



WESTERN AUSTRALIA

STATE EMERGENCY MANAGEMENT PLAN

FOR

NUCLEAR POWERED WARSHIPS (NPW)

April 2010

WESTPLAN - NPW

Prepared by



Western Australia Police

APPROVED AT SEMC MEETING

RESOLUTION NO: 128/2010

DATE OF APPROVAL: 13 DECEMBER 2010

REVIEW DATE: 13 DECEMBER 2015

Contact Officer

For copies of this plan, or to provide comment, contact:

Position: Strategic Policy Advisor
Counter Terrorism and State Protection
Organisation: Western Australia Police
Address: State Crisis Centre, Southport Street,
West Leederville, WA 6007
Telephone: (08) 9489 3183
Email: emergency.management.coordination.unit@police.wa.gov.au

Amendment List

AMENDMENT		DETAILS	AMENDED BY
NO.	DATE		INITIALS
		Initial issue.	
1	April 2002	Complete re-issue.	McCUTCHEON 8602
2	Dec 2003	Reprint	McCUTCHEON 8602
3	Dec 2006	Complete re-issue	SCOTT 9667
4	Oct 2007	Contact Amendment	SADLIER 6124
5	June 2008	Complete re-issue	SADLIER 6124
6	July 2009	Contact Amendment	SADLIER 6124
7	December 2010	Complete re-issue as strategic document in accordance with other Westplans	TF 87406
8	December 2012	Minor amendments ("Opsman 1" replaced w/"Opsman" and "FESA" w/"DFES")	AJFB
9			
10			

Copies of this State emergency management plan are available on the DFES
EMWA Extranet site:

<http://www.dfes.wa.gov.au/internet/default.aspx?MenuID=297>

Main DFES website

State Emergency Management

Policy and Planning

State Emergency Management Plans
(WESTPLAN)

Table of Contents

Amendment List.....	2
PART 1 INTRODUCTION	5
1.1 Aim and Objectives	5
1.2 Scope	5
1.3 Hazard Definition.....	5
1.4 Related Documents.....	6
1.5 Authority to Plan	7
1.6 Plan Responsibilities	7
1.7 Exercise and Review Periods.....	9
1.8 Organisational Roles and Responsibilities	10
PART 2 PREVENTION AND MITIGATION	15
2.1 Responsibility for Prevention and/or Mitigation	15
PART 3 PREPAREDNESS	16
3.1 Responsibility for Preparedness.....	16
3.2 Planning and Arrangements.....	16
3.3 Community Education	19
3.4 Community Evacuation	20
3.5 Local and District Hazard Emergency Management Plans	20
3.6 Arrangement for Assistance from other Jurisdictions	20
PART 4 RESPONSE.....	21
4.1 Responsibility for Response.....	21
4.2 Notification	22
4.3 Levels of Response.....	22
4.4 Activation of Response Aspects of this Plan	27
4.5 Incident Management System.....	29
4.6 Hazard Management Structure / Arrangements.....	29
4.7 Evacuation Arrangements	32
4.8 Function Support Plans.....	33
4.9 Public Information and Media Management.....	34
4.10 Activation of other WESTPLANS in support of this Plan	35
4.11 Financial Arrangements for Response	35
PART 5 RECOVERY	36
5.1 Responsibility for Recovery.....	36
5.2 Transition to Recovery	36

5.3	Stand Down and Debriefs	37
5.4	Incident Analysis / Review.....	37
APPENDIXES.....		38
6.1	Appendix A – Distribution List	38
6.2	Appendix B - Glossary of Terms / Acronyms.....	38
6.3	Appendix C - Further Details of Potential Radiation Hazards.....	46
6.4	Appendix D – Actions During Each Stage of Activation.....	48
6.5	Appendix E – Phases of Evacuation	50

PART 1 INTRODUCTION

1.1 Aim and Objectives

The aim of the Nuclear Powered Warship Visits Emergency Management Plan (WESTPLAN - NPW) is to detail the State of Western Australia's arrangements to safeguard the people and environment of Western Australia from the radiation effects of a nuclear powered warship (NPW) reactor accident, in accordance with criteria laid down by the Commonwealth Government.

The objectives of the plan are:

- 1) To provide a standard structure for operational planning regarding visits of NPWs to ports within Western Australia, and the arrangements for activities by Commonwealth and State authorities during the visit of NPWs to ports within Western Australia and their environs (primarily the Port of Fremantle and Cockburn Sound).
- 2) To detail the agreed roles and responsibilities of emergency management agencies in the event of a Defined Reactor Accident, known as the *Reference Accident* (see Appendix B, item 6.2.2 for definitions).

1.2 Scope

This plan covers accidents of severity up to and including the *Reference Accident* for Naval nuclear reactors primarily in the Port of Fremantle and Cockburn Sound and environs, and is for the use of emergency personnel and for the information of the public.

It contains UNCLASSIFIED material. Specific information of a higher classification is contained in operational plans.

The response concepts underlying this plan have application to a more severe accident (see Appendix C, item 6.3) using the principles of graduated response it sets out.

1.3 Hazard Definition

WESTPLAN – NPW relates to the prescribed hazard of radiation escape from a nuclear powered warship.

Nuclear powered warships (NPWs) use steam turbine machinery for propulsion where the energy for steam generation is supplied from the fission

of uranium fuel in a nuclear reactor. Extensive precautions are taken in the design, construction and operation of all nuclear reactors to protect against the release of radioactive material to the environment.

The reactor core in NPWs is so designed that it is physically impossible for it to explode. The only mechanism whereby a significant fraction of the fission products could be released from the fuel is an accident in which the fuel melts. In such circumstances, radioactive fission products would be released from the fuel into the reactor compartment but would be primarily contained within structures of the vessel. However, as some of the fission products will be volatile and/or gaseous, it is possible that a slow leakage could occur to atmosphere where they would be dispersed according to the current weather pattern.

A full core meltdown accident of this type, assuming pessimistic containment leak rate and poor atmospheric dispersion conditions, has been used as a *Reference Accident* to provide a basis for the assessment of the suitability of Australian ports for use by NPWs and also for developing port safety plans. The probability that such an accident would occur during a four or five day, visit to port has been estimated to be less than one in a million per reactor per year.

Following a reactor accident involving fuel melting, hazards could result from:

- Direct gamma radiation from the vessel;
- Gamma radiation from a drifting cloud or plume of radioactivity and from material deposited on the ground;
- Inhalation of airborne fission products, in particular radioactive iodine;
- Ingestion of fission products from contaminated food or water;
- Ingestion of fission products indirectly, particularly radioactive iodine in milk from cows grazing on contaminated pastures.

Further details of these hazards are set out in Appendix C, item 6.3.

1.4 Related Documents

- *Emergency Management Act 2005*
- *Emergency Management Regulations 2006*
- State Emergency Management Policies and Manual of Procedures
- Local Emergency Management Arrangements for relevant locations
- Department of Defence publication “*Visits by Nuclear Powered Warships to Australian Ports*” (OPSMAN).
- ARPANSA Technical Report Series No: 131 “*Medical Management of Individuals Involved in Radiation Accidents.*’

- ARPANSA The 2000 Reference Accident Used to Assess the Suitability of Australian Ports for Visits by Nuclear Powered Warships, December 2000
- WA Police NPW Operational Plan and WA Police Operation Orders prepared for each visit of a NPW and details specific multi-agency operational and administrative procedures applicable to the visit.

1.5 Authority to Plan

The State Emergency Management Committee (*SEMC*) is responsible for ensuring the preparation of WESTPLANS it considers necessary [*Section 20(1) Emergency Management Act*]. SEMC has delegated the responsibility to develop and review State Emergency Management Plan - Nuclear Powered Warships [WESTPLAN -NPW] to the Commissioner of Police.

The plan is prepared in consultation with the Department of Defence, Visiting Ships Panel (Nuclear) and the Western Australia Nuclear Powered Warships Visiting Ships (Coordinating) Committee (NPW VS(C)C).

1.6 Plan Responsibilities

1.6.1 Nuclear Powered Warship Visiting Ships (Coordinating) Committee (NPW VS(C)C)

The NPW VS(C)C has been formed to prepare a plan and to coordinate the procedures necessary to deal with the visit of a NPW to the Port of Fremantle and Cockburn Sound. One of its primary roles is to assist with the preparation and maintenance of WESTPLAN - NPW.

The Committee is chaired by the Superintendent, Emergency Management and Counter Terrorism Division (WA Police) and comprises:

- Emergency Management and Counter Terrorism Division, WA Police (Chair);
- Emergency Operations Unit, WA Police (Executive Officer);
- Water Police, WA Police;
- Department of Health (Radiation Health);
- DFES (HAZMAT/CBRN)
- Royal Australian Navy (RAN);
- Department of Defence (Perth);
- Fremantle Port Authority;

- Radio and Electronic Support Services Unit, WA Police;
- Security Intelligence Unit, WA Police;
- Communications Operations Support, WA Police;
- Ships Husbanding Agent.

Liaison is established with the following Commonwealth authorities involved in the visits of NPWs to Australian Ports:

- Visiting Ships Panel (Nuclear);
- Australian Nuclear Science and Technology Organisation;
- Australian Radiation Protection and Nuclear Safety Agency;
- Emergency Management Australia;
- Bureau of Meteorology;
- Commonwealth Department of Health and Ageing;
- Commonwealth Department of Infrastructure and Transport.

The functions of the NPW VS(C)C are to:

- Support the preparation, approval and maintenance of WESTPLAN - NPW;
- Coordinate the activities of all agencies involved in the preparation for and conduct of NPW visits, through the establishment of a Port Nuclear Safety Panel;
- Recommend approval of the Operation Order for each visit of a NPW;
- Establish joint working groups to undertake specialised tasks;
- Provide advice, as requested, to the State Government and the Commissioner of Police;
- Liaise with Commonwealth departments as required; and
- Carry out such other functions as may be determined from time to time.

Contact details for members of the Committee and relevant Commonwealth personnel will be detailed in the Operational Plan and/or Operation Order for each visit.

1.6.2 Port Nuclear Safety Panel

A Port Nuclear Safety Panel is established with each NPW visit to oversee operations, comprising:

- Emergency Operations Unit, WA Police (Chair);
- Water Police, WA Police;
- Radio and Electronic Support Unit, WA Police;

- Fremantle Port Authority;
- Department of Health (Radiation Health);
- Royal Australian Navy;
- Local government representative for relevant location.

The functions of this Panel are to handle all the routine arrangements relating to the Port with respect to NPW visits. These include:

- Maintaining a communication link between NPWs, the Water Police Coordination Centre and the Police Operations Centre;
- Preparing the Operation Order for each visit by a NPW;
- Providing an officer to assist the officer in charge of the Precautionary Action Zone in evacuation if required, and
- Carrying out such other functions as may be determined from time to time.

The Port Nuclear Safety Panel is required to meet, at the discretion of the Chair, prior to and following a NPW visit.

1.6.3 Naval Nuclear Ship Safety Organisation (NNSO)

Responsibility for the safety aspects of NPW visits as they affect the Commonwealth at Garden Island lies with the Royal Australian Navy.

Control is exercised through the Naval Nuclear Ship Safety Organisation (NNSO), which is responsible for the RAN Fleetbase West Nuclear Powered Warship Sub-Plan and implementation in an emergency.

The NNSO is placed on standby for NPW visits to RAN Fleetbase West.

1.7 Exercise and Review Periods

1.7.1 Exercising

WESTPLAN - NPW will be exercised at least annually in accordance with State emergency management policy [SEMP 2.2]. The use of WESTPLAN – NPW for a visit by a NPW and ensuing activity may be considered as an exercise for this purpose.

1.7.2 Review

WESTPLAN – NPW will be reviewed by the Commissioner of Police on behalf of the SEMC, once every five years or more frequently if the SEMC or the Commissioner considers this to be necessary. It is likely that routine review will be linked to any use of the plan for a visit by a NPW [SEMP 2.2].

1.8 Organisational Roles and Responsibilities

The conditions, procedures and responsibilities for the conduct of visits to Australia by NPWs from allied countries are detailed in the Department of Defence publication *Visits by Nuclear Powered Warships to Australian Ports* (OPSMAN). A copy of this publication is held by the Reference Section of the State Library of Western Australia and is available for public information.

1.8.1 Responsibilities of State Organisations

The State Government, through the Commissioner of Police (as Hazard Management Agency), is responsible for ensuring that all actions and services necessary to safeguard the public in the event of a reactor accident to a visiting nuclear powered warship are catered for.

To achieve this, the following functions have been allocated to State Organisations.

WA Police

WA Police are responsible for this plan, the Operational Plan, issue of a visit Operation Order, all routine and emergency communications and operational requirements associated with NPW visits. Additionally, WA Police are responsible for:

- Staffing and equipment provision at the Incident Control Centre (likely to be the Major Incident Room at the Police Communications Centre);
- Management of any emergency response including dissemination of warnings, public announcements and advice to the public;
- Procurement and coordination of resources and support for any required emergency response including requests to the State Emergency Coordinator (Commissioner of Police) for Commonwealth Support;
- Facilitating protective measures as advised by the State Radiation Officer;
- Control and direction of the Port Nuclear Safety Panel;
- Overseeing communication facilities to support the Port Nuclear Safety Panel;

- Providing advice to the State Emergency Coordination Group on the situation; and
- Providing advice on the termination of any emergency.

WA Police are also responsible for the security of the Precautionary Action Zone whilst the vessel is anchored and to control vessel traffic in the vicinity of the NPW during transit and on request at other times.

If an emergency occurs WA Police are responsible for the exclusion of all civilians and non-essential personnel from the Precautionary Action Zone and the Urgent Protective Action Zone (see section 3.2.1), and for provision of additional vessels in support of radiation monitoring requirements.

Specifically the visit Operational Plan and/or Operation Order will include:

- Evacuation of all civilians from the NPW, the Precautionary Action Zone and the Urgent Protective Action Zone;
- Transport or escort of evacuated persons and vessels to the decontamination locations;
- Security of areas and vessels that have been evacuated;
- Registration of personal details of evacuees;
- Provision of an OIC of the Precautionary Action Zone for anchorages;
- Provision of personnel to assist in the supervision and security of decontamination locations; and
- Crowd and traffic control arrangements.

Department of Health

The Department of Health is responsible for:

- Provision of advice on public health matters, and emergency medical services as required;
- Distribution of prophylactic tablets and dosage; and
- Implementation of controls and restrictions of foodstuffs.

The Radiation Health Section is responsible for:

- Provision of the State Radiation Officer;
- Provision of two health physics surveyors for mobile monitoring units;
- Distribution of thermoluminescent dosimeters (TLDs) prior to a visit, collection and forwarding of the TLDs to the Australian Radiation Protection and Nuclear Safety Agency (ARPANSA) after the visit; and
- (*Locations of TLDs – Visits Operation Order*).

The State Radiation Officer is responsible for:

- Ensuring that all State Radiation Monitoring facilities are operating;

- Consulting with the Leader Radiation Monitoring Group (RMG) on routine and emergency procedures;
- Consulting with the Leader RMG on the pattern of field monitoring;
- Provision of advice to the Incident Controller regarding radiological risks and protective countermeasures;
- Consulting with the Executive Director Public Health on the distribution of iodine tablets; and
- Reviewing the field radiation monitoring measurements and assisting in the interpretation.

Fremantle Port Authority

The Fremantle Port Authority is responsible for:

- Control of underway NPW in accordance with the Memorandum of Understanding between the Fremantle Port Authority and the Department of Defence;
- Control of commercial vessels in the vicinity of a NPW;
- Communication with the NPW during transit and whilst at Fremantle Port Authority anchorages (Commercial VHF only);
- Surveillance of fixed monitoring equipment located in the Fremantle Port Authority Tower; and
- Housing of stable iodine tablets.

DFES Fire and Rescue Service

DFES Fire and Rescue Service is responsible for:

- Actions in accordance with Westplan HAZMAT and Westplan CBRN as required.

1.8.2 Responsibilities of Commonwealth Organisations

Royal Australian Navy

The Royal Australian Navy is responsible for:

- Establishment of the Naval Nuclear Ship Safety Organisation (NNSO) during the visit;
- The RAN Fleetbase West NPW Sub-Plan;
- Provision of Officer in Charge for the Precautionary Action Zone, for visits to RAN Fleetbase West;
- Provision of two drivers for State staffed Mobile Monitoring Units of the Radiation Monitoring Group;
- Provision of a vessel for radiation monitoring of NPW at anchorages;
- Provision of one qualified technician for the Radiation Monitoring Group;
- Removal of an immobilised NPW from any berth or anchorage;

- Provision of protective clothing for crews of towing vessels;
- Collection of marine environmental samples and their forwarding to the Australian Radiation Protection and Nuclear Safety Agency (ARPANSA);
- Provision and staffing of the RAN Fleetbase West Emergency Coordination Centre;
- Arranging for Notices to Mariners and Airmen; and
- Other functions as set out in the Department of Defence OPSMAN.

Royal Australian Air Force

The Royal Australian Air Force is responsible for:

- Providing air support for the transportation of emergency support equipment; and
- Other functions as set out in the Department of Defence OPSMAN.

Attorney-General's Department, Emergency Management Australia (AGD, EMA)

AGD, EMA is responsible for:

- Staffing the National Crisis Coordination Centre;
- Coordination of Commonwealth and International emergency support, and
- Alerting Commonwealth authorities of an emergency.

Australian Nuclear Science and Technology Organisation (ANSTO)

The Australian Nuclear Science and Technology Organisation is responsible for:

- Provision of the Leader, Radiation Monitoring Group;
- Provision of a technician for the Radiation Monitoring Group where RAN assistance is not available;
- Implementation of the routine monitoring program during visits (not including TLDs and marine sampling);
- The emergency monitoring program with RAN and State assistance;
- The provision, maintenance and calibration of radiation monitoring equipment; and
- Contacting the Commonwealth Technical Adviser and arranging back up resources if required.

Australian Radiation Protection and Nuclear Safety Agency (ARPANSA)

The Australian Radiation Protection and Nuclear Safety Agency are responsible for:

- Provision of technical advice on all aspects of nuclear reactor safety matters;
- Provision of technical advice on nuclear reactor accident modelling;
- Assessment of the suitability of specific ports for visits by NPW against radiological criteria;
- Provision of advice on radiation monitoring proposals;
- Provision of TLDs, the assessment of radiation doses recorded by TLDs, and the issuing of assessment certificates and the radiochemical analysis of marine environmental samples and the issuing of analysis certificates;
- Deployment of secondary back up resources upon request, and
- Provision of a Commonwealth Technical Adviser (CTA) in liaison with ANSTO; and
- The analysis of marine environmental samples.

Bureau of Meteorology

It will be the responsibility of the Bureau of Meteorology (BoM) to provide the Incident Controller with detailed local area weather forecasts. For routine visits, forecasts for the anchorage site are issued on a twice daily basis for the next 12 hours and include wind speed and direction, forecast weather, an index of atmospheric stability and an outlook for the following 12 hours. Delivery of these products will be via the following Bureau of Meteorology registered users web site:

http://reg.bom.gov.au/reguser/by_user/bomw0212/eou.htm

If an incident occurs, observations and forecasts will be provided on an hourly basis, on request. Additional information, such as evidence of inversion layers, temperature, humidity and winds at varying altitudes can also be provided on request.

It should be noted that ongoing updated real-time observational information of surface wind speed and direction for a number of locations in the general Perth Region can be accessed at the following web site: <http://www.bom.gov.au/wa/observations/perth.shtml>

In the event of a NPW emergency the Regional Director Bureau of Meteorology Western Australia is to be invited as a member of the State Emergency Coordination Group (SECG) to provide appropriate briefings. A Bureau of Meteorology officer may also be located in the ICC to provide updated weather briefings. It should be noted that the most appropriate technology and up-to-date data is located in the Regional Forecasting Centre (RFC). As such, it is highly desirable for weather briefings to be provided obtained from the Senior Duty Forecaster at the RFC.

In cases where the information cannot be gained from the Internet, weather information will be conveyed to the Incident Control Centre (ICC) by alternate means, e.g. fax, telephone.

PART 2 PREVENTION AND MITIGATION

2.1 Responsibility for prevention and/or mitigation

The conditions, procedures and responsibilities for the conduct of visits to Australia by NPWs from Allied Countries are detailed in the Department of Defence publication *Visits by Nuclear Powered Warships to Australian Ports* (OPSMAN). Reference should also be made to ARPANSA Technical Report Series No: 131 *Medical Management of Individuals Involved in Radiation Accidents*.

Visits by NPWs will only be permitted to **Approved Berths and Anchorages**, evaluated by the Commonwealth Government as suitable for use by NPWs. The anchorage locations have been selected so that in the unlikely event of a reactor accident it is unlikely that any residence would be subject to a radiation hazard requiring counter measures.

PART 3 PREPAREDNESS

3.1 Responsibility for preparedness

The Commissioner of Police, as the Hazard Management Agency (HMA), has overall responsibility for State preparedness in relation to visits by NPW within Western Australia. In order to ensure that this responsibility is met, WA Police preparedness activities focus on essential emergency management capabilities through the development of plans, procedures, organisation, management of resources and training. This includes:

- Preparation of WESTPLAN – NPW on behalf of the SEMC;
- Activating and managing the plan as required.

The focus of this preparation is to enable any such incident to be responded to promptly and efficiently, to facilitate the use of all available resources and to ensure timely liaison with Commonwealth agencies.

3.2 Planning and arrangements

This WESTPLAN details the safety arrangements for visits by NPWs primarily to the Port of Fremantle and Cockburn Sound, and, in an emergency, at Albany. Safety arrangements for the base at RAN Fleetbase West are the responsibility of the Royal Australian Navy.

3.2.1 Protective Zoning

During all visits, Water Police patrols will routinely enforce a **100 Metre Exclusion Zone** around the NPW.

An appropriate **Precautionary Action Zone** will be determined for each approved anchorage, which defines the radius around a NPW that will require automatic evacuation on confirmation of a reactor accident.

An **Urgent Protective Action Zone** will be determined for all anchorages specifying an appropriate circle of radius centred on the NPW for any 30 degree downwind sector.

A **Long Term Protective Action Zone** will be defined for an area within which a surrounding population may be subject to hazards associated with long term exposure to ground deposited radioactive material (groundshine) and/or ingestion of contaminated water, foodstuffs, milk and agricultural produce.

Further details of these protective zones are set out in the NPW Operational Plan.

3.2.2 Radiation Monitoring

The **Radiation Monitoring Group** (established in Fremantle and Cockburn Sound) will comprise:

- Leader Radiation Monitoring Group (LRMG), provided by the Commonwealth, responsible for coordination of all radiation monitoring functions;
- Technician radiation Monitoring Group provided by Royal Australian Navy;
- Continuous radiation monitoring post manned by RAN or RANR personnel for the purpose of providing early warning of a reactor accident;
- Minimum 2 mobile radiation Monitoring Units comprising Health Physics Surveyor from the Department of Health's Radiation Health Section and a driver designated by RAN. (these units will be used in immediate response to a radiation emergency at RAN Fleetbase West or as directed by the LRMG.)

As per Commonwealth requirements for the visit of a NPW, **Routine Monitoring Procedures** will be carried out in accordance with OPSMAN and are set out in the Operational Plan:

Emergency Radiation Monitoring Procedures will be initiated on confirmation of a reactor accident. Advice of a reactor accident will arise from:

- Notification by the NPW Commanding Officer, or his representative;
- A significant increase in the gamma radiation levels measured by the continuously operating monitoring post.

3.2.3 Additional Planned Emergency Countermeasures

Removal of the NPW

A Commonwealth condition of entry for a visit by a NPW is that the vessel must be able to be removed to sea or to the remote anchorage within a specified time limit following a confirmed alarm, which will be set out in the Operation Order for the visit.

The decision to remove the NPW will rest with the Incident Controller on advice from the State Radiation Officer (SRO) who will, if necessary, recommend removal of the vessel from the anchorage in the event of:

- A confirmed alarm indicating elevated gamma levels, or
- The NPW advises that such an event may occur as a result of a current problem.

Reference should be made to OPSMAN for further guidance for decision makers on the removal of a NPW following a reactor accident.

3.2.4 Protective Counter Measures

All Anchorages

The location of all anchorages is such that the Precautionary Action Zone and Urgent Protective Action Zone consists mainly of persons on the water and therefore there will only be a limited need for the application of countermeasures. This may include administration of iodine tablets to official personnel and the public as determined appropriate by the SRO.

Evacuation is expected to be restricted to the Precautionary Action Zone and Urgent Protective Action Zone, which would mainly consist of people participating in boating activities.

Decontamination

Persons classed as being potentially contaminated will be:

- Civilians evacuated from the NPW following a confirmed alarm.
- Civilians evacuated from the Precautionary Action Zone and Urgent Protective Action Zone.
- RMGs and other emergency personnel operating in the down wind sector.

DFES will provide decontamination as advised by the NPW VS(C)C.

The Department of Health will supply a Health Physicist to oversee decontamination. Decontamination will need to be isolated from the general public to avoid the pick-up and spread of contamination.

Contact must be made with the State Health Coordinator advising of the situation and estimated numbers of contaminated people likely to require treatment.

Potentially contaminated persons will be checked, decontaminated if necessary, and their details recorded at decontamination locations in accordance with the Operational Plan.

Disposal of water used in the decontamination process will be carried out in consultation with the appropriate regulators and will be in accordance with the Radiation Safety (General) Regulations 1983 and Environmental Protection Act 1986. Further details are provided in the Operational Plan.

Reference should also be made to ARPANSA Technical Report Series No: 131 *Medical Management of Individuals Involved in Radiation Accident*.

3.2.5 Special needs groups

Specific needs groups should be considered at the local level in Local Emergency Management Arrangements for Emergency Management Districts which have an approved berth for visits within their boundaries.

Support agencies (Department of Health and Department for Child

Protection), in accordance with the State Emergency Management Plan for the Provision of Welfare, WESTPLAN – WELFARE, shall liaise with WA Police with regards to special needs within an affected community.

3.2.6 Resources

The successful utilisation of the appropriate resources and expertise is essential to the preparedness for response to any emergency. In accordance with the *Emergency Management Act 2005*, the Local Emergency Management Arrangements (prepared by each Local Emergency Management Committee, LEMC) should contain a comprehensive list of resources available for each area.

Combat Agencies and Support Organisations are responsible for their own resources.

3.2.7 Training

Human resources across all agencies with responsibilities under WESTPLAN - NPW should be trained in their roles and responsibilities for dealing with NPW incidents as part of the preparedness element. This training must include knowledge of local actions, working effectively within the Australasian Inter-agency Incident Management System (AIIMS), and inter-agency responsibilities.

All agencies with agreed responsibilities under this plan are encouraged to ensure that their personnel are familiar with the Crisis Information Management System, WebEOC, used by WA Police.

Coordinated exercises should be undertaken, designed to exercise the plan in whole or in part and test such things as operational plans, communications procedures and facilities, individual staff performance and inter-organisational operations using the AIIMS operational structure.

3.3 Community Education

There will be a joint effort by WA Police, Radiation Health and relevant Local Governments to develop awareness, when appropriate, for hazards identified relating to NPW and establish the profile of any community at risk. As required, the public is to be informed of the hazards, probabilities, emergency management plans at all levels, warning and response arrangements and any actions which may be expected of them.

3.4 Community Evacuation

Emergency procedures that will be required in response to a reactor accident are similar for all classes of nuclear powered warships. Emergency procedures will be undertaken where the continuous radiation monitoring system indicates a radiation alarm or the NPW advises an alarm. The SRO will advise the Incident Controller of the protective measures that need to be implemented, including possible initial shelter-in-place and evacuation.

3.5 Local and District hazard emergency management plans

The inclusion of arrangements for visits by NPW as a specific hazard is only appropriate for Emergency Management Districts which have an approved berth within their boundaries.

3.6 Arrangement for assistance from other jurisdictions

3.6.1 Commonwealth Government assistance

The provision of Commonwealth Government physical assistance is dependent upon established criteria and requesting arrangements. All requests for Commonwealth physical assistance are to be made in accordance with SEMP 4.9 – Commonwealth Physical Assistance.

3.6.2 Assistance from overseas

Overseas assistance (and the process involved) will need to be determined at the time of the incident.

PART 4 RESPONSE

4.1 Responsibility for response

In an emergency resulting from a reactor accident, overall control of the response to the emergency is the responsibility of the Commissioner of Police (as the Hazard Management Agency), who is accountable to Government for the mitigation of the emergency.

Given the nature of the hazard, it is likely that overall control of a NPW emergency will be at State level on notification. Response at the incident site, once known, will follow the principle of a graduated response as set out in SEMP 4.1.

Emergency Control

The SRO, assisted by the Leader RMG, is responsible for provision of advice to the Commissioner of Police on the necessary steps to counteract or minimise the effects of radiation on emergency service personnel and members of the public.

The Commissioner may delegate control of the emergency response.

Berthing Area Control

Authority for the control of anchoring activities is vested in the Duty Officer, Fremantle Port Authority. The Harbour Master is responsible for overseeing all marine measures for the entry of an NPW to the port, and its subsequent anchoring and sailing.

Officer in Charge (OIC) Precautionary Action Zone

The OIC of the Precautionary Action Zone will be a senior officer of the Western Australia Police appointed by the Superintendent, Emergency Management and Counter Terrorism Division, other than for vessels berthed at RAN Fleetbase West, where the OIC of the Precautionary Action Zone will be a Naval Officer appointed by the Officer Commanding RAN Fleetbase West.

Security of the Precautionary Action Zone

During the period of entry to the port by the NPW, and its subsequent anchorage, the OIC of the Precautionary Action Zone will implement and administer security procedures within the Precautionary Action Zone as determined by the threat assessment and conditions encountered.

4.2 Notification

Notification to implement emergency procedures in response to a nuclear reactor accident will arise from the following circumstances:

- The continuous radiation monitoring system indicates a radiation alarm, or
- The NPW advises an alarm.

Emergency procedures required are similar for all classes of nuclear powered warships. The evacuation plan set out in the Operation Order for the visit will be implemented by WA Police on the advice of the SRO.

4.3 Levels of response

4.3.1 Actions on Initial Alarm

WA Police Duty Patrol Commander (POC)

Confirm details such as wind direction and speed with the initiator of the alarm, notify appropriate persons as set out in the Operational Plan and obtain current weather reports from the BoM and the NPW;

In the case of a continuous radiation monitoring system alarm, contact the NPW for confirmation;

In the case of an NPW alarm, contact the continuous radiation monitoring post to confirm alarm.

SRO

Proceed to the ICC, confirm the situation with the NPW and the LRMG; and, in consultation with the LRMG, confirm initial monitoring positions.

LRMG

Report to the ICC, consult with SRO to confirm initial monitoring positions; and deploy RMG mobile teams for air and gamma readings.

Continuous Radiation Monitoring Vessel

Confirm the alarm from the NPW and, as a mobile monitoring team, in the absence of instructions from the LRMG, proceed to the first monitoring position, based on the weather and wind conditions and commence monitoring.

Land Mobile Monitoring Teams

Immediately deploy to their initial monitoring positions and remain prepared to deploy to alternate and additional monitoring positions as directed by the LRMG.

4.3.2 Actions on Confirmed Alarm

On confirmation of an alarm by either the NPW or Continuous Monitoring Post, the following actions are to be taken:

Duty Patrol Commander

Contact appropriate persons as set out in the Operational Plan. This will include the Commanding Officer or Senior Duty Officer of the NPW, EMA Duty Officer, State Health Coordinator, Duty Air Traffic Controller, Perth Airport, FPA and DFES Communication Centre to arrange mobile decontamination units.

Obtain an updated weather report and request BoM support, and arrange for the deployment of emergency service personnel, as required, to assist the Department for Child Protection (DCP) and WA Police with evacuation requirements.

Incident Controller

Call for assessment reports from the Fremantle Port Authority, NNSO, LRMG and SRO.

On advice from the SRO order the removal of the NPW from the Port to the Remote Anchorage or to sea (in accordance with OPSMAN, Removal Decision);

Manage response requirements in support of the operation, and on advice from the SRO and LRMG, brief the Media Liaison Officer and authorise media releases.

State Radiation Officer (SRO)

Advise the Incident Controller regarding the need to order the removal of the NPW and, in consultation with the LRMG, determine appropriate monitoring positions.

Work with the LRMG regarding radiation survey data calculation, plotting and interpretation of results and determination of the need for countermeasures.

Advise the Incident Controller of requirements, e.g. countermeasures, activation of evacuation plans, distribution of stable iodine tablets where appropriate and when normal activities may resume.

Monitor progress reports from the decontamination area, assisting the Incident Controller with briefings to the Media Liaison Officer.

Leader Radiation Monitoring Group (LRMG)

Consult with SRO to determine monitoring positions and deploy RMG mobile units for air and gamma readings.

In consultation with SRO, calculate and plot monitoring results and assist in interpretation to determining necessary countermeasures..

Liaise with SRO to ensure that exposed Maypack cores (used to filter out airborne iodine) are returned for Gamma Spectrometer readout, and request ANSTO/ARPANSA support.

Continuous Radiation Monitoring Vessel

Commence mobile monitoring duties as directed by the LRMG.

Mobile Monitoring Units

The mobile monitoring units, operating under the control of the LRMG, will deploy to monitoring positions as directed. The locations will depend on the winds and various other meteorological factors prevailing at the time.

Harbour Master, Fremantle Port Authority

If requested by the Incident Controller, direct the NPW to the remote anchorage or to sea.

Divert shipping away from the removal route of the NPW, advising Incident Controller of actions taken or required, and liaise with OIC NNSO.

Royal Australian Navy – Fleet Base West (FBW)

The Officer of the Day is to:

Inform the OIC NNSO and act as Naval Coordinator until relieved by Executive Officer or the NNSO; and

Ensure additional and relief monitoring personnel are available as required by the NNSO, and assemble additional RAN personnel as required.

The NNSO is to:

Arrange removal of the NPW where required, in accordance with the conditions of entry, and assist with the clearing of pleasure craft, on request of the Incident Controller; and

Arrange immediate evacuation of non-emergency personnel from the Precautionary Action Zone and activate RAN Fleetbase West Emergency Procedures.

Police Media Liaison Officer

Contact the Incident Controller and make ready the media briefing room, preparing media releases as directed by the Incident Controller

and with the assistance of the SRO, and arranging for dissemination of media releases, arranging live to air media briefings and recorded media interviews.

4.3.3 Radiation reports

Radiation reports are to be compiled in accordance with the procedures detailed in the Radiation Monitoring Handbook. Radiation reports are communicated by the dedicated police radio network, mobile telephone or WebEOC to the ICC.

4.3.4 Advice to civilians in areas affected by a radioactive plume

Members of the public may be advised to shelter indoors and listen to the media for further advice (i.e. closing doors and windows, shutting down ventilation systems, staying in inner rooms or areas, and using improvised respiratory protection if necessary) or evacuate. Iodine tablets will be available for administration where appropriate, on the advice of the SRO.

4.3.5 Radiation monitoring of emergency service personnel

Police and other emergency service personnel who are required to function in areas classified as risk areas for inhalation or ingestion of radioactive iodine will be issued with stable iodine tablets.

In zones affected by the radioactive plume, or identified contamination, or contaminated persons or equipment, emergency service personnel shall be provided with personal radiation monitors in order to estimate the possible excess dose from gamma shine received during the period of duty. Personal radiation monitoring requirements will be under the control of the SRO.

4.3.6 Declaration of an Emergency Situation

In accordance with Section 50 of the *Emergency Management Act 2005* the Commissioner of Police (as HMA) may declare that an Emergency Situation exists in an area of the State in respect of a NPW, where:

- an emergency has occurred, is occurring or is imminent in that area of the State; and
- there is a need to exercise powers under Part 6 of the *Emergency Management Act 2005* to prevent or minimise:
 - loss of life, prejudice to the safety, or harm to the health, of persons or animals;
 - destruction of, or damage to, property; or

- destruction of, or damage to, any part of the environment.

An emergency situation declaration is to include:

- the time when, and date on which, the declaration is made; and
- the area of the State to which it applies.

WA Police must notify the State Emergency Coordinator, and each district emergency coordinator and local emergency coordinator for a local government district to which the emergency situation declaration applies, as soon as practicable after the declaration is made.

An emergency situation must be declared in writing, see State Emergency Management Procedure [OP-13] and Notice of Declaration of Emergency Situation [EMA - Form 6].

4.3.7 Declaration of a State of Emergency

In the event of a NPW emergency which has consequences requiring specific emergency powers, the Minister for Police and Emergency Services may declare a State of Emergency in accordance with Section 56 of the *Emergency Management Act 2005*.

When a State of Emergency is declared, a State Disaster Council is established in accordance with Section 63 of the *Emergency Management Act 2005*, chaired by the Premier, or the Minister as the deputy chairman.

Where a State of Emergency has been declared for a NPW emergency, the State Disaster Council should include the Commissioner of Police as State Emergency Coordinator, and such other members as appointed by the chairman. For a NPW emergency, it is recommended that this should include the following additional members:

- Director General Department of Health;
- DFES Commissioner, and
- Director General Department for Child Protection.

A State of Emergency must be declared in writing, see State Emergency Management Procedure [OP-14] and [EMA - Form 7].

4.3.8 Hazard Management Officers

All police officers carrying out emergency management duties in the area of, or otherwise involved in responding to any Emergency Situation declared by the Commissioner of Police (i.e. for all hazards where the Commissioner is the HMA) have been authorised to act as Hazard Management Officers (HMOs).

Further police employees or other persons may be authorised by the Commissioner to act as HMOs during an Emergency Situation declared

by the Commissioner for a NPW emergency. Such an authorisation may be carried out orally but must be put in writing as soon as practicable, see State Emergency Management Procedure [OP-04] and [EMA Form 17], and is to specify:

- Whether it applies to any emergency situation declared by the HMA or whether it is limited to a particular emergency situation declared by the HMA;
- The particular, or the particular class of, employee, officer or person to whom it applies; and
- The terms and conditions on which it is given.

HMOs may exercise a power under part 6 of the *Emergency Management Act 2005* subject to the terms and conditions on which they have been authorised.

4.3.9 Authorised Officers

All police officers carrying out emergency management duties in the area of, or otherwise involved in responding to, any State of Emergency declared by the Minister have been authorised to act as Authorised Officers by the Commissioner of Police in his capacity as State Emergency Coordinator.

Further police employees or other persons may be authorised by the State Emergency Coordinator to act as Authorised Officers during a State of Emergency declared by the Minister for a NPW emergency. An authorisation may be carried out orally but must be put in writing as soon as practicable, see State Emergency Management Procedure [OP-10] and [EMA Form 10] and is to specify:

- Whether it applies to any State of Emergency or is limited to a particular State of Emergency;
- The particular, or the particular class of, employee, officer or person to whom it applies; and
- The terms and conditions on which it is given.

Authorised Officers may exercise a power under part 6 of the *Emergency Management Act 2005* subject to the terms and conditions on which they have been authorised.

4.4 Activation of response aspects of this plan

The response aspects of this plan are automatically activated upon advice of a visit of a NPW to any port within Western Australia.

4.4.1 Preliminary Action

Upon confirmation that the visit of a NPW is to take place, the Port Nuclear Safety Panel will meet as required to:

- Establish and maintain a radio communication link between the NPW, the Water Police Coordination Centre, the Police Operations Centre and specified personnel;
- Prepare the Operation Order for the visit; and
- Facilitate all routine arrangements relating to the Port with respect to NPW visits.

The NPW VS(C)C will liaise with the Port Nuclear Safety Panel and meet as required to ensure that:

- An Operation Order for the visit applicable to the specific visit is issued;
- An assessment of the state of preparedness of all involved State organisations is ascertained;
- Liaison as required is carried out with Commonwealth organisations to ensure that the necessary support is available; and
- A pre-visit exercise is conducted.

4.4.2 Stages of Activation

The following stages of activation are applicable to the plan:

- **Stage 1** – Commences when a visit is confirmed and is to take place within 28 days and will continue until the NPW has entered port limits;
- **Stage 2** – While the NPW is inside port limits;
- **Stage 3** – Commences when the NPW clears port limits;
- **Stage 4** – Commences when an alarm is advised by the continuous monitoring system or the Captain or Delegated Officer of the NPW;
- **Stage 5** – Commences when the NPW clears port limits because of the occurrence of a reactor accident and upon completion of stage 4.

Stages 1 – 3 are routine stages that will occur for any visit, with stages 4 and 5 referring to situations occurring that will require emergency actions.

Stage 4 establishes actions to be taken in response to a confirmed Defined Reactor Accident. In the event of such an accident, back-up facilities will be requested from Commonwealth authorities in which resources will initially be provided by ANTSO in conjunction with ARPANSA. There will also be cooperation with the NPW's national authorities.

Stage 4 identifies those urgent response actions in the event of a radioactive plume being released.

Stage 5 covers longer term actions such as radiation and contamination surveys and remedial activities. These activities will require continued Commonwealth support.

A summary of actions during each stage is set out in Appendix D, item 6.4.

Note: In the event that no reactor accident occurs, the visit will progress through stages 1, 2 and 3 only.

4.5 Incident Management System

During all emergencies, WA Police use the Australasian Inter-service Incident Management System (AIIMS). All agencies with agreed responsibilities under this plan are encouraged to ensure that their personnel are familiar with and are able to work within the AIIMS structure.

4.6 Hazard Management Structure/Arrangements

In order to manage the overall response to and initial recovery from a NPW impact emergency, the HMA may put in place the following operational structure, depending on the magnitude and scale of the event:

4.6.1 Incident Control

In the event of a NPW emergency, WA Police will appoint an appropriately trained Incident Controller to assume overall control of the operation. Where possible, the appointed Incident Controller should be competent to undertake the incident control function at a level commensurate to the defined level of the incident as per WA Emergency Management policy (SEMP 4.1), where incidents are classified into three levels (1-3) based on actual and/or potential seriousness of the incident.

The Incident Controller will be supported by an Incident Management Team (IMT) based on the AIIMS model. The Incident Controller will also be supported by the District Emergency Coordinator and / or the State Emergency Coordinator.

The duties of the Incident Controller may include but are not restricted to the following:

- Activating the IMT and, if necessary, an Incident Support Group (ISG) and/or Operational Area Support Group (OASG);
- Providing overall control of all agencies;
- Developing the Incident Management Plan;
- Executing initial response plans;
- Establishing and maintaining secure perimeters around the emergency site(s) to protect the site, any victims and personal effects, and to permit the other agencies to work unobstructed in the performance of their specified duties;
- Assisting where required to ensure that adequate arrangements

- are in place for the transportation of any injured;
- Ensuring the orderly evacuation of any uninjured survivors to a safe and secure area where the designated welfare coordinator can assume responsibility for their management;
- Modifying plans as necessary to cope with changed conditions and developments on the scene;
- Facilitating media management;
- Recording and maintaining a log of activities including critical decisions on WebEOC.

An Incident Support Group (ISG) and/or an Operations Area Support Group (OASG) may be convened by the Incident Controller depending on the scale and complexity of the incident.

An ISG is a group of agencies/organisations liaison officers, including the designated Emergency Coordinator, convened and chaired by a person appointed by the HMA to provide agency specific expert advice and support in relation to the operational response to an incident.

An OASG is a group of agency/organisation representatives, including the designated Emergency Coordinator, convened by the Operational Area Manager to provide agency specific expert advice and support in relation to strategic management of an incident or incidents.

4.6.2 Operational Area Manager (OAM)

Depending on the complexity and location(s), the HMA may at its discretion appoint an Operational Area Manager to undertake the strategic management of a level 3 emergency.

4.6.3 HMA Strategic Incident Management Support

Depending on the magnitude and scale of the event, the Incident Controller may report to the appropriate Assistant Commissioner or their delegate (during duty hours), or the Duty Executive Officer (Assistant Commissioner) (after duty hours).

The Assistant Commissioner or delegate is responsible for:

- Providing strategic incident management support and guidance to the Incident Controller;
- Advising on the need for the State Emergency Coordination Group (SECG) to meet, in consultation with the State Emergency Coordinator;
- Ensuring appropriate State Emergency Management Plans and Support Plans are activated; and
- Provide strategic level resources from within WA Police to

support the incident response.

4.6.4 State Emergency Coordination Group (SECG)

An SECG may be established by the State Emergency Coordinator to assist in the provision of a coordinated multi-agency response to and recovery from the emergency (in accordance with the State Emergency Management Procedures Manual OP-11). Triggers for activating a SECG may include (but are not limited to):

- If a NPW emergency escalates to the point where it appears that significant coordination of agencies may be required at the State level;
- An emergency situation or State of Emergency is declared;
- Resources are required beyond the capacity of the district;
- There is high level of media, public and/or political interest.

The SECG is to consist of:

- The State Emergency Coordinator (Chair);
- Chair of the SEMC;
- Executive officer of the SEMC;
- WA Police representative as HMA;
- Chair Radiological Council
- Representatives of the local governments in the emergency area;
- Other members as required.

4.6.5 Coordination Structure

The Commissioner of Police is the State Emergency Coordinator who is responsible for the coordination of the emergency. Duties may include but are not restricted to:

- Ensuring that an effective control structure has been established;
- Ensuring the effective coordination of resources and/or services;
- Mediating to resolve areas of conflict;
- Maintaining an overview of the situation;
- Providing input for a Post Operation Report on the incident.

Additional Emergency Coordinators are currently appointed from within WA Police at District and Local level to assist with coordination of emergency management arrangements in their respective areas. One of their functions is to assist in the provision of a coordinated response during an emergency, which may include coordination of resources and/or services. It is important that these Emergency Coordinators remain in continuous contact with the State Emergency Coordinator.

4.6.6 Liaison Officers

All State agencies involved in this plan should ensure the availability of an appropriate liaison officer/representative for participation in the IMT, ISG OASG and/or SECG as required.

4.6.7 Site Organisation

Regardless of the number of agencies at the incident, it is important that only one facility is identified as the place from which the incident is controlled.

For an NPW incident, the Incident Control Centre will be established at the Major Incident Room at the Police Operations Centre in Midland, from where the Incident Controller, in consultation with various members of the Incident Management Team, provides overall control of the incident.

This will also include representatives of Combat Agencies and Support Organisations to provide strategic advice and support.

4.7 Evacuation Arrangements

The evacuation plan is set out in the Operation Order for the visit. Evacuation procedures will be activated by the Incident Controller on the advice of the SRO. The evacuation of the Precautionary Action Zone is to be automatically initiated on confirmation of a radiation alarm. A decision to evacuate the Urgent Protective Action Zone will be based on radiation data obtained from the mobile monitoring teams and assessed by the SRO and LRMG.

In the event of a reactor accident the first and most important response is for the vessel to depart as per the conditions of entry.

The evacuation areas (Precautionary Action Zone and Urgent Protective Action Zone) are set out in the Operation Order and are determined by a defined circle of radius around the NPW, to include a wider radius for the downwind sector. The number of persons within the Precautionary Action Zone and the Urgent Protective Action Zone would be determined by factors such as time of day, day of the week, public holidays, boating conditions and seasonal factors.

The evacuation requirement is divided into three phases, details of which are set out in Appendix E, item 6.5.

4.7.1 Decontamination of evacuees

Potentially contaminated persons will be checked, decontaminated, if necessary and their details recorded before being allowed to leave.

Any injured persons will be treated, checked for contamination and transferred to seek further medical attention if required, together with information as to whether or not they will require decontamination as some later stage.

4.7.2 Security

WA Police is responsible for security arrangements for the evacuated area, to minimise risk to life and property. This will require the exclusion of unauthorised personnel from entering the evacuated area and will involve patrolling these areas with appropriate use of Personal Protective Equipment. These arrangements also extend to provision of security for vessels and personal property removed for decontamination.

4.7.3 Evacuation Centres

Evacuation centres will be established as required to handle displaced persons. Where practicable, Welfare Centres identified in Local Emergency Management Arrangements will be utilised as required in consultation with the Department for Child Protection (DCP) in accordance with WESTPLAN – WELFARE and Local Emergency Management Arrangements.

The primary purpose of the evacuation centres is to cater for the short term needs of evacuees. It is anticipated that the majority of evacuees will not remain in the vicinity and will not require assistance.

If there is a requirement for longer term assistance, including temporary accommodation, the Department of Child Protection will facilitate this in accordance with WESTPLAN – WELFARE and Local Emergency Management Arrangements.

4.8 Function support plans

The requirements for Local, District, State or Federal resources to assist will depend on the impact assessment. Support may be available from activation of the following Support Plans, to be activated in accordance with procedures therein:

- WESTPLAN – HEALTH
- WESTPLAN - PUBLIC INFORMATION
- WESTPLAN - REGISTRATION & REUNIFICATION
- WESTPLAN – RECOVERY
- WESTPLAN – TELECOMMUNICATIONS

- WESTPLAN – WELFARE
- State Resources Support Plan
- Disaster Victim Recovery and Identification Procedures

4.8.1 Terrorism

Should the Commissioner of Police believe that an NPW emergency is the result of a terrorist act the response arrangements under WESTPLAN - TERRORIST ACT will be activated, and in accordance with the National Counter Terrorism Arrangements, further actions undertaken as required under national and state policies and plans.

4.9 Public information and media management

4.9.1 Authority For Public Announcements

Authority for broadcasting public announcements relating to a visiting NPW is vested in the following appointments:

- Commissioner of Police;
- Chairman of the NPW VS(C)C;
- Incident Controller.

4.9.2 Release of Public Announcements

In the event of a confirmed reactor accident aboard a visiting NPW, which in the opinion of the SRO is likely to subject an area or areas to radioactive contamination, members of the public will be advised using pre-prepared public announcements.

The intention to issue a Public Announcement is to be coordinated between the persons authorised above. In every case the Premiers Office, the Minister for Police and Emergency Services and the Minister for Health are to be informed of any imminent public announcement.

4.9.3 Media Liaison

The Incident Controller is to ensure a Media Liaison Officer is appointed if an emergency exists. This officer's name, contact number and location are to be advised to all media agencies.

The Police Media Unit Offices will be used for any NPW emergency. This will include all available Media Liaison Staff and will include arrangements to cater for:

- Ministerial Press Secretary;
- Other agency liaison officers/representatives.

The Media Liaison Office will be established at the Police Media Unit Offices and media conferences will normally be held at the Medias Conference Room (Police Headquarters, Perth).

4.10 Activation of other WESTPLANS in support of this plan

This plan may require the activation of all or some of the following State emergency management hazard plans, to be activated in accordance with procedures therein:

- WESTPLAN – CBRN
- WESTPLAN – HAZMAT
- WESTPLAN – TERRORIST ACT

4.11 Financial arrangements for response

Generally, to ensure accountability for expenditure incurred, the organisation with operational control of any resource shall be responsible for payment of all related expenses associated with its operation during emergencies unless other arrangements are established. Detailed information in relation to the financial responsibilities of participating organisations is outlined in SEMP 4.2 – Funding for Emergencies.

Assistance provided under WESTPLAN – NPW is funded from agency/departmental budgets. Where these resources are inadequate, either because of insufficient funds or a lack of a suitable appropriate item on which to call, no financial commitments can be entered into or expenditure incurred unless authorised by the Assistant Commissioner Counter Terrorism and State Protection (or the WA Police Duty Executive Officer for 'out of hours', short notice incidents). Agencies and Departments are requested to maintain a record of all costs incurred in providing assistance.

RECOVERY

5.1 Responsibility for recovery

WA Police, as HMA, will initiate a recovery process during the response phase ensuring, as far as practicable, that response activity is conducted in a manner conducive to facilitate recovery. Recovery activities may then operate in conjunction with response activities and will generally continue for some time after response activities have been completed.

Under the *Emergency Management Act 2005, Section 36(b)*, local governments have legislated responsibility for managing recovery following an emergency affecting the community in the Emergency Management District they represent. To facilitate this, Local Emergency Management Committees will have developed Local Emergency Management Arrangements, which include a Recovery Plan and arrangements for the nomination of a Recovery Coordinator.

It is anticipated that a Recovery Committee will be established to include specialists and/or wider consultation with specialist agencies to reflect the specific needs of a NPW emergency (i.e. to address any issues involving contaminated food/persons/property, compensation, health risks and any other concerns arising).

WA Police will assist in the early stages of recovery and with the transition and handover from the response to the recovery phase.

5.2 Transition to recovery

The decision to cease response operations and move to the recovery phase and procedures for handover to those identified as responsible for recovery rest with the HMA in accordance with State Emergency Management Policy 4.4. The decision about when this is deemed feasible and the handover process will be carefully documented.

An impact assessment will be conducted immediately after the emergency has stabilised to identify the extent of damage, the impact on essential services, the immediate and long term recovery requirements and the resources required.

5.2.1 Specific on-site recovery

In response to the impact assessment, regional, State Government and other external resources may be deployed to assist an affected community.

The restoration and reconstruction of essential services (e.g. roads, transport, water, sewerage, electricity and waste disposal) will remain the responsibility of the agencies normally responsible for the provision

of those services. WA Police shall remain responsible for:

- Securing the site for public safety;
- Taking necessary action until the site has been made safe through any remedial works undertaken by relevant agencies, in accordance with the impact assessment.

5.2.2 Community recovery

Community recovery is normally managed at the local level, in accordance with Local Emergency Management Arrangements, to enable the community to self recover.

5.2.3 State level recovery coordination

Where the HMA and the District/Local Emergency Coordinator identify a requirement for State level coordination of recovery, they should consult with the Chair, State Recovery Sub-committee.

Should a decision be made to activate State level recovery arrangements, further action will be undertaken in accordance with WESTPLAN – RECOVERY COORDINATION.

5.3 Stand down and debriefs

The HMA will ensure that a debrief of all organisations involved in the emergency response occurs within a reasonable time frame following the stand down phase.

5.4 Incident analysis / Review

Each agency/organisation involved in a NPW incident shall provide a written report to the HMA. These reports will be used as the basis for a post operation report, to be forwarded to the SEMC, in accordance with State Emergency Management Policy 4.3.

APPENDIXES

6.1 Appendix A - Distribution List

- **Emergency Management Australia**
National Emergency Management Coordination Centre
EMA Institute Library (2 copies)
- **State Government Ministers**
Minister responsible for administration of the Emergency Management Act 2005
Other Ministers
- **State Emergency Management Committee**
All members
Secretary SEMC
All subcommittee members
- **Organisations with responsibilities in this plan**
Combat Agencies
Support Organisations
Emergency Coordinators

WA Police (Hazard Management Agency)

Commissioner of Police
Deputy Commissioner (Operations)
Assistant Commissioner (Counter Terrorism and State Protection)
Superintendent, Emergency Management & Counter Terrorism Division
District Police Officer, South Metropolitan District
OIC Emergency Operations Unit
Police Communications Centre
OIC Water Police

Department of Health

Director General
A/Commissioner, Public Health and Scientific Support Services
Managing Health Physicist, Radiation Health Section

Fremantle Port Authority

General Manager
Harbour Master

Other State Government Agencies

Chief Executive Officer, Fire and Emergency Services Authority
Director, Department of Transport, Maritime Division
Director, Department of Environment and Conservation
Director General, Department for Child Protection

Commonwealth Government

Commanding Officer – RAN Fleetbase West
Director General, Emergency Management Australia
Australian Radiation Protection and Nuclear Safety Agency
Australian Nuclear Science and Technology Organisation
Chairman Visiting Ships Panel (Nuclear)
Director, Bureau of Meteorology, Perth
Director, Federal Department of Transport and Regional Services
Director, Commonwealth Department of Health and Ageing

- **Library Deposits (bound copies with contact details removed)**
National Library of Australia, Legal Deposits Unit (2 copies)
State Library of Western Australia, Battye Library (4 copies)

6.2 Appendix B - Glossary of terms/acronyms

6.2.1 Acronyms

ANSTO	Australian Nuclear Science and Technology Organisation
ARPANSA	Australian Radiation Protection and Nuclear Safety Agency
BoM	Bureau of Meteorology
CTA	Commonwealth Technical Adviser
DCP	Department for Child Protection
EMA	Emergency Management Australia
EOC	Emergency Operations Centre
EOU	Emergency Operations Unit
IC	Incident Controller
LRMG	Leader Radiation Monitoring Group.
MHz	Megahertz
MIR	Major Incident Room
NNSSO	Naval Nuclear Ship Safety Organisation
NPW	Nuclear Powered Warship
NPW VS(C)C	Nuclear Powered Warships Visiting Ships (Coordinating) Committee
NPWSO	Nuclear Powered Warship Safety Organisation
NRIS	National Registration & Inquiry System
NSB	Nuclear Safety Bureau
OIC	Officer-in-Charge
PCC	Police Communications Centre
POC	Police Operations Centre

RAN	Royal Australian Navy, including Reserve
RMG	Radiation Monitoring Group
SOPs	Standing Operating Procedures
SRO	State Radiation Officer
TLDs	Thermoluminescent Dosimeters
VHF	Very High Frequency (30-300 Megahertz)
VSP(N)	Visiting Ships Panel (Nuclear)

6.2.2 Glossary

Action Zones	Zones designated around NPW berths and anchorages for planning purposes to assist in the identification of areas where hazards might arise.
Becquerel (Bq)	Unit of the amount of radioactivity.
Control	The overall direction of emergency management activities in a designated emergency. Authority for control is established in legislation or in an emergency management plan and carries with it the responsibility for tasking and coordinating other organisations in accordance with the needs of the situation. <u>Control</u> relates to situations and operates <u>horizontally, across organisations</u>
Chain Reaction	A process which, once started, provides the conditions for its own continuance. In a reactor neutrons released in the fission process cause further fission.
Cladding	The metal sheath within which the reactor fuel is sealed.
Contamination (Radioactive)	The presence of a radioactive substance or substances in or on a material or in a place where they are undesirable or could be harmful.
Coolant	Water which is pumped through reactor core to remove heat generated there.

Containment	The compartment enclosing the reactor plant designed to withstand the build up of pressure after a severe reactor accident and to contain any radioactive releases from an accident in which there is little or no escape into the environment.
Core	The region of a reactor containing fuel within which the fission reaction is occurring.
Critical	A reactor is critical when the fission chain reaction is self-sustaining and hence maintains power output from the reactor at a constant level.
Decay Heat	Heat produced by radioactive decay, particularly of fission products, in the reactor fuel. This continues to be produced after the reactor has been shut down. It cannot be shut off, but gradually dies away after the reactor has been shut down.
Decontamination	The removal of radioactive material from a person or surface.
Defined Reactor Accident	A reactor accident of severity up to and including the Reference Accident (e.g. core meltdown)
Dose (of radiation)	Radiation doses may be the absorbed dose, which is the average amount of energy deposited in a unit mass by ionising radiation (expressed as Grays), or the equivalent dose, in which the dose is multiplied by a weighting factor which accounts for the biological effectiveness of the radiation in causing damage (expressed as Sieverts).
Downwind Sector	Normally refers to the 15 degrees angle either side of the prevailing wind direction downwind of the accident site.
Emergency	An event, actual or imminent, which endangers or threatens to endanger life, property or the environment, and which is beyond the resources of a single organisation or which requires the coordination of a number of significant emergency management activities.
Emergency Management	A range of measures to manage risks to communities and the environment. It involves

the development and maintenance of arrangements to prevent or mitigate, prepare for, respond to, and recover from emergencies.

Intervention Level

The radiation dose which serves as a guide to when protective measures should be taken.

Fission

Rupture of a nucleus into two lighter fragments known as fission products) plus free neutrons either spontaneously or as a result of a neutron collision.

Fuel

The enriched uranium fabricated for use in the core. Fuel and cladding together comprise the fuel elements.

Gamma Radiation

High energy electromagnetic radiation with considerable penetrating power emitted by most radioactive substances.

Gray (Gy)

Unit of radiation absorbed dose.

Half Life

Period of time within which half the nuclei in a sample of radioactive material undergo decay and within which the activity of the sample will decrease by one half.

Iodine

E.g. iodine-131, a biologically hazardous fission product of short half life (8 days) which accumulates in the thyroid gland if inhaled or ingested.

Leader Radiation Monitoring Group

A radiation specialist from ANSTO in location during every visit of NPW, to lead the Radiation Monitoring Group

Meltdown

The melting of the fuel elements within the core produced when the cooling system is unable to remove the decay heat; normally the result of a loss of coolant accident.

the Minister

Minister for Police and Emergency Services unless otherwise stated

Nuclear Powered Warships Safety Organisation

The organisation consisting of members of the Nuclear Powered Warships Visiting Ships (Coordinating) Committee and State and Commonwealth Government authorities

Nuclear Powered Warships

The organisation vested with the authority to

Visiting Ships (Coordinating) Committee	implement this plan
Neutron	Uncharged particle, that is a constituent of the nucleus – ejected at high energy during fission, capable of causing fission of any fissile nucleus by collision
NIMITZ	Class of aircraft carrier
Plume	The trail of airborne contamination carried by the wind from a radiation accident, fire etc.
Precautionary Action Zone	A circle of radius 600 metres centred on the NPW (other than for a berth for a NIMITZ class aircraft carrier which requires 800 metres) requiring automatic evacuation on confirmation of a reactor accident.
Public announcement	any official statement, radio or television broadcast, or information issued on the authority of the Commissioner of Police
Radiation	Neutrons, alpha or beta particles or gamma rays which are emitted from radioactive substances.
Radioactivity	Behaviour of substance in which nuclei are undergoing transformation and emitting radiation. It is measured in the number of nuclear disintegrations per second (Bq).
Reference Accident	A failure of the primary coolant circuit of one of the reactors resulting in a loss of coolant and melt down of the fuel in the reactor core and a release of volatile and gaseous fission products into the reactor containment. These fission products may then leak into the atmosphere and be distributed according to the current weather. In the assessment the dispersion of released fission products in the atmosphere downwind of the accident has been estimated using a standard, conservative meteorological model and the radiation doses to individuals and to the total population have been calculated.
Self-Sustaining	The condition where the reactor is critical and is meeting the electrical demands of the

NPW. A typical reactor power state on arrival in harbour and just prior to sailing.

Sievert (Sv)

Unit of radiation equivalent dose.

Stable Iodine

Iodine that is not radioactive. Iodine taken in this form will block for a time the uptake by the human thyroid gland of any radioactive iodine that may be inhaled or ingested.

Thyroid

In humans, a small gland weighing about 20 grams situated in the lower part of the neck. The gland concentrates and stores iodine taken into the body.

Urgent Protection Zone

Any 30 degree downwind sector within a circle of radius 2.8 km centred around the NPW (other than for a berth for a NIMITZ class of aircraft carrier which requires 3.7 km) which may require evacuation.

6.3 Appendix C - Further Details of Potential Radiation Hazards

Gamma Radiation from Vessel

Gamma radiation will be emitted from the hull of the nuclear powered warship following a Reference Accident and a severe hazard may exist in the close vicinity of the reactor compartment. In the case of NIMITZ class aircraft carriers this hazard could extend up to several hundred metres. However, the intensity of gamma radiation is rapidly reduced by distance from the vessel.

Gamma Radiation from Plume and Ground Deposition

The fission products, which escape to the atmosphere will form a radioactive plume or cloud which would be a source of gamma radiation. In addition, radioactive particulate material from the cloud may deposit on the ground forming another source. These sources can be detected and measured using radiation dose rate instruments.

Inhalation of Fission Products

A health risk would be associated with the inhalation of fission products by people in the path of the plume. Radioactive iodine, which would be the dominant hazard, is rapidly absorbed by the body and is concentrated by the thyroid gland. Irradiation of thyroid tissue increases the risk of thyroid cancer. Air sampling using, an iodine absorbing charcoal cartridge can be used to indicate the presence of radioiodine. The radiation dose to the thyroid of persons exposed to radioiodines can be reduced significantly if non-radioactive (stable) iodine in the form of potassium iodate tablets, are taken as a blocking agent. If the airborne concentration of radioactivity is significant, the affected population will need to be instructed to shelter indoors with closed doors and windows, or evacuated.

Ingestion of Fission Products from Contaminated Food and Water

Radioiodines and other volatile fission products would be deposited on the ground and on water supplies over which the radioactive plume passes. In market garden areas these contaminants may deposit on leafy vegetables or other foodstuffs and lead to an ingestion hazard. Environmental samples will need to be analysed and, if necessary, controls on these foodstuffs implemented to prevent or minimise exposure to the affected population.

Ingestion of Radioactive Iodine in Milk

Milk from cows grazing on contaminated areas, possibly extending several kilometres downwind could be hazardous, particularly to children, due to the cow's ability to concentrate iodine in its milk. However, contaminated milk

would not appear for a day or so, and time would be available for detection and control.

Note: Accidents More Serious than the Reference Accident

Accidents with more serious consequences than the Reference Accident are conceivable and could result from:

- a catastrophic failure of the reactor pressure vessel causing a co-incident breach of the containment; or
- a high speed collision resulting in both the containment and the primary circuit being breached.

The first event is estimated to have a probability of the order of one in ten million per pressure vessel per year.

A high speed collision of sufficient energy to rupture both the containment and the reactor primary coolant system is prevented by navigational controls within Australian harbours and their approaches. With regard to low speed collisions, warships are built to be structurally robust as protection against battle damage and the energy at impact from a low speed collision would not be expected to cause the consequences described above.

6.4 Appendix D – Actions during each Stage of Activation

Actions – Stage 1

Actions during Stage 1 include:

- Preparation and distribution of the Operation Order for the visit;
- Confirmation of anchorage and required port facilities;
- Conducting briefings for relevant personnel within WA Police and external agencies;
- Preparation and testing of communications and State monitoring equipment;
- Confirmation of decontamination requirements and procedures;
- Arrangements for TLDs and iodine tablet stocks;
- Liaison with ANSTO concerning RMG equipment and the LRMG;
- Confirming transport arrangements for RMG teams (land and water);
- Liaison with tug crews (if required) and arrangements for waterborne security escort in the vicinity of the NPW;
- Conducting a pre-visit exercise;
- Implementing the Operation Order and monitoring procedures;
- Placing EOU staff and NPW VS(C)C on standby;
- Collection of pre-visit marine samples and commencement of monitoring duties.

Actions – Stage 2

Actions during Stage 2 include:

- Arranging anchorage of the NPW;
- Advising arrival of the NPW to relevant personnel via SMS;
- Visiting the NPW, briefing Captain and/or Chief Nuclear Engineer on WESTPLAN - NPW and the Operation Order for the visit, and Chief Nuclear Engineer on local monitoring arrangements;
- Coordination of all routine and operational aspects of this Plan and the Operation Order.

Actions – Stage 3

Actions during Stage 3 include:

- Recovery of radio communications equipment deployed to NPW;
- Advising relevant personnel (via SMS) of the NPW's departure from the anchorage and fairway buoy;
- Standing down the NPW VS (C) C;
- Ceasing monitoring and recovery of monitoring equipment and iodine tablets;

- Recovery of other radio communications equipment deployed for the operation;
- Forwarding TLDs to ARPANSA and return of monitoring equipment to ANSTO;
- Conducting debrief of NPW VS (C)C;
- Dispatch of all post-visit marine samples to ARPANSA and schedule collection and dispatch of marine samples 3 months after the visit.

Emergency Actions - Stage 4

Actions during Stage 4 include:

- Immediately a release of radioactivity or a nuclear reactor accident occurs in the NPW during passage to or from an anchorage or berth, the NPW will advise Port Control (in accordance with OPSMAN);
- The Port Control is to immediately advise the Harbour Master, who will assist with preventing the vessel from entering any area which would allow radioactive material to affect the public.
- The Harbour Master is to immediately advise the ICC of action being taken.
- The Duty Patrol Commander is to advise the SRO, LRMG and the Incident Controller.

Further action will depend on the circumstances (as set out in the Operational Plan) with reference to the requirements of OPSMAN.

Emergency Actions – Stage 5

Actions during Stage 5 include:

- Plume monitoring by the mobile monitoring teams as the NPW travels to sea or to the remote anchorage;
- Identification and interim quarantine, pending investigation, of dairy and market produce areas potentially affected by contamination from the plume;
- Identification of areas contaminated by the plume, including areas outside those areas which required the implementation of countermeasures;
- Preliminary remedial measures in those areas identified as contaminated including measures to prevent the spread of contamination to uncontaminated areas.

Note: In the event that the NPW relocates to the remote anchorage rather than to sea, continued monitoring by at least one mobile radiation monitoring group of the status of the direct gamma radiation and of the plume.

6.5 Appendix E – Phases of Evacuation

Phase 1 – Precautionary Action Zone Evacuation and Urgent Protective Action Zone Evacuation Preparation

The OIC of the Precautionary Action Zone, assisted by Water Police vessels and RAN vessels as required evacuate all civilians from the Precautionary Action Zone. Instruct water borne patrol units to direct all craft within the Precautionary Action Zone to a specified decontamination area. Thereafter prevent the intrusion of all such craft into the waters within the Precautionary Action Zone and the Urgent Protective Action Zone.

Phase 2 – Urgent Protective Action Zone Evacuation

Initiate State Alert call out to affected area, supported by Police vehicles utilising public announcement systems, directing people within the affected area to exit via the decontamination and stable iodine distribution point identified in the Operation Order for the visit. Instruct water borne patrol units to direct all craft within the Urgent Protective Action Zone to a specified decontamination area.

Phase 3 - All Clear Precautionary Action Zone and Urgent Protective Action Zone

This includes the notification of all evacuated persons of the all clear. There is also a requirement to return vessels and personal possessions, and to return the waters of the Precautionary Action Zone and the Urgent Protective Action Zone to normal traffic.

Transport of evacuees from the evacuated area will utilise private vehicles, emergency service vehicles and other vehicles as necessary.