

REPORT ON

TRAINING WORKSHOPS IN EFFECTIVE MANAGEMENT OF HAZARDOUS MATERIALS, HAZARDOUS WASTES AND CONTAMINATED SITES

WORKSHOP REPORT PALAU

Submitted to :

South Pacific Regional Environment Programme
PO Box 240
Apia, Samoa

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ACRONYMS

APP	Aimeliik Power Plant
BPS	Bureau of Public Safety
DAMR	Department of Agriculture and Marine Resources
EHS	Environmental Health and Sanitation
EQPB	Environmental Quality Protection Board
MRD	Ministry of Resources and Development
NEMO	National Emergency Management Office
PCBs	Polychlorinated Biphenyls
PCC	Palau Community College
PICs	Pacific Island Countries
PNAA	Palau National Aviation Administration
PNCC	Palau National Communications Corporation
POPs in PICs	Persistent Organic Pollutants in Pacific Island Countries Project
PPE	Personal Protective Equipment
PPUC	Palau Public Utilities Corporation
ROP	Republic of Palau
SPCC	Spill Prevention Control and Countermeasures Plan
SPREP	South Pacific Regional Environment Programme

1.0 INTRODUCTION

Management of hazardous materials, hazardous wastes and contaminated sites has become an increasingly important issue for Pacific Island Countries (PICs). In 1997, AusAID, in conjunction with SPREP, implemented the Persistent Organic Pollutants in Pacific Island Countries project (POPs in PICs) to address this issue. As part of the POPs in PICs project, training workshops will be held in thirteen PICs to create awareness and understanding on the **effective management of hazardous materials, hazardous wastes and contaminated sites**.

A five day training workshop was delivered in **Palau** during the period 7-13, December 2000, and included interactive activities and exercises, site inspections and practical field demonstrations. The workshops were designed and delivered by Golder Associates under contract to SPREP with the following objectives:

- To upgrade Palau's capacity for the effective management of hazardous materials and hazardous waste;
- To upgrade Palau's capacity for effective management of contaminated sites;
- To encourage the development of specific strategies for managing hazardous materials in Palau; and
- To raise awareness in Palau's communities of issues associated with the generation and management of hazardous wastes.

Prior to the workshop commencing, a Pre-Workshop Questionnaire was prepared and distributed to workshop participants. The purpose of the questionnaire was to obtain preliminary information on participants understanding of hazardous materials management and any desired workshop outcomes. A summary of responses received from the Pre-Workshop Questionnaires is provided in Appendix A.

2.0 WORKSHOP PARTICIPANTS

2.1 Organisations Represented

A complete list of workshop participants is provided in Appendix B.

2.2 Organisations Not Represented

Several applicable organisations were unable to send a representative to the training workshop, including:

- National Emergency Management Office;
- Sanitation Department (Public Health);
- Sewage Treatment Plant;
- Customs Department;
- Ministry of Education;
- Public Safety; and
- Palau National Hospital.

3.0 MAJOR ISSUES IDENTIFIED

The following major in-country issues were agreed by workshop participants, in order of priority:

1. There is a need for **hazardous materials regulations** as basis for future controls. At present EQPB has pesticides regulations, which are not always enforced;
2. There is a need for a **coordinated public education campaign** in conjunction with the existing scheduled activities calendar (ie. Earth Day, Science Fair, etc);
3. There is a lack of availability of chemicals information. This could be improved by **establishing a country specific database / library of reference materials**, including on-line references;
4. There is a need for a **standard national training module** for chemicals safety inductions for government workers;
5. There is a need to consider the feasibility of controlling chemical imports by the use of **centralised government purchasing** for certain categories (ie. agricultural chemicals);
6. There is a need to review existing stockpiles and **identify off island disposal options** where necessary; and
7. There is a need for local facilities for the **disposal of certain hazardous wastes** (ie. landfill).

4.0 COUNTRY REPORT UPDATE

The following current information was obtained from participants and/or during site inspections:

- Aimeliik Power Plant now has an SPCC plan and facilities for recycling uncontaminated waste oils;
- The Water Treatment Plant purchases chemicals in bulk but has no suitable chemicals storage building (ie. warehouse);
- Children are reported to play with medical wastes at Site Pal 18;
- DDT stockpile in Ngatpang (Site Pal 05) is in poor condition and needs a site characterisation undertaken with a view to developing a remediation plan; and
- The remaining capacity of M Dock Landfill is extremely limited and waste oils are still evident within the site.

5.0 EVALUATION ISSUES

The following issues were noted in the daily workshop evaluation forms:

1. There is a need for information on specific health effects for users;
2. The procedures for chemical fire response was an issue of interest;
3. There needs to be more information about pesticides and their environmental effects;
4. There is a need to hold more workshops to follow up and involve other agencies and the private sector; and
5. There is a concern about the low awareness of these issues at higher levels of government.

6.0 ACTION PLANS

6.1 General Action Plan

To address the identified major issues, during the workshop participants developed and agreed to implement the Action Plan shown in Table 1 below.

Table 1 – General Action Plan for Palau

ACTION	WHO	TIMELINE	STATUS
Expand hazardous materials regulations	Health, EQPB	06/01	
Control chemical imports / enforcement	Customs Quarantine, EQPB	06/01	
Ratify conventions for waste shipments	Foreign Affairs	12/01	
Raise public awareness	Education, EQPB	12/01	
Increase PPE availability	Commerce and Trade	03/01	
Medical surveillance for at risk employees	R.O.P	TBA	
Develop hazard allowances scale	TBA	TBA	
Review PPE inventory	PNCC	02/01	
Develop site management plan for APP	PPUC	03/01	
Induction training module on chemicals	TBA	06/01	
Review PPE and establish database	BPS/ Fire Division	06/01	
Review conventions applicable	Office of President	03/01	
Chemicals store at Water Treatment Plant	Water Dept/MRD	06/01	
Establish central ordering for agricultural chemicals	DAMR	03/01	
Implement hazardous waste plan	States, MRD	12/01	
Establish national landfill	MRD	12/02	

6.2 Action Plan for Existing Stockpiles

A proposed action plan to manage existing stockpiles of hazardous materials was developed by participants, following the site inspections, as shown in Table 2.

Table 2 – Action Plan for Existing Stockpiles

SITE NO.	SITE ACTIVITY	PROBLEMS	ACTION	RESPONSIBILITY
Pal05	Hazardous Waste Dump	Uncontrolled	Site Characterisation and Remediation Plan	EQPB

7.0 RECOMMENDATIONS

Based on the training workshop outcomes, Golder Associates recommendations to achieve the defined project objectives in Palau are outlined in Table 3 below.

Table 3 – Recommendations Arising From Workshop

RECOMMENDATION	RESPONSIBILITY
1. Upgrade coverage of hazardous materials regulations (ie. imports, transportation, storage, handling, use and disposal).	Health, EQPB
2. Undertake a public awareness campaign in 2001 to raise awareness of chemicals.	Education, EQPB
3. Prepare an induction training module on chemicals safety for Palauan workers.	TBA
4. Set up a warehouse close to the port as a hazardous materials distribution or storage site for Palau. Arrange for central purchasing of agricultural chemicals.	MRD, DAMR
5. Review the hazardous waste recommendations of the Palau Integrated Solid Waste Management Plan and initiate priority items.	Office of President
6. Establish a local chemicals information clearing house to support chemicals' users and allow site management plans to be developed.	BPS or EQPB
7. Review international conventions governing off-island transportation of certain hazardous wastes and ratify relevant conventions to facilitate participation in regional disposal programs.	Office of President
8. Improve coordinated response to 911 calls involving chemicals' spills or fires and NEMO role.	NEMO

Yours sincerely

GOLDER ASSOCIATES PTY LTD

Allan Boase
Workshop Facilitator

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APPENDIX A

Responses to Pre-Workshop Questionnaire

RESPONSES TO PRE-WORKSHOP QUESTIONNAIRE

Profile of Participants:

Participants represented the government sector only including:

- Regulators: EQPB, PNAA; and
- Chemical users: EHS, Water Department, DAMR, PNCC, PPUC, Fire Department, Koror Rangers, etc).

Expectations:

- Methods of spill response and disposal of residues;
- Controls for imported chemicals from Asia;
- Safe storage and handling methods;
- Responding to chemical fires; and
- How to identify hazardous materials and contaminated land.

Current Perceptions on Hazardous Materials and Hazardous Wastes:

- Current collections are made by EQPB;
- There is an awareness of significant stockpiles, however less knowledge as to how to ship the stockpiles and hazardous wastes away; and
- There exists some uncertainties in regards to the health risks of certain chemicals.

Sites to Visit During Workshop:

- Aimeliik Power Plant;
- M Dock Landfill; and
- Water Treatment Plant

Techniques of Interest:

- Battery disposal;
- Selection of PPE; and
- Management of waste oils.

Other Comments:

- There needs to be an improved public awareness of issues;
- There needs to be a knowledge or awareness of health/first aid requirements; and
- The hospital has a limited knowledge of chemical related illness diagnosis.

Implications For Workshop:

- Participants included both management and operational personnel and regulators. The workshops need to be able to cater for issues facing each of these groups.

APPENDIX B

Workshop Participants

WORKSHOP PARTICIPANTS

KOROR, PALAU

Name

Organisation

Workshop Participants (29)

Donald Dengoki	EQPB
Emil Edesomel	EQPB
Lorenzo B. Mamis	PPUC
Evalt Yaoch	PPUC
Maurice Takeo	Fire Division (BPS)
Hosei M. Rivera	Fire Division (BPS)
Godwin Philip	Fire Division
Alton Samsel	Fire Division
Davis B. Otei	Fire Division
Trebkul Tellei	DAMR
Rengechel Oketaoch	Koror Rangers
Wilhelm Remoket	-----
Caleb Koshiba	Airport
Ben Mengloi	DAMR
Augustus Kadoi	DAMR
Richard Alonz	PNAA
Arvin Rengulbai	PNCC
Danny Kingzio	PNCC
Glen C. Uchellas	Koror Rangers
Jerome Ramarui	EQPB
Pearl Marumoto	EQPB
Mike Blesam	EQPB
Basiano Kitalong	EHS
Jerome Sakurai	EQPB
Paul W. Ueki	PPUC
Techur Rengulbai	BPW (Water)
Dave Ngiraikelau	PNAA
Bob Marek	EQPB
Demei Octobed	-----

Facilitators:

Allan Boase	Golder Associates
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