAT/BEP Guidelines						X		
Finalization of BAT/BEP GL							X	X **Mar2021**

Appendix 11

2. Formulation Process of BAT/BEP Guidelines

SG meeting	Date	Main Presentation/Discussion
1st OP1 SG	18 Feb. 2020	- Discussion of the target countries and type of WtE facility - Sharing of the draft survey format
2nd OP1 SG	5th Mar. 2020	- Agreed that case studies mainly focus on combustion. - JET requested members to investigate what they are interested.
3rd OP1SG	4th Jun. 2020	- Agreed on the selection criteria and survey format - Presentation of 4 collected case studies base on the survey format (Japan, Singapore, Netherland and France)
4th OP1 SG	7th Jul. 2020	- Summary of the collected 15 cases - Major salient features such as scale of WtE facility, utilization of thermal energy, air pollution control standard.
5th OP1 SG	20th Aug. 2020	- Summery of the collected 36 cases

2. Formulation Process of BAT/BEP Guidelines

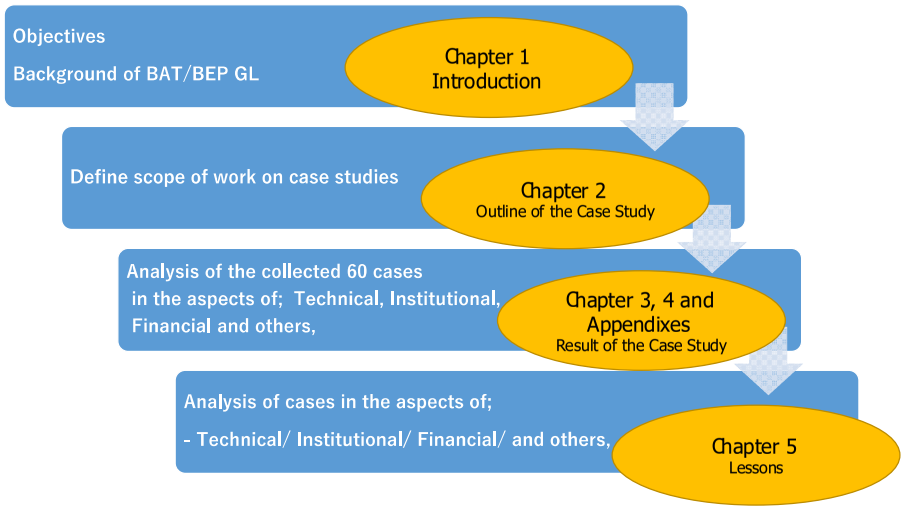
Meeting	Date	Main Presentation/Discussion
6th OP1 SG	14th Oct. 2020	- Summary of the collected 46 cases - The target cases have been determined as 60
2nd ITWG	3, Dec. 2020	- Explanation of Survey Procedure of Case Studies and the introduction of A Case Study - Summary of the collected 60 cases (Japan:30, Asia except Japan: 10, EU and USA:20)
4th OP4 SG	25, Mar. 2021	- Sharing of the 1st draft on 17th of March - Request of comments until the beginning of April
7th OP1 SG	23, April 2021	- Answer for the comments to update the 1st draft - Additional information for the comments
3rd ITWG	26, April 2021	- Sharing the 1st draft and its contents - The target schedule to update the draft
8th OP1 SG	16, June 2021	- Sharing of the 2nd draft - Acceptance of additional comments until the 24 June
3rd ITWG	2, Aug. 2021	- Sharing of the Final draft - Modification of the title of document

2. Formulation Process of BAT/BEP Guidelines

■ 2nd Draft is presented to ITWG for endorsement (to propose JCC),

SG MTGs	4th	5th	6th	7th	8th	ITWG	JCC
Year	2020			2021			
Date	07 July	20 Aug.	14 Oct.	13 April	16 June	2 Aug	Sept
Progress sharing	x	X	x				
Data from secondary info.	Mar. 2020 to Mar. 2021						
Contact to WTE facilities			Dec. 2020 to Mar. 2021				
Presentation of the draft				1st draft	2nd draft	Final draft	
Updates with comment				→	→		
Endorsement by ITWG and JCC						X	X

Structure of the Document



Appendix 11

3. Comments and Responses

1)Acceptable Target waste

- The combustion furnace, either stoker or fluidized bed type, can accept most of type of waste.
- Even incombustible waste such as metal, concrete brick or liquid waste can be treated while it is not preferable.
- According to preceding cases, LGUs defines the type of waste for WtE to sustain their waste management.
- This must be the same in the Philippines.

3. Comments and Responses

2) Clustering

- The concept of cluster LGU is desirable to enjoy the advantage of scale of WtE facility.

- The following issues in making consensus among LGUs joining clustering.
  - Possible change in administration of LGUs,
  - Site selection concerns (Not in my backyard [NIMBY]),
  - Waste collection and transportation efficiency, as transportation distances could be longer for member LGUs
  - Environmental impact by WtE, waste transportation etc.

Title of the document

- "Case Study Analysis for Guideline of BAT/BEP of WtE" as a deliverable of TCP, instead of BAT/BEP guideline
  - DENR does not authorize single technology as BAT/BEP
  - The document will be officialized by DENR after its delivery by the TCP

4. Next step

1. Endorsement by ITWG
2. Application of approval by JCC (at JCC meeting)
3. (Submittal to DENR by the TCP)

Thank you for your attention!

NIPPON KOEI

4th ITWG Meeting
Updates of Output 2

Target LGUs' capacity on planning, evaluation, formulation & supervision of WTE projects is enhanced

2nd August 2021

Makoto KOSAKA, SWM-PPP Expert

The Technical Cooperation Project (TCP) for Capacity Development on Improving Solid Waste Management (SWM) through Advanced/Innovative Technologies

Overview on OP2 as of July2021

1. Progress of each activity under Output 2,
2. MOUs between EMB and 3 LGUs (as TCP's prior condition are not yet signed),
   => Progress of activity 2-4, 2-6, 2-7, 2-8 are drastically affected.
3. Additional activities with PPPC,
4. Future steps;

1. Progress of each activity under Output 2,

Activities under Output 2		LGU QC	LGU CC	LGU DC
2-1:	Review current situation on introducing WTE facilities in the target LGUs	100%	100%	100%
2-2:	Clarify current waste flow & amount, set target on waste reduction in the existing SWM 10-year plans	100%	100%	100%
2-3:	Evaluate LGUs' land use plan for WTE projects	100%	100%	100%
2-4:	**Analyze & verify candidate WTE projects** selected from the existing F/S, unsolicited/solicited proposals	0%	50%	0%
2-5:	Define points & issues to be addressed for formulating WTE projects in the target LGUs	80%	80%	80%
2-6:	**Define proper responsibility of** the target LGUs in promoting **WTE projects under PPP scheme**	0%	50%	0%
2-7:	**Formulate technical specification of WTE facilities in each target LGU**	0%	0%	0%
2-8:	Define points & issues to be addressed for **supervising WTE projects** in the target LGUs	0%	0%	0%

2. MOUs between EMB and LGUs

- As of July 2021, the progress of the MOU signing of the 3 LGU's are as follows:

LGU	Update	Next Steps
Quezon City	For review of the City Administrator	Once approved by City Admin, will be sent to Mayor's office (signing is facilitated by Mr. Vergara)
Cebu City	Signed by the City Mayor	For signature of Regional EMB Director and endorsement to EMB CO
Davao City	For review in the Sangguniang Panlungsod Office	Once cleared, will be sent to Mayor's office for signing.

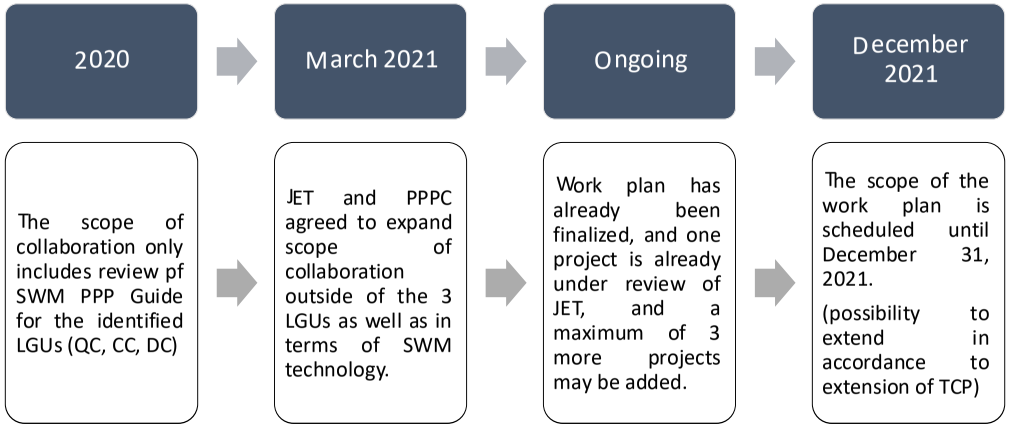
Appendix 11

3. Additional activities with PPPC

Activity2-6: Define the proper responsibility (including financial responsibility) of LGU in promoting WTE project under PPP scheme.

1. Background
   - SWM PPP projects other than WTE are also promoted by the Governments
   - PPPC take important role to support LGUs to develop PPP project
   - PPPC faced difficulties to evaluate the SWM technologies in some cases
   - SWMD to know what kind of SWM PPP project and how these projects are developed.
2. Actual works
   - Review SWM PPP projects to check responsibilities of LGUs under PPP scheme
   - Evaluate SWM PPP projects in terms of technology, finance and social/environment
     * PPP projects discussed in LGUs other than the target LGUs can be selected
     * SWM technologies can be WTE technologies other than waste combustion
3. Expected person in charge
   - SWMD, PPPC with support by JET

3. Additional activities with PPPC



3. Additional activities with PPPC

Expanded Scope of JET's Technical Assistance	Specifics
Provide expertise on better management of SWM PPP Projects	Provide comments and inputs on the **development, evaluation, management and implementation** of solicited and unsolicited SWM PPP Projects
Provide inputs on technical specifications that need to be considered for SWM PPP Projects	This includes providing inputs on the **template technical eligibility criteria, KPIs, MPSS**, etc.
Conduct capacity development activities	Facilitate **Knowledge Sharing Sessions (KSS)** and other relevant activities on SWM for PPPC, LGUs, and other implementing agencies
Assist in the preparation of PPP Guide on Unsolicited Joint Venture WTE Projects	Provide comments in the **PPP Guide on Unsolicited JV WTE Projects for LGUs** that PPPC is currently drafting

4. Future Steps on Output 2

- Future steps on remaining activities to be done with target 3 LGUs are fully depending on the situation of MOUs as well as readiness of 3 LGUs,
  > Again request PMO and LGUs to implement necessary processes,
- For the collaboration with PPPC, JET expects **inputs of local context** from the technical discussions in the on-going waste management PPP projects, and **outputs** as the PPP guidelines for the LGUs to evaluate unsolicited proposal, which may have some synergies with TCP "Activity 1-6 Manual for planning, evaluation, formulation & supervision for WTE projects" under Output 1,

Appendix 11

4th Inter-agency Technical Working Group Meeting

Output 3

"Update of the Project Activities for Dioxin and Furan Monitoring Training"

2nd Aug 2021 (Monday)

The Technical Cooperation Project (TCP) for Capacity Development on Improving Solid Waste Management (SWM) through Advanced/Innovative Technologies

Progress of OP3

Activity	Contents	Status
3-1	Review of the current capacity and activities in central and regional EMB	Done
3-2	Analyze gap between the present capacity of the central EMB laboratory and required capacity and formulating training plans	Done, but the training plans are subject to be modified based on the progress.
3-3	Prepare Standard Operation Procedures (SOP)	Ongoing -> JET is now reviewing
3-4	Conduct training of sampling, analysis and QA/QC of Dioxins and Furans	Ongoing
3-5	Prepare Sampling Plan (Design) for ambient air samples	To be started
3-6	Implement sampling, analysis and QA/QC of Dioxins and Furans	To be started

Reference Information: Steps for Introducing D/F Analysis

◆ AQMS: Activity 3-4 (Sampling)

I. JET is waiting for providing the documents referred in the Stack Testing Manual from AQMS.

Please see page 4

II. For the documents provided in June, a calibration record for the high-volume air sampler was not included. In addition to this, JET would like to request some additional documents related to sampling works. The following is a set of materials JET would like AQMS to provide:

a. Example of the high-volume air sampler calibration record (Annual inspection)
b. Example of the ambient air quality sampling record by high-volume air sampler
c. Example of the pre-use checklist for stack gas sampler
d. Example of the stack gas sampling record

For these documents, Japan's examples are shown in page 5 to 8. If AQMS records information similar to these, please provide actual examples.

Reference Information: Steps for Introducing D/F Analysis

Specific requested materials for AQMS

➢ Stack Testing Manual, pp.68-69

- USEPA Volume III as shared to EMB Central and Regional Offices
- Figure F23-1
- LP 23a
- L 23-1

Outline of Operational Procedures

A sample is withdrawn from the gas stream isokinetically and collected in the sample probe, on a glass fiber filter, and on a packet column of adsorbent material. The sample cannot be separated into a particle vapor fraction. The PCDD's and PCDF's are extracted from the sample, separated by high resolution gas chromatography (HRGC), and measured by high resolution mass spectrometry.

The field procedure as described in USEPA Method 23, collecting collection and analysis of PCDD's and PCDF's is as follows (references in brackets refer to USEPA Volume III, a copy of which has been provided to EMB Central each Regional office):

A. Sampling

1. Assemble the train as shown in Figure F23-1 Turn on the adsorbent module and condenser coil recirculation pump and begin monitoring the adsorbent module gas entry temperature.
2. Ensure proper sorbent temperature entry temperature before proceeding with sample collection. Never exceed 50°C because thermal decomposition of the XAD - 2 adsorption resin will occur. Do not exceed 20° C during testing for efficient capture of PCDD and PCDF.

B. Sample Recovery

Follow the general procedure in Method 5. Use aluminium or Teflon tape to close of both ends of the probe. Do not smoke in the clean-up area (possible contamination). Treat samples as described in F23-1 section D.:

C. Laboratory Procedures

Pre-clean all components according to LP 23a. Extract all samples within 30 days of sampling and analyse within 45 days of extraction.

1. Prepare reagents in accordance with L23-1 and closely follow storage requirements to prevent contamination.
2. Extract samples in accordance .with L23-1 maintaining sample integrity.

Constraints / Issues

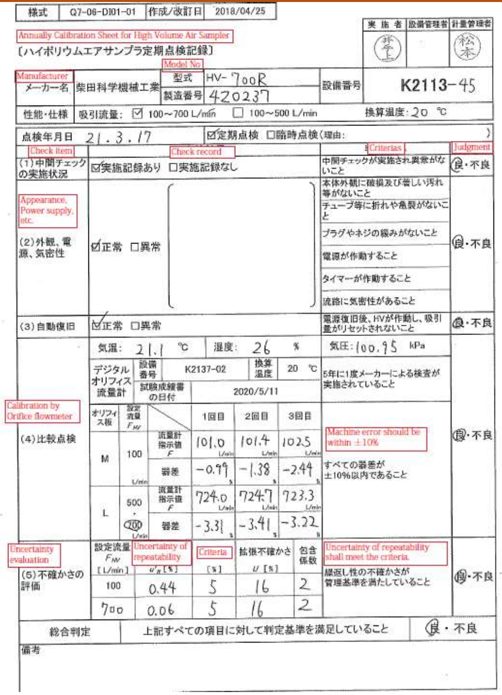
Method is highly susceptible to environmental, sampler and analytical contamination.

Appendix 11

Reference Information: Steps for Introducing D/F Analysis

Specific requested materials for AQMS

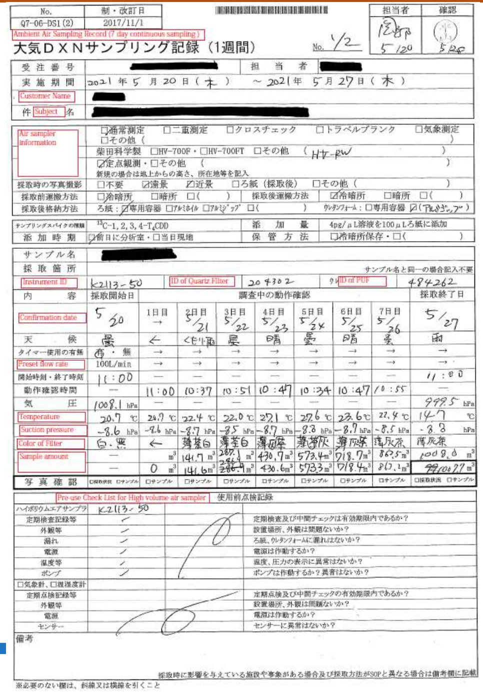
➢ a: Example of the high-volume air sampler calibration record (Annual inspection)



Reference Information: Steps for Introducing D/F Analysis

Specific requested materials for AQMS

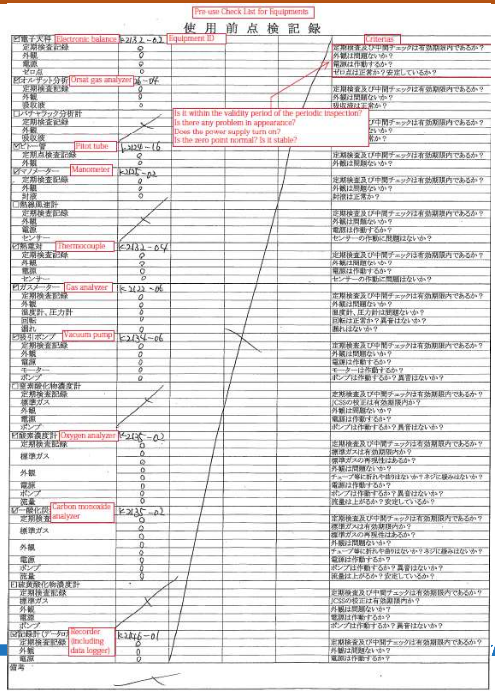
➢ b: Example of the ambient air quality sampling record



Reference Information: Steps for Introducing D/F Analysis

Specific requested materials for AQMS

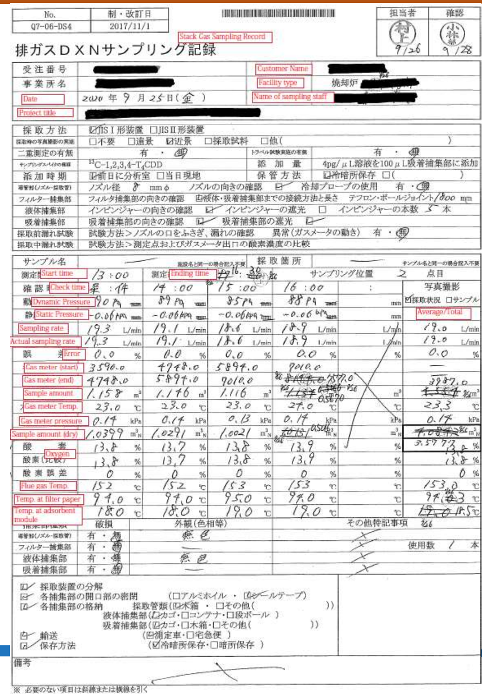
➢ c: Example of the pre-use check list for stack gas sampler



Reference Information: Steps for Introducing D/F Analysis

Specific requested materials for AQMS

➢ d: Example of the stack gas sampling record



Reference Information: Steps for Introducing D/F Analysis

◆ ERLSD: Activity 3-3 (SOP)

I. The draft SOPs were already shared with JET in May, and JET is now reviewing and will finalize it in August. In late August or later, JET would like to have an online meeting with ERLSD to explain the results.
II. Japanese official methods (JIS) for D&F analysis were revised and English documents became available just recently. JET will share the documents with ERLSD.

◆ ERLSD: Activity 3-4 (Analysis, QA/QC)

I. JET reviewed the details of the calibration curve development and confirmed that the results were good. This is the first time that JET has confirmed that standard solutions have been properly measured.
II. If possible, JET would like to know the plan/ schedule of initial performance tests (e.g. window defining mixture, method detection limit, etc.) required in the EPA methods, in advance of the next online meeting with ERLSD.
III. If ERLSD is now facing any technical difficulties in developing the GC/HRMS method, Please let JET know.

4th ITWG Meeting
for

Output 4: Enhancement of The National Government's Capacity to identify issues and provide suggestions/recommendations for other SWM technologies other than WTE

2nd Aug 2021

The Technical Cooperation Project (TCP) for Capacity Development on Improving Solid Waste Management (SWM) through Advanced/Innovative Technologies

Outline of Output 4

Output 4

National Government's and target LGUs' capacity to identify issues and provide suggestion/recommendation for other SWM technologies than WTE is enhanced.

Specific activities

4.1 Grasp the current situation by National SWM strategy and 10 year SWM plan in the target LGUs.

4.2 Identify the current issues for other SWM technologies in the target LGUs.

4.3 Collect the information of "Good practice/Good technology" of other SWM technologies in Japan/third world countries.

4.4 Summarize and provide suggestion/recommendation to improve utilization of other SWM technologies to target LGUs.

4.5 Seminar for disseminating suggestion/recommendation is held.

Starting of Activity 4-4

Activity 4-4
Summarize and provide suggestion/recommendation to improve utilization of other SWM technologies to target LGUs.

- In Activity 4-3, sub-group member corrected the example of good technology/good practice.
- In Activity 4-4, the goal is for the C/P to be able to evaluate every technology, taking into account the characteristics of the LGU.
- LGUs are evaluating the technical examples in each waste management stage (theme) from the following perspectives:
  - ✓ Technical viability
  - ✓ Economical feasibility
  - ✓ Cultural acceptability
  - ✓ Environmental soundness

Evaluation example for Activity 4-4

3. Intermediate treatment /3R

3-11. Promotion of recycle
Waste bank (Bank Sampah)
Indonesia

Target waste	Implementation entity
Recyclable wastes	Government of the City etc.,

Outline

- Residents(Customers) bring recyclable waste to the waste bank and the profit generated when the recyclable waste is sold to a recycler is returned to the customers.
- In 2012, the Ministry of the Environment of Indonesia published implementation guidelines, which stipulate the roles of facilities, measuring of the weight and recording methods, etc.

Good Practice Point

- When collecting recyclable waste, the market value equivalent of recyclable waste is recorded in the "deposit passbook". Customers will be able to hand over recyclable waste to the waste bank, save money in their account, and withdraw cash after a certain period of time.
- By transferring the responsibility of waste treatment, the cost shouldered by the local government is reduced.

Technical aspect

Concerns: Needs careful planning, and consultation from various stakeholders

Applicable conditions: Learn from the experiences of those who adapted the system.

Initial and operating costs need to be considered.

Economic aspect

Concerns: Not all recyclables have market demand.

Applicable conditions: Define materials that have market value.

Cultural aspect

Concerns: Needs cooperation of the residents.

Applicable conditions: Awareness campaigns

Depending on the condition of the waste and the storage conditions, pests may occur.

Environmental

Concerns: Acceptable

Applicable conditions: -

Appendix 11

Schedules of the Sub-group meeting for OP4

Beginning of August 2021 (Meeting with each target LGU and JET)

Review of the technology assessment report prepared by the target LGU and consideration of the most appropriate technology

- ✓ **Quezon City**: We want to have a meeting with the new task force as soon as possible, then complete the evaluation in a meeting, explaining the details.
- ✓ **Davao City:** We have already received evaluations of all good practices. Davao city has been asked to select the most appropriate technology for the next subgroup meeting.
- ✓ **Cebu City**: We want to have a meeting with Cebu city as soon as possible, then complete the evaluation in a meeting, explaining the details.

Beginning of October 2021

- ✓ All SG members
- ✓ Target LGUs to give a presentation on the results of the Evaluation of Technology

Beginning of December 2021

- ✓ All SG members
- ✓ Summarize and provide suggestions/recommendations for target LGUs and other LGUs

For Activity 4-5, target LGUs will give a presentation on the seminar.

The 2nd Newsletter

Allocation of the Article for the 2nd newsletter

Output	Article	Writer/s	Page
Output1	Article is already submitted by PMO. · Technical Standard - Background and Overview - Approved Technical Standard	PMO	1-2
Output2	· Introduction of WTE project in 3LGUs - Overview - Status of project, year of operation - Technology and treatment capacity - Messages to stakeholders · MOU (if approved)	Davao City* *Next writer will be Cebu city	1-2
Output3	- (This topic is skipped, as it was featured in the previous issue.)	-	-
Output4	Articles are already submitted by each LGUs. · Good Practice in 3 LGUs · Expectations to TCP (What will you learn? What will you achieve?)	3LGUs	1 page for each LGUs (Total of 3 pages)
Other	· Additional activities (if the minutes approved by the JCC)		

Deadline

•16th July (To be completed approval within the agency.)

Appendix 11

PROJECT ACTIVITY : **4th Inter-agency Technical Working Group (ITWG) Meeting**
DATE/TIME : **02 August 2021, 1:00-4:00 PM (Philippine Time)**
VENUE : **Video Conference through Microsoft Teams**
MATERIALS : https://bit.ly/Filesfor4thITWGMtg

Agenda Topics	Issues/Discussions/Actions	Comments/Agreements/ Timelines	Required Actions/Responsible Agency/Person
1.) Opening/ Welcoming Remarks (EMB OIC Assistant Director Vizminda A. Osorio on behalf of EMB OIC Director William P. Cunado)	● On behalf of the EMB Director , Engr. William P. Cuñado, EMB OIC Assistant Director, Engr. Vizminda A. Osorio stood as Chairman of the meeting, and commenced the ITWG Meeting with quorum reached and all presenters present. ● In her opening/welcome speech, she extended her thanks to the ITWG Members for their continuous support and participation to the TCP in order to promote a better solid waste management system in the country.		
2.) Discussion of Objectives of the Meeting & Acknowledgement of the ITWG Members and Sub-group Members (Ms. Elvira S. Pausing, EMB-SWMD-PMO)	● Ms. Elvira Pausing reviewed the proceedings of the last ITWG Meeting particularly highlighting the key discussion points per Project Output. ● The meeting objectives were presented along with the meeting agenda. ● Lastly, meeting participants were acknowledged one by one to introduce each one to the rest of the panel. ● Upon presentation of the objectives/ purposes and acknowledgement of participants, Engr.. Roxanne Barcenas of EMB-SWMD-SWPPDS, the assigned emcee for the ITWG meeting, turned over		

	the floor to AD Osorio to formally preside over the meeting. ● With quorum reached, and no further comments from the body, AD Osorio asked for a move to adopt the agenda as presented, which was moved for adoption and seconded by Engr. Reynaldo Esguerra of DOST-ITDI and Ms. Patricia Orante of QC LGU respectively.	● Agenda was moved without further modifications.	
3.) Project Output 1: **Presentation of the draft Case Study Analysis for the Guideline of Best Available Technology/ Best Environmental Practice (BAT/BEP)** (Mr. Takahiro Kamishita, JICA Experts Team)	● Mr. Takahiro Kamishita presented the Case Study following the outline below: ○ Rationale ■ Details the background that lead to the decision to draft the BAT/BEP Guidelines ○ Formulation process of BAT/BEP Guidelines ■ Timeline of activities that were undertaken to arrive at the draft Guidelines ○ Comments and responses ■ Highlights of the comments received from the subgroup that were adopted in the revision, including the target waste, clustering guidelines, and the title of the document. ○ Next Steps	● Mr. Christian Perez of JICA Philippines inquired on how the Case Study will be adopted by DENR. ○ Mr. Kamishita responded by saying that in the process of drafting the guidelines, the team came across a similar BAT/BEP study for Meat Establishments, which is used as a guidance tool as well as a reference for the technical guidelines and technologies, and the Case Study can be adopted similarly. ○ Ms. Pausing added that the Case Study will be published and serve as a key reference in the development of BAT/BEP Guidelines later on. ○ Mr. Kamishita clarified that JET wants to publish the	

	■ Succeeding points of action that need to be done to formalize the adoption of the document. ● Mr. Kamishita mentioned that the specifics of the document were no longer detailed given that the document had already been sent out last July 19, 2021.	document through DENR and not just in the TCP Newsletter, given the content of the Case Study. ○ Ms. Pausing agrees for the Case Study to be published in DENR channels too, specifically in the EMB website.	
3.) Project Output 1: Status on the endorsement and procedure on the Approval of the WTE Technical Standards (Ms. Elvira Pausing on behalf of Ms. Ma. Delia Cristina M. Valdez)	● Ms. Elvira Pausing presented the updates on the endorsement of the Technical Standards (TS) on behalf of Ms. Delia Valdez. She presented and discussed the timeline leading up to the current status as follows: ○ Feb 9 - Approval by JCC ○ May 24 - endorsed by JCC Chairman USec. Jonas R. Leones and Co-Chairman DOE Assistant Secretary Roberty Uy to the EMB Director ○ July 5 - Endorsed by the EMB Director to the Environmental Policy and Technical Working Group (EPTWG) ○ July 15 - Deliberation of the EPTWG	● Ms. Pausing also noted the comments from the EPTWG in the presentation, but will be discussed with JET first for appropriate action. ● AD Osiorio inquired on the next steps of the activity. ○ Ms. Pausing mentioned that as agreed during the EPTWG meeting, the TS was disseminated last week and will be for review first before further deliberation. ○ Ms. Pausing noted that only 2 (EIA, EEID) of the 8 members of the EPTWG have extended comments. ○ AD Osorio proposed to give the EPTWG one more week to send comments, and proposed to schedule the next deliberation next week. ○ Ms. Pausing raised that the EPTWG decided to adopt	● [PMO] To share EPTWG comments on the TS to JET. ● [PMO] To coordinate with EPTWG to give comments to the TS by August 6, 2021

		the TS as a Joint Administrative Order (JAO), together with DOST and DOE, which may affect the timeline of the adoption. ● Mr. Christian Perez asked how different the JAO is from a DAO in terms of the approval process. ○ Ms. Crisostomo noted that the approval of the JAO takes longer because other agencies are also involved in the process. ○ She further adds that the decision to make the TS into a JAO is because the extent of the TS covers standards outside the scope of DENR.	● [PMO/EPTWG] To share the approval process and timeline of the approval of the TS given the JAO adoption format.
4.) Project Output 2: **Updates on the Project Activities** (Mr. Makoto Kosaka, JICA Experts Team)	● Mr. Makoto Kosaka presented the current progress of each of the activities for the 3 LGUs under Project Output 2, noting the bottlenecks and challenges faced for the ongoing activities. ● Mr. Kosaka also discussed the expanded collaboration between JET and PPPC, noting the timeline and the specific activities that will be pursued. He further noted that this collaboration will be helpful for Activity 1-6 later on. ● Lastly, he emphasized the need to pursue the signing of the MOUs to proceed with		● [JET, QC LGU] To set up a meeting to discuss Activities of Output 2. ● [JET, CC LGU] To set up a meeting to discuss Activities of Output 2. ● [JET, DC LGU] To set up a meeting to discuss Activities of Output 2.

	the activities under Output 2. He also noted that it would be vital to meet with the LGUs and PMO to discuss how the activities can be better implemented.		
4.) Project Output 2: **Status of Approval/ signing of the MOU** (Mr. Louie Sabater, Quezon City LGU)	● Mr. Sabater noted that the MOU is still for review and no further updates have been noted.		● [QC LGU] To follow up on the signing of the MOU.
4.) Project Output 2: **Status of Approval/ signing of the MOU** (Engr. Glory Manatad, Cebu City LGU)	● Ms. Pausing relays that the MOU has already been signed by the Regional EMB Director and has already been endorsed to the EMB Director for approval and signature.		
4.) Project Output 2: **Status of Approval/ signing of the MOU** (Engr. Elisa Madrazo, Davao City LGU)	● Engr. Madrazo relays that the MOU is still in the City Council Office despite the relentless follow up, but they were assured that they will be updated once more recent developments are taken on the MOU signing.		● [DC LGU] To follow up on the signing of the MOU.
5.) Project Output 3: **Updates on the Project Activities** (Mr. Satoshi Miyaichi, JICA Experts Team)	● Mr. Satoshi Miyaichi shared the current progress of the activities under Project Output 3, noting that Activities 3-3 and 3-4 are ongoing, which is done with AQMS and ERLSD. ● Mr. Miyaichi noted the outstanding requests that JET has issued to AQMS, and noted additional requests including: ○ Example of high-volume air sampler calibration record (Annual inspection) ○ Example of the Ambient Air Quality Sampling Record ○ Example of the pre-use checklist for stack gas sampler	●	● [AQMS] To provide the missing attachments to the Air Quality Manual previously requested, and new requests as detailed in the presentation. ● [ERLSD] To provide additional requests for information as detailed in the presentation. ● [JET] To share results of the SOP review with ERLSD by the end of August.

	○ Example of the stack sampling record ● He also noted additional request for information from ERLSD: ○ Plan/ schedule of initial performance tests required in the EPA methods ○ Technical difficulties in developing GC/HRMS methods, if any.		
6.) Project Output 4: **Updates on the Project Activities: Assessment of the SWM technologies by LGUs** (Ms. Kyoko Kimura, JICA Experts Team)	● Ms. Kyoko Kimura shared the current progress of the activities under Output 4, noting that Activity 4-4 has been commenced since the last ITWG Meeting. ● Ms. Kimura showed the evaluation example from Davao City under Activity 4-4, demonstrating how the evaluation guidelines were incorporated in the review. ● Her presentation detailed the next steps which includes meeting with the LGUs to discuss the Activity 4-4 in detail, especially for Quezon City and Cebu City. ● Ms. Kimura also shared the outline of the 2nd TCP newsletter, following up with Davao City on the article submission.	○	● [JET, QC LGU] To set up a meeting to discuss Activity 4-4. ● [JET, CC LGU] To set up a meeting to discuss Activity 4-4. ● [JET, DC LGU] To set up a meeting to discuss Activity 4-4. ● [DC LGU] To send article for 2nd TCP Newsletter to JET
7.) Open Forum (EMB OIC AD Vizminda A. Osorio)		[BAT/BEP Case Study] ● Engr. Esguerra inquired if the draft JAO had already been prepared. ○ Ms. Pausing noted that there is still no draft currently.	

		○ Engr. Esguerra further noted that since DOE is not a part of the NSWMC, including them in the JAO will have to be channeled directly to the said agency ● Engr. Sabater noted that additional comments will be given to JET on the BAT/BEP Guidelines. ○ AD Osorio proposed to give until August 6 for the ITWG to send comments, for finalization by next week. ○ Mr. Perez proposed for the August 6 deadline to be a hard deadline for the panel in order to facilitate the finalization of the Case Study. ● Ms. Pascual noted that a correction in the FIT section, previously pointed out by DOE has yet to be updated. [JCC Meeting Minutes Signing and DENR Comments on the draft Minutes of Meeting (MM) for project extension] ● Mr. Perez also inquired about the status of signing of the JCC Meeting Minutes and DENT comments on the draft MM for project extension ○ Ms. Obmerga shared that the minutes of the meeting	● [ITWG] To extend comments by August 6, 2021. ● [JET] To update the Case Study Analysis on the FIT section

		are for endorsement to ASec Amaro and additional information is requested from PMO. ○ Mr. Perez requested for FASPS to provide a timeline for the approval of the minutes and commenting on the draft MM ○ Ms. Obmerga replied that the minutes is expected to be signed within 2 weeks, same with the draft MM	● [FASPS] To facilitate the JCC Meeting minutes signing and commenting on draft MM for project extension on or before August 16.

8.) Wrap-up, Required Actions, and Agreements (Ms. Andrei Mallare, JICA Experts Team)	Ms. Andrei Mallare of JET wrapped up the earlier discussions and reiterated the arrangements and timelines as agreed. The assignments are organized per office for ease of reference: **[AQMS]** ● [AQMS] To provide the missing attachments to the Air Quality Manual previously requested, and new requests as detailed in the presentation. **[ERLSD]** ● [ERLSD] To provide additional requests for information as detailed in the presentation. **[FASPS]** ● [FASPS] To facilitate the JCC Meeting Minutes signing and commenting on draft MM for project extension on or before August 16. **[ITWG]** ● [ITWG] To extend comments by August 6, 2021. **[JET]** ● [JET, QC LGU] To set up a meeting to discuss Activities of Output 2. ● [JET, CC LGU] To set up a meeting to discuss Activities of Output 2.	[August 6] ● Deadline for EPTWG to send comments on the TS ● Deadline for the ITWG to send comments on the BAT/BEP Case Study [August 16] ● Deadline for signing of the JCC Meeting Minutes and commenting on draft MM for project extension	

	● [JET, DC LGU] To set up a meeting to discuss Activities of Output 2. ● [JET] To share results of the SOP review with ERLSD by the end of August. ● [JET, QC LGU] To set up a meeting to discuss Activity 4-4. ● [JET, CC LGU] To set up a meeting to discuss Activity 4-4. ● [JET, DC LGU] To set up a meeting to discuss Activity 4-4. ● [JET] To update the Case Study on the FIT section **[LGU- Quezon City]** ● [JET, QC LGU] To set up a meeting to discuss Activities of Output 2. ● [QC LGU] To follow up on the signing of the MOU. ● [JET, QC LGU] To set up a meeting to discuss Activity 4-4. **[LGU- Cebu City]** ● [JET, CC LGU] To set up a meeting to discuss Activities of Output 2. ● [JET, CC LGU] To set up a meeting to discuss Activity 4-4. **[LGU- Davao City]** ● [JET, DC LGU] To set up a meeting to discuss Activities of Output 2. ● [DC LGU] To follow up on the signing of the MOU.		

	• [JET, DC LGU] To set up a meeting to discuss Activity 4-4. • [DC LGU] To send article for 2nd TCP Newsletter to JET **[PMO]** • [PMO] To share EPTWG comments on the TS to JET. • [PMO] To coordinate with EPTWG to give comments to the TS by August 6, 2021 • [PMO/EPTWG] To share the approval process and timeline of the approval of the TS given the JAO adoption format.		
10.) Closing Remarks (Ms. Momoko Otsuka, JICA Philippines)	• Ms. Otsuka expressed her gratitude to the ITWG members for their continuous support to the TCP, and enjoins everyone to be more involved as we go along in the TCP implementation.		

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