

**FEDERATED STATES OF MICRONESIA
PERSISTENT ORGANIC POLLUTANTS (POPs)
NATIONAL IMPLEMENTATION PLAN (NIP)
INVENTORY COLLECTION WORKSHOP (Toolkit
for Identification and Quantification of Releases of
Dioxins, Furans, and Other Unintentional POPs)
OUTCOME REPORT**

2019

Prepared by: Department of Environment, Climate Change, and Emergency Management in
collaboration with the State EPAs/KIRMA

1. Introduction

On December 12 and 13, 2019, the Persistent Organic Pollutants (POPs)/National Implementation Plan (NIP) project conducted workshop/training on POPs/uPOPs inventory collection at the Department of Environment, Climate Change, and Emergency Management Conference Room in Pohnpei, FSM. The objectives of the workshop were: (1) introduction and utilization of the POPs Toolkit for Identification and quantification of Releases of Dioxins, Furans and Other Unintentional POPs; (2) introduction and utilization of other guidance documents for the inventory of newly listed industrial POPs chemicals; and (3) introduce Best Available Techniques(BAT) and Best Environmental Practices (BEP) for POPs chemicals management. Furthermore, the targeted objectives include increased awareness and familiarity with POPs chemicals and the wide range of products that may contain or are contaminated with POPs.

The list of participants is given in Appendix 1 of this report.

The workshop/training was targeted at the state Environment Protection Agency and KIRMA mainly to assist the states gain insight on what POPs chemicals could be found or are in use in their respective states through POPs inventories.

A copy of the workshop agenda is given in Appendix 2 of this report.

On completion of the workshop/training it was expected that the participants should be able to:

- Describe the steps involved in preparing inventories for uPOPs, their associated releases, and through which vector these wastes are released
- Identify POPs chemicals and describe the steps involved in preparing POPs inventories for both industrial POPs and Pesticides
- Describe the ways in which the information obtained through inventories could be used
- Describe the controls in place for managing identified POPs and generally recommended procedures for dealing with POPs throughout their life-cycle

The participants were provided with a USB containing:

- The Toolkit for identification and quantification of releases of dioxins, furans and other unintentional POPs
- The general guidance on POPs inventories
- Chemical-specific guidance documents for inventories of:
 - Pesticides
 - Polybromodiphenyl Ethers
 - Polychlorinated biphenyls
 - Short-chain chlorinated paraffins
 - Hexabromocyclododecane
 - Polychlorinated Naphthalene
 - Pentachlorophenol and its salts and esters
 - Perfluorooctane sulfonic acid and related compounds

- Guideline documents on Best Available Techniques and Best Environmental Practices

The following field visits were carried out in support of the training programme

- Pohnpei State Hospital
 - Medical Waste Incinerator
 - Medical Supplies
 - Medical Laboratory
- Pohnpei State Rehabilitated Dump Site

2. Workshop proceedings

Session 1:

Mr. Jeffrey Yamada, POPs/NIP project coordinator, gave background information on the Stockholm Convention and introduced the goals and objectives of the POPs/NIP review and update project. In addition, the findings from FSM's current NIP were mentioned highlighting the gaps and limitations which include:

- Need for financial/human capacity
 - Inventory of POPs and their associated releases across all relevant industries
 - Analyses of chemicals and products that contain or are contaminated with POPs
 - Analyses of chemicals present in human
 - Enforcement of regulations
- Cooperation and information input amongst all relevant sectors
 - State and National laws to regulate chemicals

Session 2:

Mr. Robert 'Bob' Spegal, consultant for the project, gave a brief description of POPs, the different vectors through which POPs can spread, its main identifier, and continued with describing the current situation regarding POPs in FSM. As part of his presentation, Bob used previously developed awareness messages to help convey the negative impacts POPs have to the environment and human health.

Session 3:

Bob began the introduction on the Toolkit with background information on Dioxins and Furans, listed the names of other unintentionally produced POPs(uPOPs) and gave brief background information for each. It was noted that although the Toolkit primarily focuses on Dioxins and Furans releases, the potential for releases of other uPOPs usually co-occur and have similarities with Dioxins and Furans. The purpose of the Toolkit is to support Parties in preparing Dioxins/Furans inventories (source inventories and inventories on their associated release estimates) that are consistent in format and content, ensuring that it is possible to compare

results, identify priorities, mark progress and follow changes over time at the country level, and regional and global levels.

Session 4:

The Toolkit includes ten (10) source categories for which Dioxins and Furans are released. Each source category has a list of classes which have specific designs, operation, and assigned default emission factors that allow it to be differentiated from the others within that category. It is imperative that each source class is properly identified as their specific characteristics can substantially influence the magnitude of Dioxin/Furan releases-these specific characteristics are what determines its assigned default emission factors.

Questionnaires are included in the Toolkit which need to be submitted to their respective sectors/facilities in order to:

- obtain information required to assist with classification of sources for their assigned default emission factor;
- information on their production/activity rates;
- and whether or not any pollution control systems are in place.

Bob used a couple questionnaires as examples walking through the steps on how to classify its source category based on the answers given; and then what information to report and how to report the data through the use of the excel spreadsheet with given formulas that automatically compute releases for each class and each category for each state. It was noted that because inventory is taken place at a state level, a national compilation on source categories would be done by the summation of releases for respective classes across all the states.

Session 5:



Day 2 began with meeting Mr. Endy Elias at the Pohnpei State Hospital. The purpose of the visit was to get concrete information on their medical waste incinerator. No records are kept at the hospital as there are no functional incinerators on site. Rather, all wastes are transported to the local dumpsite for management. Later in the day, the group went to the local dumpsite in hopes of getting information regarding this matter, but to no avail. All the incinerators are not functioning (either pending payment for refurbishment or pending installment of power supply) and all medical wastes are either being buried or burned in a 55-gallon drum.

While at the Pohnpei State Hospital, visits to their medical supplies and medical laboratory was conducted. The use of Lindane as a second line of treatment for certain skin

diseases was found to be in continued use. According to their stock supplies personnel, five (5) 100ml bottles remain on their shelves and there is no pending plan on importing more.

Because no real solid information was found during the site visits which were meant to be analyzed, part 1 of session 6 was negated. Instead, hypothetical data was used to give experience with reporting through the use of the excel spreadsheet.

Session 6:

The second part of session 6 included going through the list of source categories and identifying which may be a potential source of release for all the states and identifying which are major factors. It was noted that each state has different conditions and thus the need for special attention when identifying source classes to ensure data uniformity.

Session 7:

A brief overview of the list of industrial POPs chemicals and products that contain or are contaminated with those chemicals was given. In addition, priority sectors for industrial POPs in the country were identified. General steps on how to conduct an inventory for industrial POPs was presented and are as follows:

- Essential elements of the inventory report are:
 - The objectives and scope of the inventory;
 - Description of data methodologies used and how data was gathered;
 - Final results of the inventory for each sector;
 - Results of a gap analysis and limitations should be identified for completion of the inventory;
 - Further actions to be taken to complete the inventory and recommendations.

Because the country does not produce any industrial POPs, the inventories will focus on products that contain or are contaminated with industrial POPs. Guidance documents for each specific industrial POPs were used to create session 7. All the guidance documents for the inventory of industrial POPs follow the same format which is mentioned above.

Session 8:

Bob discussed the importance of reviewing and updating the inventories on POPs chemicals in the current NIP and conducting inventories on the newly listed POPs. The main purpose is to identify POPs chemicals and products that contain or are contaminated with POPs currently in use in the country in order to better understand the current situation. For the sound management of the identified POPs, the guidance documents on Best Available Techniques (BAT) and Best Environmental Practices (BEP) can then be referred to. One priority issue that Bob mentioned, which was also identified in the current NIP, is open burning. From the guidance documents for the BAT/BEP on open burning, one important safe alternative would be composting what is biodegradable and recycling plastics and cans.

Open Discussions:

A couple other matters that were brought up during the workshop included issues with the inventory collectors' contract work hours and issues regarding delays in the project implementation. Other open discussion topics included future follow ups on project after updating the NIP and monitoring strategies for proposed action plans included in FSM's initial NIP.

3. Evaluations

Copies of both evaluation forms are provided in Appendix 3.

At the end of the workshop, Bob administered workshop evaluations to get feedback from the participants. A summary of the responses is given below.

Note: The rating scaled from 1-5, with 1 =strongly disagree, 3 =neutral, and 5 =strongly agree

Question	Rating	
	Range	Median
Workshop provided me with useful information about the topic	4-5	5
There were meaningful learning experiences for me at the workshop	3-5	4.5
The workshop prepared me to improve my performance to do my job	4-5	5
The facilitator did a good job in keeping the workshop running smoothly	4-5	5
The consultant was knowledgeable about the topic	4-5	5
My questions were answered satisfactorily	4-5	4
The venue for the workshop adequately met the needs of the activity	4-5	4.5
The logistics related to attendance at the workshop were well handled	4-5	4.5
Overall impression of the workshop	4-5	5

Question	Rating	
	Range	Median
The aims and objectives of the training was clearly defined	4-5	4
The topics covered were relevant to the training objectives:		
POPs/uPOPs inventories	4-5	4
POPs chemicals	4-5	4
Chemical management	4-5	4
Participation and interaction were encouraged	4-5	4
The materials provided were helpful, organized and easy to follow	4-5	4
The facilitators were knowledgeable about the training topic	4-5	5
The time allotted for the training was efficient	2-4	4

Please answer the following questions:

1. What did you like most about the training?

- All responses expressed how new knowledge was gained during the workshop/training.
2. What did you like least about the training?
 - All responses centered on time constraints.
 3. Is there anything else you would like the training to have covered?
 - Individual responses ranged from actions to take in order to prevent health and environmental degradation due to POPs/uPOPs.
 4. What would you like to see as a follow up/on from this training?
 - Individual responses ranged from including separate trainings for each POPs/uPOPs and trainings on identifying products that contain POPs/uPOPs; and safety trainings for POPs/uPOPs throughout their whole life-cycle.
 5. Comments: Individual comments are listed below.
 - I think we covered pretty much all the basic things we should know. But we only had a very short time with the hand-on activities. Most of the terminologies and all the pops were new to me. So hopefully I can master them all so it would be easy for me to ask questions to the appropriate people in each department.
 - The first day training I was wondering what is POPs when is the POPs are release. But thanks to Mr: Jeff and his partner to teach me and telling me what is POPs and how to work with POPs, Thank you. But I have question to myself can we stop or phase out the POPs in the FSM? Maybe not but we can reduce POPs I think.
 - As the training went on, I kept wondering about development that has been undertaken at my home island in the past when these POPs/UPOPs existed but no

attention made to mitigate or phase out, I thought that these might be the reason behind why the lifespan of the past generations could reach 80 – 90 years of age. With this, I am grateful of the acknowledgement and the responsibility to get involved in this kind of working group.

APPENDIX 1: PARTICIPANTS LIST

Participant List: POPs/NIP Workshop at DECEM Conference RM		
Full name	Organization	Email address
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APPENDIX 2: WORKSHOP AGENDA

Federated States of Micronesia
POPs/NIP Inventory Collection Workshop (Toolkit for Identification and Quantification of
Releases of Dioxins, Furans and Other Unintentional POPs)
Thursday & Friday, 12 & 13 December 2019

Thursday		
Time	Session	Facilitator
8:30am- 9:00am	Registration	
9:00am- 9:30am	Official Opening: Prayer and Opening Remarks, Ground Rules for Workshop	JY
9:30am- 10:00 am Session 1	Introductions and Objectives of POPs/NIP review and update <ul style="list-style-type: none">• Background• Goals	JY
10:00am-10:30am Session 2	Overview of POPs <ul style="list-style-type: none">• Brief Description• POPs in FSM	RS
10:45-12:00pm Session 3	Introduction and Overview of Toolkit <ul style="list-style-type: none">• Dioxins, Furans, and other uPOPs.• Purpose of Toolkit	RS
12:00pm	Lunch	
1:15pm-4:30pm Session 4	Toolkit Presentation (cont.) <ul style="list-style-type: none">• Part II of Toolkit: Classifying source categories and identifying classes• Annex 2: Identifying sources of PCDD/PCDF• Annex 3: Questionnaires<ul style="list-style-type: none">○ Open burning of waste and accidental fires (6B)○ Landfills, waste dumps and landfill mining (9A)○ Waste Incineration (1C)○ Asphalt mixing (4A)• Annex 4: Emission Factors• Activity Rates	RS/JY

	<ul style="list-style-type: none"> • Level of confidence • Annex 5: Reporting 	
4:30pm-5:00pm	Wrap-up <ul style="list-style-type: none"> • Review of Thursday's work • Preview of Friday's planned activities 	JY

**Federated States of Micronesia
POPs/NIP Inventory Collection Workshop
Thursday & Friday, 12 & 13 December 2019**

Friday		
Time	Session	Facilitator/Format
8:30am- 10:30am Session 5	Activity site #1: Meet up at Pohnpei State Hospital <ul style="list-style-type: none"> • Medical waste incineration <ul style="list-style-type: none"> ○ Sample Data collection ○ Laboratory and medical supplies visit 	RS/JY
10:30am- 12:00pm Session 6	Analyze session 5 data <ul style="list-style-type: none"> • Questionnaires and to run through Toolkit Other potential sites/sources of releases <ul style="list-style-type: none"> • Part II of Toolkit 	RS/JY
12:00pm- 1:00pm	Lunch	
1:00pm- 2:00pm Session 7	General Guidance on Inventories for Industrial POPs <ul style="list-style-type: none"> • Introduction on industrial POPs • General steps to conduct inventory 	JY

<p>2:00pm- 3:00pm Session 8</p>	<p>Best Available Techniques (BAT) & Best Environmental Practices (BEP)</p> <ul style="list-style-type: none"> • Introduction on BAT/BEP <ul style="list-style-type: none"> ○ Open burning ○ Medical waste incineration 	<p>RS</p>
<p>3:00pm- 4:30pm Session 9</p>	<p>Future activities</p> <ul style="list-style-type: none"> • Create list of tasks to be completed at the state level • Develop submission schedule • Description of national level review of submissions and feedback to the state level, communication arrangements • State level preparation of final submission 	<p>JY/RS</p>
<p>4:30pm- 5:00pm</p>	<p>Wrap-up</p> <ul style="list-style-type: none"> • Review of Friday's work • Closing comments and workshop evaluation exercise 	<p>JY</p>

APPENDIX 3: WORKSHOP EVALUATION FORMS

Workshop Evaluation #1

Please rate each aspect of the workshop on a 1-5 scale. Thank you for your assistance to improve our workshop efforts!

1-Strongly Disagree 2-Disagree 3-Neutral 4-Agree 5-Strongly Agree

1. The workshop provided me with useful information about the topic. _____
2. There were meaningful learning experiences for me at the workshop. _____
3. The workshop prepared me to improve my performance to do my job. _____
4. The facilitator did a good job in keeping the workshop running smoothly. _____
5. The consultant was knowledgeable about the topic. _____
6. My questions were answered satisfactorily. _____
7. The venue for the workshop adequately met the needs of the activity. _____
8. Refreshments at the workshop were good. _____
9. The logistics related to attendance at the workshop were well handled. _____
10. Overall impression of the workshop. _____
11. Other comments:

Workshop Evaluation #2

Please rate each aspect of the workshop on a 1-5 scale. Thank you for your assistance to improve our workshop efforts!

1-Strongly Disagree 2-Disagree 3-Neutral 4-Agree 5-Strongly Agree

1. The aims and objectives of the training was clearly defined. _____
2. The topics covered were relevant to the training objectives
 - a. POPs/uPOPs inventories_____
 - b. POPs chemicals_____
 - c. Chemical management_____
3. Participation and interaction were encouraged. _____
4. The materials provided were helpful, organized and easy to follow. _____
5. The facilitators were knowledgeable about the training topic. _____
6. The time allotted for the training was efficient. _____

Please answer the following questions:

6. What did you like most about the training?
7. What did you like least about the training?
8. Is there anything else you would like the training to have covered?
9. What would you like to see as a follow up/on from this training?
10. Comments: