



Government of Western Australia  
State Emergency Management Committee

# STATE HAZARD PLAN

## Tsunami

Note: This document contains information relating to the arrangements for managing emergencies resulting from the hazard of Tsunami. It must be read in conjunction with the State Emergency Management Plan, which contains the generic emergency management arrangements.

Responsible Agency: Department of Fire and Emergency Services

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Legislation

Policy

PLAN

Procedure

Guidelines

Glossary

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## AMENDMENT TABLE

Amendment		Details	Amended by:
#	Date		
1	December 2007	Complete reissue.	
2	September 2010	Complete review.	
3	2015	Complete review.	
4	May 2016	Statement of fact amendments.	SEMC Secretariat
5	December 2017	New State Hazard Plan format, statement of fact changes, removal of duplication, inclusion of assurance activities, and Machinery of Government changes.	DFES
6	December 2018	Version 01.01 – Statement of fact amendments. Refer also to the generic amendments to the suite of State EM documents as per <a href="#">amendments table v02.00</a> approved by SEMC (Resolution Number 90/2018).	SEMC Business Unit
7	October 2019	Version 01.02 – Minor amendments approved by SEMC (Resolution Number 91/2019) as per <a href="#">amendments table v02.02</a> .	SEMC Business Unit

Amendment		Details	Amended by:
#	Date		
8	June 2020	Version 01.03 – Review date deferred to August 2021 approved by SEMC (Resolution Number 25/2020 and statement of fact amendments as per State EM documents <a href="#">amendments table v02.03</a> .	SEMC Business Unit
9	December 2020	Version 01.04 – Amendments approved by SEMC (Resolution Number 84/2020) as per State EM documents <a href="#">amendments table v02.06</a> .	SEMC Business Unit

This State Hazard Plan is available on the State of Emergency Management internet site [www.semc.wa.gov.au](http://www.semc.wa.gov.au).

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# 1 INTRODUCTION

The State Hazard Plan for Tsunami (the Plan) provides an overview of arrangements for the management of tsunami in Western Australia and contains information on tsunami prevention, preparedness, response and initial recovery.

The Plan refers to a range of existing plans and documents relating to tsunami but does not duplicate the information contained in these, instead providing directions to websites or other sources where further information can be obtained if required.

The Fire and Emergency Services (FES) Commissioner is the Hazard Management Agency (HMA) for tsunami<sup>1</sup>.

## 1.1 BACKGROUND

There have been a number of recorded incidents of tsunamis affecting the West Australian coastline since 1833. Most of these tsunamis have resulted in dangerous rips and currents rather than land inundation. The largest tsunami impacts in Australia have been recorded along the northwest coast of Western Australia<sup>2</sup>. Research suggests that a tsunami originating from Indonesia could reach the WA coastline within two to four hours. The impact of a tsunami hitting vulnerable, low-lying areas on the WA coast could be significant<sup>3</sup>.

In a very rare<sup>4</sup> and extreme tsunami it is possible for a number of residential and commercial properties in WA to be inundated and for adjoining roads and infrastructure to incur damage. Critical infrastructure such as gas, power and water supplies may also suffer extended outages in such a considerable tsunami.

The Department of Fire and Emergency Services (DFES) and Geoscience Australia (GA) have worked, and continue to work in partnership to model a suite of tsunami impact scenarios for communities along the WA coast.

Previous studies indicate that any one of the modelled events can impact the whole of the WA coastline with only a few hours of warning time available to the WA emergency management community. This has implications for the management of a State wide response, and modelling worst-case tsunami events provides a valuable insight into evacuation planning<sup>5</sup>.

## 1.2 SCOPE

This Plan covers emergency management arrangements within the geographic boundaries of WA, including adjacent waters, for the hazard of tsunami. The Plan deals with risk reduction strategies, preparedness for, response to and initiation of recovery arrangements following the impact of a tsunami.

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<sup>1</sup> *Emergency Management Regulations 2006* s 17(2)

<sup>2</sup> BoM, Past tsunami events [www.bom.gov.au/tsunami/history/index.shtml](http://www.bom.gov.au/tsunami/history/index.shtml)

<sup>3</sup> BoM, Tsunami frequently asked questions [www.bom.gov.au/tsunami/info/faq.shtml](http://www.bom.gov.au/tsunami/info/faq.shtml)

<sup>4</sup> average annual probability 0.01%

<sup>5</sup> Osuchowski, M. and Sexton, J., 2010, Tsunami Impact Scenarios for Mandurah, Western Australia. Geoscience Australia Professional Opinion. No.2010/03, p. 10.

### 1.3 HAZARD DEFINITION

A tsunami is a natural phenomenon consisting of a series of waves generated when a large volume of water in the sea is rapidly displaced. Tsunamis are known for their capacity to inundate coastlines, causing property damage, injuries, and loss of life. The principal sources of tsunami are:

- large submarine or coastal earthquakes, in which significant uplift or subsidence of the seafloor or coast occurs (this is the main source of tsunami);
- underwater landslides, which may be triggered by an earthquake, or volcanic activity;
- volcanic eruptions, such as underwater explosions or caldera collapse, pyroclastic flows and atmospheric pressure waves; and
- meteor impact.

Further detailed information on the tsunami hazard can be found at:

Geoscience Australia (GA)

<http://www.ga.gov.au/scientific-topics/hazards/tsunami>

Bureau of Meteorology (BoM)

[www.bom.gov.au/tsunami/?ref=fr](http://www.bom.gov.au/tsunami/?ref=fr)

### 1.4 ORGANISATIONAL ROLES AND RESPONSIBILITIES

The FES Commissioner is the HMA for tsunami and is responsible for ensuring effective prevention, preparedness, response and recovery to this risk within the community<sup>6</sup>.

DFES is responsible for the development, implementation and revision of this Plan, in consultation with key stakeholders.

It is recommended that each agency with a role or responsibility under this Plan has appropriate operational procedures detailing their response arrangements in accordance with this Plan. These arrangements should be complimentary to the agency's operational procedures detailing their roles and responsibilities under the [State EM Plan](#). Additionally, agencies involved in tsunami response should maintain a Business Continuity Plan to ensure they maintain capabilities in the event of a major tsunami incident.

A coordinated response to a tsunami requires emergency management agencies to undertake a variety of agreed and statutory responsibilities. Information regarding the roles and responsibilities of relevant agencies under this Plan is detailed at Appendix B.

#### 1.4.1 Australian Tsunami Advisory Group

The Australian Tsunami Advisory Group (ATAG) is a reference group of which DFES is a member. Its membership comprises of emergency service representatives from each state and

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<sup>6</sup> *Emergency Management Regulations 2006 s 17(2)*

territory, Attorney-General's Department, BoM, GA, and Surf Life Saving Australia.

ATAG provides national leadership in programs and projects relating to tsunami response and recovery capability development aimed at enhancing community resilience and industry capability. It works as a consultative and coordinating forum to facilitate processes for effective national exchange of practice, research, information and knowledge management in relation to tsunami.

## 1.5 RELATED DOCUMENTS AND LEGISLATION

This Plan is to be read in conjunction with the following documents:

- State Planning Policy 3.4 Natural Hazards and Disasters;
- State Planning Policy 2.6 State Coastal Planning Policy;
- the DFES Western Australian Fire and Emergency Services Manual; and
- Local Emergency Management Arrangements

Legislation and codes relevant to this Plan include by are not limited to:

- [Emergency Management Act 2005](#)
- [Emergency Management Regulations 2006](#)
- *Fire and Emergency Services Act and Regulations 1998*;
- *Local Government (Miscellaneous Provisions) Act 1960*;
- *Occupational Safety & Health Act 1984*;
- *Planning and Development Act 2005*.

## 1.6 ACTIVITIES INFORMING THE ASSURANCE PROCESS

The HMA ensures that aspects of operational performance are reviewed and that a consistent and structured approach is applied to all aspects of operational performance. This includes the implementation and evaluation of the outcomes (lessons identified, findings, recommendations, etc.) of such reviews<sup>7</sup>.

Operational Performance Assurance activities identify and generate opportunities for improvement in operational performance to ensure that incident management and response capabilities are continuously improved to provide the most effective service to the community. The types of performance reviews conducted are:

- Reactive operational performance reviews;
- Live incident reviews;
- Operational investigations;
- Hot debrief;
- Formal Operational Debrief;
- Post Incident Analysis;
- Major Incident Review;
- External Reviews/Investigations;
- Proactive Operational Performance reviews;
- Post-Exercise Debrief;
- Operational Readiness Review; and
- External Agency Report Reviews.

Information relating to two types of review (Post Incident Analysis (PIA) and Major Incident Reviews (MIR) conducted by

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<sup>7</sup> DFES Policy No 54: Operational Performance Assurance Policy, 2017



DFES) is included in the DFES Annual Report; this is an essential component of external performance reporting to the Minister for Emergency Services, State Parliament and the wider community. This information also facilitates decision making affecting DFES operations<sup>8</sup>.

Post Operation Reports shall be provided to State Emergency Management Committee (SEMC) in accordance with [State EM Policy](#) section 5.11 and [State EM Plan](#) section 5.7.

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<sup>8</sup> DFES Directive – Operational Performance Assurance, 2017

## 2 PREVENTION AND MITIGATION

### 2.1 RESPONSIBILITY FOR PREVENTION AND/OR MITIGATION

As the HMA, the FES Commissioner is responsible for undertaking prevention and/or mitigation activities in relation to the hazard of tsunami, within the limitations of its legislative powers<sup>9</sup> and resource capabilities.

Local governments (LGs) are responsible for planning in their local communities by ensuring appropriate local planning controls are consistent with the objectives and requirements set by the Western Australia Planning Commission (WAPC)<sup>10</sup>. The WAPC is responsible for approving subdivision applications and has delegated powers for the determination of development applications to local governments and development assessment panels.

### 2.2 PREVENTION AND/OR MITIGATION STRATEGIES

The occurrence of tsunamis cannot be prevented, but risk treatment strategies contribute to the increased resilience and reduction in vulnerability of communities by proactively reducing the effects of hazardous events.

Key strategies are employed to reduce the risks associated with tsunami emergencies. These strategies are shown in Table 1.

Strategy	Responsible Agency
Tsunami inundation mapping.	DFES, GA, Joint Australian Tsunami Warning Centre (JATWC)
Application and enforcement of the Building Codes of Australia and informed land use planning for vulnerable areas.	Local governments
Participation in research and development programs directed towards identifying and implementing risk treatment strategies.	DFES, ATAG, GA, and BoM
Promoting an improved state of resilience within communities to improve the management of future risks.	DFES
Developing resilience in the community and minimising the vulnerability of communities to effects of tsunami.	DFES in partnership with local governments
Promotion of, and participation in, community awareness campaigns for 'at risk' communities.	Local governments assisted by DFES, BoM and WA Police Force
Provision of tsunami advice to the community.	DFES and JATWC

<sup>9</sup>Emergency Management Act 2005, Fire and Emergency Services Act 1998

<sup>10</sup>WAPC State Planning Policy 3.4 Natural Hazards and Disasters, <https://www.dplh.wa.gov.au/spp3-4>

Strategy	Responsible Agency
Participation in local and regional tsunami planning.	Local government, BoM, DFES, DEMCs and LEMCs
Ensuring the sustainability of service delivery of critical infrastructure through design and maintenance standards.	Essential services and network operators
Advising relevant agencies in relation to the construction/maintenance of critical infrastructure services and access in 'at risk' communities.	Essential services and network operators

**Table 1 Tsunami Risk Reduction Strategies**

## 3 PREPAREDNESS

### 3.1 RESPONSIBILITY FOR PREPAREDNESS

As the HMA for tsunamis, the FES Commissioner has responsibility for:

- promoting resilience activities within communities to improve the management of future risks; and
- promoting all emergency management activities related to tsunami preparedness is undertaken.

### 3.2 PLANNING AND ARRANGEMENTS

Successful tsunami operations depend on sound planning, effective resource utilisation and a coordinated response which is timely, efficient and effective.

The concept of this Plan is to employ and coordinate the resources of State and Australian Government departments, authorities and agencies; resources available to private industry; and resources available to volunteer groups, for tsunami operations. This concept is based on:

- availability of the DFES 24-hour State Operations Centre (SOC) for receipt of tsunami notification reports;
- establishment of operational facilities at three levels (State, Regional and local), from which management of tsunami operations takes place;
- deployment of emergency service personnel;
- provision of expert technical advice on tsunami impact modelling by State and Australian Government agencies when requested by DFES; and

- tasking of agencies in a coordinated manner in support of DFES. Agency procedures are then employed to carry out tasks.

#### 3.2.1 The Western Australian Fire and Emergency Services (WAFES) Manual

This Manual outlines the overall operational management structure and systems used by DFES for emergency preparedness and response throughout the State. It unites State Legislation, State Emergency Management Policies and Plans with the DFES's structures and its operational doctrine. It describes the FES Commissioner's intent for the role of DFES during emergencies in Western Australia.

Where areas susceptible to tsunamis are identified as a risk to the community DFES may develop Local and District tsunami plans to address the prevention, preparedness, response and recovery activities for tsunamis.

#### 3.2.2 Resources

Resources used in tsunamis may be required at short notice and may include: urban search and rescue (USAR) resources, transport resources, earth moving machinery, cranes, shoring and tunnelling equipment, signage, electricity generating plants, lighting, pumps, temporary toilet facilities, potable water, medical equipment and drugs.

DFES is responsible for the overall provision and management of resources required to physically respond to an imminent or actual tsunami, including acquisition, pre-positioning and inventory management. Emergency management agencies and support organisations are required to provide their own

resources in the first instance and to make requests for additional resources to DFES as required.

Whilst industry is required to have emergency plans in place, sometimes these plans have included additional preparedness provisions. Ideally, these will be made available via Local Emergency Management Arrangements (LEMAs) on LG websites.

In certain areas, some industry groups have established mutual aid agreements and/or systems that contribute to the reduction of the effects of an emergency through rapid response and improved response capability.

The identification of appropriate and adequate resources and expertise is essential to preparedness for a tsunami. Planning at all levels should reference resource management, inventory and acquisition arrangements.

Where an operation is beyond the resources of the State, a request for assistance from other jurisdictions may be made in accordance with paragraph 3.4.

### **3.3 COMMUNITY INFORMATION AND EDUCATION**

DFES, BoM, GA, ATAG and local governments provide a contribution to education programs developed to inform and educate the public on tsunami notification, risk and management.

During a tsunami, DFES will provide community information in a coordinated manner through the Incident Controller (IC) and/or Operational Area Manager (OAM).

Media and public information strategies are reviewed annually by DFES to ensure appropriate communication of tsunami information to the community.

### **3.4 ASSISTANCE ARRANGEMENTS WITH OTHER JURISDICTIONS**

Should a tsunami event be beyond the resources of the State, support may be requested from the Australian Government, other States or overseas.

Deployment will be managed by the agency employing the deployed personnel in accordance with individual agency policy and directives. DFES must be notified of any significant resources being committed to interstate deployments. The Minister responsible for DFES is to be notified before any interstate deployment of their respective personnel.

Assistance to interstate, overseas and other jurisdictions for tsunami emergencies will be coordinated at a state level by DFES. This will include determination of the process involved and recognition of pre-existing arrangements for inter-jurisdictional assistance by other agencies where such arrangements exist.

The Arrangements for Interstate Assistance (AIA) provides for mutual assistance between Australian emergency services. It is for domestic use within Australia, which may involve New Zealand resources. Strong partnerships, goodwill and cooperation across organisations and interstate boundaries are essential to this process.

International arrangements are very similar to state arrangements however a rigorous checklist applies to support



effective response as these are often for longer durations. The CCOSC and NRSC are primary contacts to support a deployment with Director General of Emergency Management Australia (EMA) ultimately responsible for coordination of deployment requests interstate and internationally.

All requests for Australian Government Physical Assistance are to be made in accordance with [State EM Policy](#) section 5.10 and [State EM Plan](#) section 5.6.

## 4 RESPONSE

This section reflects business as usual and highlights changes that occur in the event of an Emergency Situation or State of Emergency being declared.

### 4.1 STRATEGIC CONTROL PRIORITIES

The Strategic Control Priorities for tsunamis are:

- Protection and Preservation of Life: This is the fundamental overarching priority for the State, and includes:
  - safety of emergency services personnel.
  - safety of community members including at risk community members and visitors/tourists located within the incident area.
- Community warnings and information
- Protection of critical infrastructure and community assets
- Protection of residential property
- Protection of assets supporting individual livelihood and community financial sustainability
- Protection of environmental and heritage values.

The above priorities are **not** hierarchical; however protection and preservation of life must be paramount when developing incident action plans that identify the priority roles and actions for the emergency management response, where there are concurrent risks or competing priorities<sup>11</sup>.

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<sup>11</sup> The Strategic Control Priorities for Fire, SEMC Bulletin No. 1, October 2016.

### RESPONSIBILITY FOR RESPONSE

As the HMA, the FES Commissioner has responsibility for responding to emergencies in relation to tsunami.

DFES is the Controlling Agency for tsunami emergencies in Western Australia and is responsible for activating and controlling the response to such an emergency.

### 4.2 RESPONSE ARRANGEMENTS

DFES will undertake a range of pre-emptive activities prior to the onset of the hazard, during times of potential threat, or reactively post impact. This may include a range of actions by regions, State Operation Centre (SOC), Metropolitan Operation Centre (MOC) or a Regional Operation Centre (ROC) to support operations<sup>12</sup>.

DFES will promptly and deliberately instigate Incident Management Teams (IMTs) appropriate to the scale and requirements of the emergency in accordance with the State's emergency management arrangements. Tsunamis can have large impact areas. Therefore a tsunami response may be managed by numerous IMTs working through multiple OAMs in a number of geographically diverse facilities.

The level of implementation of plans and operational structures can vary considerably depending upon circumstances. Factors which may influence the level of response include the degree of threat to a community, the number of DFES regions impacted

<sup>12</sup> DFES, Fire & Emergency Services Manual – Part Two, 2016, p. 5.

by the tsunami and whether a multi-agency response is required.

If the tsunami is likely to result in a significant event, which may have a large impact on WA attracting national attention, DFES will send Situation Reports to the Australian Government Crisis Coordination Centre (CCC) regarding actions taken for this event. This will assist in providing Whole of Australian Government situational awareness.

Should another hazard occur as a consequence of a tsunami emergency and, if DFES is not the HMA/Controlling Agency for the consequent hazard then the provisions of State EM Plan section 5.1.2 will apply. DFES shall remain responsible for the overall management of the tsunami emergency.

### 4.3 NOTIFICATIONS

The Joint Australian Tsunami Warning Centre (JATWC) is run jointly by BoM and GA and operates 24 hours a day. The JATWC detects, monitors, verifies and warns of any tsunami threat to the coastline of Australia and its offshore territories. It provides a comprehensive, independent tsunami warning service to advise the media, public and emergency authorities of any tsunami threat to Australia and its offshore territories.

The JATWC issues Tsunami Watches and Tsunami Warnings (described below). These are used in BoM and DFES alerts to alert participants in State Hazard Plan – Tsunami. The BoM Perth Regional Forecasting Centre (RFC) is the primary liaison point for DFES during a tsunami.

#### 4.4.1 Distribution of Tsunami Bulletins and Warnings

Media organisations across WA work with DFES and BoM to inform the public in the case of a tsunami event. Tsunami warning distribution lists are maintained at BoM Perth RFC. These distribution lists are used for both the National Bulletins and Regional Warnings and are all issued through JATWC. In addition to the media, key agencies such as DFES, emergency services, local councils, port authorities, and police are included on these dissemination lists. The bulletin and warning messages are also automatically uploaded to the BoM website and a phone advice line (1300 TSUNAMI or 1300 878 6264).

### 4.4 TYPES OF TSUNAMI WARNING SYSTEMS

If the tsunami has been generated by an earthquake, the Australian Government CCC would have already notified DFES of the earthquake as per their Standard Operating Procedures.

There are five different types of Tsunami Warning messages as described in the following paragraphs and in Figure 2 below.

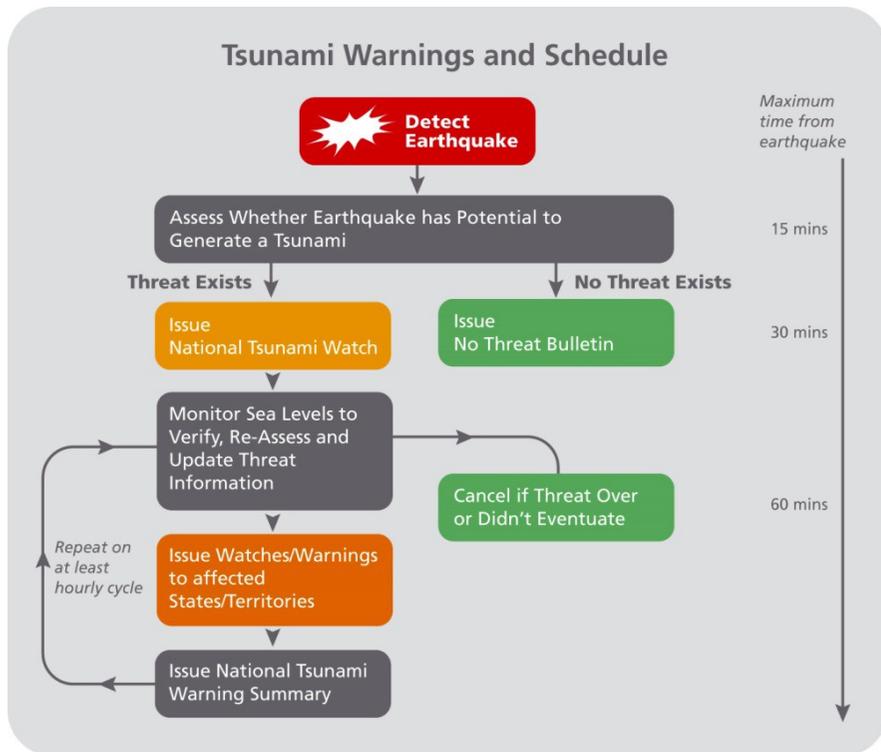


Figure 2 Tsunami Warnings and Schedule<sup>13</sup>

#### 4.5.1 National No Threat Bulletin

Where JATWC have determined there has been an undersea earthquake, or other causal event, but there is no tsunami threat to Australia, the JATWC will issue a *National No Threat Bulletin*.

<sup>13</sup> [www.bom.gov.au/tsunami/about/tsunami\\_warnings.shtml](http://www.bom.gov.au/tsunami/about/tsunami_warnings.shtml)

#### Tsunami Watch

If JATWC advises that a *Tsunami Watch* is current off the WA coast, the CCC will notify DFES of the warning issued and advise them to monitor the BoM website. WA's BoM's Regional Offices will also be notified of the warnings by JATWC.

Where JATWC determines there has been an undersea earthquake or other event which has potential to cause a tsunami threat to Australia, the JATWC will issue a *National Tsunami Watch*. If a tsunami remains unconfirmed by sea level observations and any potential first point of impact on Australia is more than 90 minutes away (the minimum time criteria for warning), then the *National Tsunami Watch* may be reissued. A State-based watch may be issued if a 'warning' or 'no threat' exists for other parts of Australia.

#### 4.5.2 Tsunami Warning

If sea level observations and further data confirm the tsunami threat, the JATWC will issue a *Tsunami Warning* through its warning system communication infrastructure. Alternatively, even if sea level observations have not yet detected the tsunami, but the potential first point of impact is less than 90 minutes away, then a *Tsunami Warning* will also be issued.

#### 4.5.3 National Tsunami Warning Summary

When separate tsunami watches or warnings are being issued for individual States and Territories, a *National Tsunami Warning Summary* will also be issued listing all the watches,

warnings and cancellations that are in effect for the current tsunami event.

The BoM website ([www.bom.gov.au/tsunami/?ref=fr](http://www.bom.gov.au/tsunami/?ref=fr)) will provide a complementary coastal threat graphic showing the regions currently under threat.

#### 4.5.4 Tsunami Watch/Warning Cancellation

When the main threat has passed or if a tsunami does not eventuate, the JATWC will issue a *Tsunami Watch Cancellation* or *Tsunami Warning Cancellation*. A *National Tsunami Event Summary* is then issued after the event.

#### 4.5.5 Threat Levels within Tsunami Warnings

Tsunami threat levels are specified for each of the coastal areas used for routine BoM Coastal Waters Forecasts. *Regional Tsunami Warnings* are categorised into three levels with required community responses as follows:

- **No threat:** An undersea earthquake has been detected, however it has not generated a tsunami, or the tsunami poses no threat to Australia and its offshore territories.
- **Marine and immediate foreshore threat:** Warning of potentially dangerous waves, strong ocean currents in the marine environment and the possibility of only some localised overflow onto the immediate foreshore.
- **Land inundation threat:** Warning for low-lying coastal areas of major land inundation, flooding, dangerous waves and strong ocean currents.

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<sup>14</sup> *Fire and Emergency Services Act 1998* s 18B

#### Emergency Alert

Emergency Alert is a warning system that uses web technology to send alerts to home phones and mobiles. It is an additional public information tool that can be used for any emergency where there is an imminent threat, to alert people in a specific location.

The IC or Public Information Officer can request an Emergency Alert by calling the DFES State Situation Analysis Officer.

#### 4.5.6 Standard Emergency Warning Signal (SEWS)

The Standard Emergency Warning Signal (SEWS) is a distinctive siren sound to alert the community to the broadcast of an urgent safety message relating to a major emergency. SEWS is intended for use as an alert signal to be played on public media such as radio, television, or public address systems to draw listeners' attention to the emergency warning that follows. SEWS should only be used when issuing Emergency Warnings as there is a need to warn people to take urgent and immediate action to reduce the potential for loss of life or property from emergency events. **Note that it is not required for all Emergency Warnings.**

#### 4.5 DECLARATION OF AN EMERGENCY SITUATION OF STATE OF EMERGENCY

The FES Commissioner has powers in relation to natural disasters under the *Fire and Emergency Services Act 1998*<sup>14</sup>. These powers are wide-ranging and are normally adequate to respond to tsunami emergencies. Should additional powers be required, the EM Act can be used to access emergency powers



through the declaration of an 'Emergency Situation'<sup>15</sup> or a 'State of Emergency'<sup>16</sup>.

#### 4.6 EVACUATION ARRANGEMENTS

Evacuation is a risk mitigation strategy that may be used to mitigate the effects of an emergency on a community. The decision to evacuate is complex and requires careful consideration to ensure residents are not placed at greater risk.

Facilities and community groups ensure that appropriate actions are taken to ensure the best possible safety of the community. This may include the identification of refuges and safer places as required. DFES retains a list of evacuation centres provided by the Department of Communities and manages the sharing of centre activations and status through WebEOC.

Refuge sites and evacuation centres should be identified in LEMAs<sup>17</sup>, and are identified and established in partnership with LG and Department of Communities.

#### 4.7 FINANCIAL ARRANGEMENTS

Where no additional arrangement has been made with DFES, only expenditure approved by the IC, OAM or DFES Duty Assistant Commissioner will be funded by DFES.

The SEMC website details the criteria for a variety of funding situations and should be consulted to determine the funding arrangements.

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<sup>15</sup> *Emergency Management Act 2005* s50

<sup>16</sup> *Emergency Management Act 2005* s56

<sup>17</sup> State EM Policy section 5.7.4

## 5 RECOVERY

The HMA or Controlling Agency has a role in initiating both relief and recovery during emergencies. It is the responsibility of the Controlling Agency to gain an understanding of known or emerging impacts during the response to an emergency incident and to coordinate the completion of an Impact Statement. The Impact statement should be provided to the members of the Incident Support Group (ISG), Recovery Coordinators and the ROC/MOC and OAM.

The Controlling Agency with responsibility for the response to an emergency will initiate recovery activity during the response to that emergency. To facilitate recovery, it will:

- liaise with the Local Recovery Coordinator/s where the emergency is occurring and include them in the incident management arrangements including the ISG and OASG;
- gain an understanding of known or emerging impacts for the emergency and provide that assessment to the Local Recovery Coordinator and the State Recovery Coordinator;
- coordinate completion of the Impact Statement prior to the transfer of responsibility for management of recovery to the affected local government(s), in accordance with [State EM Recovery Procedure 4](#), and in consultation with the ISG, all affected local governments and the State Recovery Coordinator; and

- Provide risk management advice to the affected community (in consultation with the HMA).

The impacted local government is responsible for managing the community recovery process.

During emergencies, the respective Controlling Agency will ensure that relief agencies are provided access to the affected community however, at all times will ensure that access to the affected area is limited to ensure community safety, security and welfare. The Controlling Agency will assist relief agencies to deliver essential services in safe and accessible community based locations<sup>18</sup>.

Recovery activities will be undertaken in accordance with the State EM Policy section 6, State EM Plan section 6, and will commence during the response phase. As such, there needs to be high levels of understanding and cooperation between response and recovery organisations at each level (State, District, local).

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<sup>18</sup> DFES, WA Fire and Emergency Services Manual – Part One: Overview, 2017, p. 20.



## APPENDIX A: DISTRIBUTION LIST

This State Hazard Plan for tsunami is available on the SEMC website ([www.semc.wa.gov.au](http://www.semc.wa.gov.au)). The agencies below will be notified by the HMA (unless otherwise specified) when an updated version is published on this website.

- All agencies and organisations with responsibilities under this Plan
- Emergency Management Australia (SEMC Business Unit to notify)
- Minister for Emergency Services (SEMC Business Unit to notify)
- Minister for Planning
- Minister for Police
- State Emergency Management Committee (SEMC), SEMC subcommittee and SEMC reference group members (SEMC Business Unit to notify)
- State Library of Western Australia (SEMC Business Unit to notify).

## APPENDIX B: ACRONYMS

<b>AIA</b>	Arrangements for Interstate Assistance
<b>ATAG</b>	Australian Tsunami Advisory Group
<b>BoM</b>	Bureau of Meteorology
<b>CCC</b>	Australian Government Crisis Coordination Centre
<b>CCOSC</b>	Commissioners and Chief Officers Strategic Committee
<b>DEMC</b>	District Emergency Management Committee
<b>DFES</b>	Department of Fire and Emergency Services
<b>EMA</b>	Emergency Management Australia
<b>FES</b>	Fire and Emergency Services
<b>GA</b>	Geoscience Australia
<b>HMA</b>	Hazard Management Agency
<b>IC</b>	Incident Controller
<b>IMT</b>	Incident Management Team
<b>ISG</b>	Incident Support Group
<b>JATWC</b>	Joint Australian Tsunami Warning Centre
<b>LEMA</b>	Local Emergency Management Arrangements
<b>LEMC</b>	Local Emergency Management Committee
<b>LG</b>	Local government

<b>MOC</b>	Metropolitan Operation Centre
<b>NRSC</b>	National Resource Sharing Centre
<b>OAM</b>	Operational Area Manager
<b>PIA</b>	Post Incident Analysis
<b>RFC</b>	Regional Forecasting Centre
<b>ROC</b>	Regional Operation Centre
<b>SEMC</b>	State Emergency Management Committee
<b>SEWS</b>	Standard Emergency Warning Signal
<b>SOC</b>	State Operations Centre
<b>SOCMET</b>	State Operation Meteorologist
<b>USAR</b>	Urban search and rescue
<b>WAPC</b>	Western Australian Planning Commission

## APPENDIX C: RESPONSE ROLES AND RESPONSIBILITIES

### Introduction

DFES, through the FES Commissioner as the HMA, has the primary role of coordinating the response to tsunami emergencies. However, DFES requires the support and assistance of other organisations to ensure an integrated community response occurs.

### Agency Responsibilities

The following are the response roles and responsibilities of agencies under this Plan. Brief all-hazards information is also provided for agencies who may have a role under this Plan – full details of these roles and responsibilities can be found in the [State Emergency Management Plan](#), Appendix E.

**Note:** The capability and commitment of each local government to undertake the tasks and meet the responsibilities identified in this State Hazard Plan should be confirmed by the HMA and detailed in Local Emergency Management Arrangements. This will ensure the varying capabilities of individual local governments are recognised.

Organisation	Responsibilities (see State EM Plan Appendix E for full all-hazards roles and responsibilities)
<b>Bureau of Meteorology</b>	<ol style="list-style-type: none"><li>Provide 24/7 tsunami warning services to Australia together with Geoscience Australia as JATWC.</li><li>Provide a tsunami, interpretation and notification service when a tsunami warning is issued.</li><li>Participate in research and development of tsunami models and techniques to improve tsunami notification.</li><li>Establish and maintain data collection networks and monitor tsunami events.</li><li>Contribute to the planning, installation and maintenance of new and improved tsunami notification systems.</li><li>Participate in community awareness programs on tsunami warning systems.</li><li>Provide a State Operations Centre Meteorologist (SOCMET) to DFES State Operations Centre, during normal working hours and/or after hours. Alternative liaison officers are Regional Manager Severe Weather, Regional Forecasting Centre Operations Manager, Manager Weather Services or Regional Director as required.</li><li>Provide a representative for SECG, if required.</li></ol>

Organisation	Responsibilities (see State EM Plan Appendix E for full all-hazards roles and responsibilities)
<b>Department of Communities</b>	<ul style="list-style-type: none"> <li>a. Coordinate welfare services for those impacted by the incident including operating welfare centres and providing crisis support services (emergency accommodation, emergency clothing and personal requisites, personal services, financial assistance, emergency catering), as required.</li> <li>b. Coordinate and facilitate registration and reunification, including arranging for Register.Find.Reunite. to be activated via the Australian Red Cross, as required.</li> <li>c. In consultation with DFES, and consideration of available resources, determine the number and location of evacuation centres to be opened during a tsunami emergency.</li> <li>d. Provide a liaison officer to DFES SOC, if required.</li> <li>e. Provide a representative for SECG, if required.</li> </ul>
<b>Department of Fire &amp; Emergency Services</b>	<ul style="list-style-type: none"> <li>a. Discharge the duties of HMA and Controlling Agency for tsunami emergencies, in accordance with the EM Act and State EM Policy Section 5 and State EM Plan Section 5.</li> <li>b. Ensure the development and maintenance of response and risk treatment plans specific to tsunamis.</li> <li>c. Recommend the adoption of risk treatment strategies to State, District and Local Emergency Management Committees.</li> <li>d. In cooperation with other agencies, provide communities with tsunami risk awareness, information and education.</li> <li>e. Raise, train and equip an emergency service capable of responding to the effects of a tsunami.</li> <li>f. Liaise with local government in the provision of incident control centres in tsunami susceptible areas of the State.</li> <li>g. Appoint emergency managers at all levels for a particular tsunami.</li> <li>h. Facilitate the provision of assistance as required.</li> <li>i. Request activation of a SECG if required.</li> </ul>
<b>Department of Planning, Lands and Heritage</b>	<ul style="list-style-type: none"> <li>a. Incorporate tsunami risk treatment measures into state and local planning and development processes.</li> <li>b. Provide a liaison officer to DFES SOC, if required.</li> <li>c. Provide a representative for SECG, if required.</li> </ul>

Organisation	Responsibilities (see State EM Plan Appendix E for full all-hazards roles and responsibilities)
<b>Emergency Management Australia</b>	<ul style="list-style-type: none"> <li>a. Notify DFES regarding seismic events magnitude 3.5 and above within WA.</li> <li>b. Notify DFES regarding a Tsunami Watch, warning messages and Tsunami Watch/Warning Cancellation.</li> <li>c. Activate COMDISPLAN if required to provide Australian Government non-financial assistance.</li> <li>d. Provide a Liaison Officer to DFES's SOC if required.</li> <li>e. If required, develop an Australian Government Incident Brief.</li> <li>f. If required, develop Australian Government Talking Points.</li> </ul>
<b>Energy Suppliers and Network Managers</b>	<ul style="list-style-type: none"> <li>a. Disconnect and restore energy services as prioritised by DFES or the designated recovery authority. Restoration priority will include consideration of other lifeline interdependence requirements.</li> <li>b. Provide technical advice to DFES in relation to energy supply, disconnection and restoration.</li> <li>c. Assist in the provision of emergency energy as requested by DFES or the designated recovery authority.</li> <li>d. Provide a liaison officer to DFES SOC, if required.</li> <li>e. Provide a representative for SECG, if required.</li> </ul>
<b>Local governments</b>	<ul style="list-style-type: none"> <li>a. Participate in community awareness programs on tsunami risks.</li> <li>b. Provide resources to assist DFES when requested.</li> <li>c. Make available suitable local government buildings to be used as evacuation centres.</li> <li>d. Close and open roads within their jurisdiction, when requested by DFES.</li> <li>e. Provide details on road conditions to DFES.</li> <li>f. Initiate and lead the local community through the recovery process.</li> <li>g. Inspect and declare buildings safe and fit for habitation.</li> </ul>
<b>Main Roads WA</b>	<ul style="list-style-type: none"> <li>a. Provide advice to DFES of the potential and actual impacts of tsunamis on the State road network.</li> <li>b. Close and open State roads when requested to do so by DFES. This Plan recognises that the Commissioner of Main Roads (or delegated Officers) has the power to close or open roads under the <i>Main Roads Act 1930</i>.</li> <li>c. Assist in the recovery process through State road and State road infrastructure repair and reconstruction.</li> <li>d. Communicate road closures to the public.</li> <li>e. Provide a liaison officer to DFES SOC, if required.</li> <li>f. Provide a representative for SECG, if required.</li> </ul>

Organisation	Responsibilities (see State EM Plan Appendix E for full all-hazards roles and responsibilities)
<b>Public Transport Authority</b>	<ul style="list-style-type: none"> <li>a. Provide advice to DFES of the potential and actual impacts of a tsunami on the public transport system.</li> <li>b. Close and open transport services when requested by DFES.</li> <li>c. Assist in the recovery process through rail infrastructure repair and reconstruction.</li> <li>d. Communicate service closures to the public.</li> <li>e. Provide a liaison officer to DFES SOC, if required.</li> <li>f. Provide a representative for SECG, if required.</li> </ul>
<b>Surf Life Saving WA</b>	<ul style="list-style-type: none"> <li>a. Support DFES in conducting beach evacuations and warnings.</li> <li>b. Provide real time aerial surveillance through SLSWA Drone and Helicopter services.</li> <li>c. Assist in the recovery process through provision of assets for inshore rescue/recovery post impact.</li> <li>d. In the event of mass casualties provide on-scene first responders/first aiders.</li> <li>e. Provide a liaison officer to DFES SOC, if required.</li> <li>f. Provide access to SLSWA's Beach Camera Surveillance Network</li> </ul>
<b>Telstra</b>	<ul style="list-style-type: none"> <li>a. Provide advice regarding the provision of emergency communications services.</li> <li>b. Give priority consideration to emergency communications requirements of authorities responsible for hazard and emergency management within WA. Actual service provision and restoration priorities will depend on Telstra's network configuration, the safety and availability of staff, material availability, local community issues and national and local security issues.</li> <li>c. Provide a liaison officer to DFES SOC, if required.</li> </ul>
<b>Water Corporation WA</b>	<ul style="list-style-type: none"> <li>a. Restore water supplies and sewerage systems as prioritised by DFES or the designated recovery coordinator.</li> <li>b. Ensure water quality delivered by the system meets appropriate health standards.</li> <li>c. Provide a liaison officer to DFES SOC, if required.</li> <li>d. Assist with the provision of potable water to affected communities until normal services are restored.</li> </ul>

Organisation	Responsibilities (see State EM Plan Appendix E for full all-hazards roles and responsibilities)
<b>Western Australia Police Force</b>	<ul style="list-style-type: none"> <li>a. Support DFES in conducting evacuations.</li> <li>b. Assist DFES with security of evacuated areas.</li> <li>c. In the event of mass casualties provide Disaster Victim Identification.</li> <li>d. Assist with the provision of road traffic management where appropriate.</li> <li>e. Provide a liaison officer to DFES SOC, if required.</li> <li>f. Provide an emergency coordinator to the IMT/ISG and/or OASG</li> <li>g. Provide a representative for SECG, if required.</li> </ul>