State Emergency Response Plan
Storm Sub-Plan
Edition 1

Working in conjunction with communities, government, agencies and business
This plan has been endorsed by the State Crisis and Resilience Council (SCRC) as a subplan to the State Emergency Response Plan.
# Contents

1 Introduction 1
   1.1 Purpose 1
   1.2 Objective 1
   1.3 Scope 1
   1.4 Authorising environment 2
   1.5 Activation of the plan 2
   1.6 Audience 2
   1.7 Linkages 2
   1.8 Exercising and evaluation 3
   1.9 Review 3

2 The emergency context 4
   2.1 The Storm Hazard 4
      2.1.1 Severe Weather and Severe Thunderstorm 4
      2.1.2 Severe Thunderstorm Climatology 5
      2.1.3 Severe Weather Climatology 7

3 Consequences 8
   3.1 Consequences of Storms in Victoria 8
   3.2 Recent Damaging Storms in Victoria 8

4 Community resilience 11
   4.1 Shared and Individual Responsibility for Action 11
   4.2 Forecasting and Warning Services 12
      4.2.1 Forecasting Services 12
      4.2.2 Severe Weather 12
      4.2.3 Bureau of Meteorology bi-weekly teleconferences 12
      4.2.4 Severe Thunderstorm Forecast Chart 13
      4.2.5 Bureau of Meteorology Warnings to the Public 13
      4.2.6 Bureau of Meteorology Severe Weather Warnings 13
   4.3 Critical Infrastructure Resilience 16
   4.4 Household, Business and Farm Plans 16
   4.5 Community Safety Advice 16

5 Collaboration 17
   5.1 Escalation and notification 17
   5.2 Emergency Management Commissioner 18
   5.3 Agency roles and responsibilities 18
      5.3.1 The Role of the Victoria State Emergency Service 18
      5.3.2 Supporting Agency roles and responsibilities 19
   5.4 Victorian government management arrangements 19
   5.5 Emergency Management Team 19
   5.6 Consequence Management 20
   5.7 Reporting to Government 20
   5.8 Management of Spontaneous Volunteers 20
6 Capability
   6.1 Regional Storm Planning 21
   6.2 Municipal Storm Emergency Planning 21

7 Managing a Storm Event 22
   7.1 Concept of Operations 22
   7.2 Strategic Response Planning 22
   7.3 Community Information 23
   7.4 Initial Impact Assessment 24
   7.5 Evacuation 24
   7.6 Energy 25
   7.7 Medical Response 25
   7.8 Debris Removal 25
   7.9 Emergency Relief 26
   7.10 Recovery 26

8 Appendix A - Roles and Responsibilities of Supporting Agencies 27

Figures and Tables

Figure 1: Monthly distribution of reported severe thunderstorm events in Victoria July 2000 to June 2010 6

Figure 2: Occurrence times of reported severe thunderstorm events between July 2000 to June 2010 6
1 Introduction

1.1 Purpose
This State Emergency Response Plan Storm Sub Plan outlines the Victorian arrangements for managing storm.

1.2 Objective
The objective of the State Emergency Response Plan (Storm Sub-plan) is to provide sources of information and to outline the arrangements for ensuring an integrated and coordinated approach to the State’s management of storm events, in order to reduce the impact and consequences of these events on the community, infrastructure and services.

1.3 Scope
This State Emergency Response Plan (Storm Sub-plan) includes:

- Description of potential risks and consequences of storms to the social, built, economic and natural environments;
- The policy and programs in place to mitigate these risks before, during and after a storm event;
- The positions with accountability and the agencies responsible for managing specific strategies;
- The multi-agency management arrangements at the national, state, regional and local levels; and
- Links to sources of information where the reader can obtain further detail.

This plan provides strategic information about the Victorian arrangements for managing the response to a storm event. It does not include detail about the operational activities of individual agencies.
1.4 Authorising environment


The State Emergency Response Plan (Part 3, EMMV) identifies Victoria’s organisational arrangements for managing the response to emergencies. This sub-plan is a subordinate plan of the State Emergency Response Plan and has been approved by the State Crisis and Resilience Council (SCRC).

In addition to the Emergency Management Act, the following Acts and Regulations relate to the management of storm:

- Victoria State Emergency Service Act 2005
- Essential Services Act 1958
- Planning and Environment Act 1989
- Local Government Act 1989
- Meteorology Act 1955 (Commonwealth)

1.5 Activation of the plan

The arrangements in this plan apply on a continuing basis and do not require activation.

1.6 Audience

The audience for this plan comprises the Victorian Government and agencies within the emergency management sector, including business and community groups with a significant role in the management of the emergency.

Although the wider community is not the primary audience, community members may find the contents of this plan informative.

1.7 Linkages

This plan is a sub-plan of the State Emergency Response Plan. It reflects legislation, the arrangements in the State Emergency Response Plan, the strategic direction for emergency management in Victoria and the accepted State practice for managing emergencies. The arrangements in the State Emergency Response Plan have not been repeated unless necessary to ensure context and readability. Any variations from these arrangements have been identified and justified. The State Emergency Response Plan can be accessed at [www.emv.vic.gov.au/policies/emmv].
The arrangements for secondary consequences of storm are contained in:

• For flooding: the State Emergency Response Plan Flood Sub-plan;
• For health: the State Health Emergency Response Plan; and
• For rescue: the Victorian Urban Search and Rescue Response Arrangements.

Where necessary specific Regional Storm Plans are developed and arrangements are contained within Municipal Emergency Management Plans (MEMPs).

Regional Storm Plans can be found at www.ses.vic.gov.au/em-sector/em-planning/em-planning

1.8 Exercising and evaluation

This plan will be exercised within one year from the date of approval. The exercise will be evaluated and, where improvements to the emergency management arrangements in this plan are required, the plan will be amended and a revised version issued. Exercises will be conducted in accordance with the State Exercising Framework.

1.9 Review

This plan was current at the time of publication and remains in effect until modified, superseded or withdrawn.

This plan will be reviewed and updated every 3 years. Consideration will be given to an earlier revision if the plan has been applied in a major emergency or exercise, or following a substantial change to the relevant legislation or arrangements.
2 The emergency context

2.1 The Storm Hazard

Storms in the context of this plan include wind storms, dust storms, tornados, snow storms, blizzards, hail storms and severe thunderstorms including hail storms and heavy rain leading to flash flooding.

Severe weather events affecting land based communities are generally divided into two broad categories:

- thunderstorm events; and
- other severe weather events not directly associated with severe thunderstorms, tropical cyclones or bushfires.

Warnings are issued by the Bureau of Meteorology for weather events that may exhibit severe phenomena.

2.1.1 Severe Weather and Severe Thunderstorm

In Australia, a severe thunderstorm is defined by the Bureau of Meteorology as one that produces any of the following:

- Hailstones with a diameter of 2cm or more;
- Wind gusts of 90km/h or greater;
- Flash flooding; or
- Tornados.

The types of hazardous phenomena from severe weather include land gales and squalls, heavy rain leading to flash flooding and blizzards.

Typical weather patterns that can cause severe weather include:

- Recently decayed tropical cyclones moving into southern regions and sometimes interacting with cold fronts;
- East coast lows: Deep low pressure systems that can form in the Tasman Sea and affect the Gippsland coast;
- Vigorous squally cold fronts;
- Strong pressure gradients, often due to cold fronts, causing land gales - particularly in exposed alpine regions;
- Distant tropical cyclones or deep southern low pressure systems that can produce ocean swells that reach the Australian shores causing dangerous surf; and
- Locally intense rainfall, particularly in susceptible areas that can cause flash flooding.

The table below details the criteria for issuing Severe Thunderstorm Warnings and Severe Weather Warnings.

**Table 1:** Criteria for issuing Severe Thunderstorm Warnings and Severe Weather Warnings

<table>
<thead>
<tr>
<th>PHENOMENON</th>
<th>SEVERE THUNDERSTORM WARNING</th>
<th>SEVERE WEATHER WARNING</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wind (Gusts)</td>
<td>Gusts 90 km/h or more</td>
<td>Gusts 90 km/h or more</td>
</tr>
<tr>
<td>Wind (Average)</td>
<td>Widespread winds overland 63 km/h or more (Gale force)</td>
<td></td>
</tr>
<tr>
<td>Tornado</td>
<td>All tornados</td>
<td>Widespread blizzards in Alpine areas</td>
</tr>
<tr>
<td>Blizzard</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flash Flood</td>
<td>Heavy rainfall that is conducive to flash flooding or a reported flash flood</td>
<td>Heavy rainfall is conducive to flash flooding or a reported flash flood</td>
</tr>
<tr>
<td>Large Hail</td>
<td>Hail with diameter of at least 2cm</td>
<td></td>
</tr>
<tr>
<td>Storm Surge</td>
<td>Abnormally high tides caused by winds (expected to exceed highest astronomical tide)</td>
<td></td>
</tr>
<tr>
<td>Large Waves</td>
<td>Unusually large surf waves expected to cause dangerous conditions on the coast (dependent on location - but generally surf exceeding 5m, less in the tropics). Large surf is common place in SA, Vic and Tas, so warnings are only issued there for extreme events.</td>
<td></td>
</tr>
</tbody>
</table>

A Severe Thunderstorm Warning is issued if the severe phenomena are directly caused by the Thunderstorm.

A Severe Weather Warning is issued if the severe phenomena are not directly the result of severe thunderstorms; and it is not covered by tropical cyclone or fire weather warnings.

### 2.1.2 Severe Thunderstorm Climatology

Figure 1 shows the monthly distribution of severe thunderstorm events according to the severe phenomenon observed. The graph shows that most severe thunderstorms occur between October and April. January is the most active month for Severe Thunderstorms followed by December then November. The number of events when large hail or heavy rainfall is reported follows this overall trend closely with very few events during the winter months. Conversely, the number of tornado events is quite evenly distributed throughout the year. This could be due to the fact that tornados can form in cold-air mass thunderstorms as well as in warm-air mass super cell thunderstorms.
The occurrence of Severe Thunderstorm Events can also be stratified by time of day as shown in Figure 2. The graph indicates that although severe thunderstorms can occur at any time of the day or night, it is the afternoon and evening period when severe thunderstorms are more frequent.

Only about 10 percent of thunderstorms are severe, but these account for approximately 90 percent of the damage produced by all thunderstorms (however they all produce lightning which can cause death, injury and damage).
Individual thunderstorms are small-scale and short-lived phenomena - a thunderstorm is typically only about 10 km across and is active for 30 minutes (approximately). At any one time there can be many thunderstorms affecting a district, only some of which may be severe. Not all locations highlighted in a Warning will experience severe thunderstorms. The Warning only indicates that some of the thunderstorms in the area are expected to be severe.

2.1.3 Severe Weather Climatology

The most frequent types of severe weather event that are not directly related to thunderstorms are wind storms (land gale force winds) associated with the passage of a cold front or intense low pressure systems across Victoria. These can occur at any time of year although are more common in the winter and spring months when intense low pressure systems and cold fronts are stronger and more common.

Flooding is mostly a winter-spring phenomenon in Victoria, also associated with unusually frequent low pressure systems and fronts. However some major events have occurred in the summer half-year as systems of tropical origin extend or move south.

A blizzard is a violent and very cold wind which is loaded with snow, some of which has been raised from snow covered ground. It does not have to be snowing to have blizzard conditions and the winds should be at least gale force (average 63km/h or more). Blizzards are confined to Alpine areas in Victoria and mainly occur during the winter and early spring months but can also occur in Autumn.
3 Consequences

3.1 Consequences of Storms in Victoria

Consequences of storms in Victoria vary but may include:

- loss of life or serious injury
- damage to or loss of:
  - key infrastructure - road, rail, public buildings;
  - essential services - power, water, gas, telecommunications;
  - private property;
  - industry/ business;
  - agriculture - crop and livestock; and
  - damage to the environment.

Due to damage to essential services storms can cause significant disruption to community functioning including business and transport disruption.

3.2 Recent Damaging Storms in Victoria

**13 November 1976:** Tornado near Sandon in central Victoria. Two people were killed, winds estimated at 300 km/h, trail of destruction 400 m wide and 6 km long.

**2 April 2008:** Strong northerly winds developed across central and western Victoria. Maximum wind gusts at Dunns Hill of 115 km/h. Areas of raised dust from the western half of the State, with visibility down to 200 m in some places. Flying vegetation and debris caused major disruption to Melbourne traffic and public transport systems and extensive damage to the electricity distribution network. Lanes were closed on the Westgate bridge with wind gusts close to 120 km/h.

**6 March 2010:** Severe thunderstorms developed to the northwest of the Melbourne bringing isolated severe wind gusts. Flash flooding was widespread; hailstones measuring 2-10 cm caused damage to homes and buildings mainly in the Knox area. Victoria State Emergency Service received 7,500 requests for assistance. Insurance claims exceeded $1 billion.
4 February 2011: Severe thunderstorms developed over Victoria as a result of the tropical moisture associated with Tropical Cyclone Anthony and ex Tropical Cyclone Yasi, extending from Central Australia, through Mildura, Melbourne, to north-eastern Tasmania. The extremely high humidity levels resulted in record daily and multi-day rainfall totals to areas of north-east and south-east Victoria. A damaging microburst caused damage west of Melbourne at Laverton with wind speed strengthened from calm to 131 km per hour in six minutes causing damage to vegetation and structures within an area of approximately one square kilometre. Victoria State Emergency Service received more than 6000 requests for assistance.

28 September 2011: Thunderstorms and heavy rain occurred across Victoria. Melbourne recorded its wettest September day with more than 48 mm of rain falling in the city in the 24 hours. Electrical storms disrupted flights and public transport and left tens of thousands of homes without power. Hail caused significant crop damage in the Mildura area. In the north-east of Victoria, Tolmie weather station recorded the highest record of 101 mm in a day.

25 December 2011: Thousands of homes were damaged when thunderstorms swept across Melbourne, bringing flash flooding and hail. Over a seven hour period up to five long-lived supercells (very severe long lasting thunderstorm cells) moved eastwards across Melbourne. The northern suburbs of Eltham, Broadmeadows and Keilor were among the worst hit. There were reports of two tornadoes in Fiskville and Melton. In some places cars were upended. Victoria State Emergency Service received more than 4200 requests. Insurance payments exceeded $700 million.

21 March 2013: At least 20 people were injured and taken to hospital, with two in a critical condition, after two tornadoes with wind gusts between 180 and 250 km/h cut a path of destruction across Victoria’s north-east. The Victoria State Emergency Service received 150 calls for assistance when the tornadoes hit the towns of Yarrawonga, Mulwala, Bundalong, Rutherglen and Euroa causing damage to properties, businesses and infrastructure.

25 September – 1 October 2013: A series of strong windstorms affected most parts of Victoria for several days. Gusts of up to 142 km/h were recorded, putting the strength of the storms into the range of Category 1 tropical cyclones. The Victoria State Emergency Service received over 3,600 calls for assistance. Apart from fallen trees damaging cars and houses, power outages affected many thousands of premises.

27 January 2016: Severe thunderstorms impacted the Geelong area with isolated heavy rainfall, high winds, hail and flash flooding. Rainfall at Avalon and was determined to be a one-in-100 year event with 72mm falling in a short period of time and rain at Geelong , a one in 50 year event.
Flash flooding required significant multi-agency response at incident, region and state levels. Victoria State Emergency Service (VICSES) and Country Fire Authority (CFA) responded to more than 350 requests for assistance (RFA) during the afternoon of Wednesday 27 January and morning of Thursday 28 January. Eighteen people were rescued from their cars, while a man was struck by lightning in Highton. Significantly, no lives were lost.

The storm caused significant damage to over 300 properties, including impact to 213 residences, 18 schools, 5 early learning centres, and 74 council-owned buildings. The storm damaged essential assets, including road, drains, and other infrastructure. It also led to outages of the mobile phone and electricity networks. A total of 35 residential properties were designated as uninhabitable due to storm damage.
4 Community resilience

4.1 Shared and Individual Responsibility for Action

The National Strategy for Disaster Resilience, developed by the Council of Australian Governments, provides high-level guidance on disaster management to agencies with a role in emergency management.

Foremost in the Strategy is the principle of all of society taking responsibility for preparing for disasters. Examples in the context of storms include:

- Individuals being aware of their storm risk, and following advice from emergency services when responding to warnings.
- Local governments and communities including storm risk within their Community Emergency Risk Assessment activities, including consideration within emergency management planning and land use planning.
- Industry and businesses planning for the risk of disruption, and ensuring arrangements are in place to maintain critical services, and assist communities where possible.
- Government agencies undertaking:
  - Risk assessments to gain an appreciation of storm risk;
  - Engaging with the community regarding storm risk;
  - Working with communities to plan the management of storm risk;
  - Providing emergency information and storm warnings;
  - Ensuring an effective, well-coordinated response during storms; and
  - Helping communities to recover and learn following a storm and build their resilience to future events.
The Victoria State Emergency Service (VICSES) has developed a Community Resilience Strategy. A key and measurable outcome of the Strategy is to increase the level of interest, and support behaviour change within our communities, so they are more aware, informed and prepared for emergencies - supporting them to understand their risk, and the relevance of taking action before, during and after emergencies. Information can be found at: www.ses.vic.gov.au

4.2 Forecasting and Warning Services

4.2.1 Forecasting Services
The Bureau of Meteorology have a requirement under their Act to warn the community and provide the following services to the Victoria State Emergency Service.

4.2.2 Severe Weather
Severe Weather Outlook will be provided by the Bureau of Meteorology to the Victoria State Emergency Service - a five day outlook produced twice weekly for severe weather events involving significant rain, hail and wind but excluding severe thunderstorms (distribution is restricted to registered users). On assessment of the weekly Severe Weather Outlook, if there is potential for impact, the Victoria State Emergency Service will advise appropriate agencies (including Emergency Services Telecommunications Authority (ESTA) and Telstra 000).

4.2.3 Bureau of Meteorology bi-weekly teleconferences
As part of a partnership agreement, the Victoria State Emergency Service and the Bureau of Meteorology will conduct a “Weather Outlook Teleconference” twice a week with the purpose of briefing the Victoria State Emergency Service on the five to six day weather outlook, based on the “Severe Weather Outlook” product and where relevant the “Thunderstorm Chart”. If significant weather is predicted the Victoria State Emergency Service will commence notifications to other stakeholders for preparedness purposes. The Victoria State Emergency Service may instigate additional teleconferences for an impending event or during an event with attendance by the Victoria State Emergency Service Regional or State Emergency Management Team representatives when required.
4.2.4 Severe Thunderstorm Forecast Chart

The Thunderstorm Forecast is issued at 11.30am each day of the year and is valid for the rest of the day. The chart will indicate where thunderstorms are expected to develop, the chance of thunderstorms occurring and where thunderstorms are expected to be severe. This forecast chart is to assist Victoria State Emergency Service set preparedness levels for the current day. The Thunderstorm Forecast Chart is updated at 4pm if a “Severe Thunderstorm Likely” area has been delineated. Although the duty meteorologist will do their best to predict areas where severe thunderstorms are likely, they may develop outside of the “Severe Thunderstorm Likely” area delineated on the Forecast Chart. The chart will not be updated to match the warnings issued in this circumstance (distribution is restricted to registered users).

During the “thunderstorm season” (October to April), a Day 2 Thunderstorm Forecast will be issued. It will be valid for the following 24 hours. It will be usually issued at midday, but this time may vary depending on the weather situation (distribution is restricted to registered users).

4.2.5 Bureau of Meteorology Warnings to the Public

When a Severe Weather Warning or a Severe Thunderstorm Warning is issued or updated, the Bureau of Meteorology will inform the Victoria State Emergency Service State Duty Officer (SDO).

4.2.6 Bureau of Meteorology Severe Weather Warnings

Severe Weather Warnings provide a single type of warning that will advise the community on the threat of severe weather that is not covered by bushfire, cyclone or severe thunderstorm warning services, examples include land gales, squalls, flash-flooding, dangerous surf or tides. In some significant events, this allows one warning to cover a multitude of phenomena caused by one weather pattern, thus consolidating the information.

A Severe Weather Warning is issued when severe weather is expected to affect land-based communities within 6-24 hours; and

- it is not directly the result of severe thunderstorms;
- it is not covered by tropical cyclone or fire weather warnings; or
- when severe weather is already occurring and a warning is not already current.

Severe Weather Warnings related to large scale synoptic weather patterns have a longer lead-time and last longer, cover larger areas (district base) and have a slower update cycle.

A Severe Weather Warning is typically issued on a Weather District basis, although reference locations such as provincial towns or topographic features may be used to define the warning area more specifically (e.g. Otway Ranges).
The lead-time provided for a Severe Weather Warning will depend on the nature of the event, the ability to predict the event with reasonable accuracy and the time of day. In general, severe weather events will fall into two categories:

**Synoptic scale phenomena**

East coast lows; recently decayed tropical cyclones; widespread land gales; vigorous cold fronts. For synoptic scale phenomena, the forecaster will aim to have the first severe warning issued about 24 hours before the event. This may be extended in special circumstances, such as prior to a weekend where a significant public event is expected. If the forecaster realises synoptic-scale severe weather is expected within 24 hours, then the first warning should be issued as soon as possible. Once a warning is issued for synoptic scale phenomena, routine updates will be issued at least every six hours until the threat has passed or every three hours for rapidly changing situations.

**Local scale phenomena**

Local scale phenomena includes localised heavy rain; squall lines; and localised severe gusts. For local scale phenomena, depending on information at hand, the first warning should be issued up to about three hours prior to the event. Once a warning is issued for local scale phenomena, routine updates will be issued at least every three hours until the threat has passed.

The responsibility for issuing a Severe Weather Warning lies with the Bureau of Meteorology Senior Meteorologist in charge of the Forecasting Centre.

If the threat of severe weather has passed the Severe Weather Warning will be cancelled.

*4.2.2.2 Bureau of Meteorology Severe Thunderstorm Warnings – Victoria (for Weather Districts)*

The Severe Thunderstorm Warning - Victoria is issued whenever there is sufficient meteorological evidence to suggest that severe thunderstorm development is likely, or when a severe thunderstorm has already developed and a warning is not already current.

The Victorian Severe Thunderstorm Warning is typically issued on a Weather District basis, although reference locations such as provincial towns, roads or rivers may be used to define the warning area more specifically.

The decision to issue a Victorian Severe Thunderstorm Warning is based on the following criteria:

- the commencement of large thunderstorms in an environment conducive to severe thunderstorms;
- report of an existing severe thunderstorm; or
- the expected movement of existing severe thunderstorms into Victoria, including the movement of storms from an adjacent Weather District.
As soon as a requirement for a Victorian Severe Thunderstorm Warning has been identified, the Bureau of Meteorology will prepare and issue the warning as quickly as possible in order to ensure the maximum lead-time.

Severe thunderstorm events are typically of a short term and local (small scale) nature; and as such severe thunderstorm warnings have short lead-times, cover a small area (local government area) with a rapid update cycle.

The validity period of a Victorian Severe Thunderstorm Warning is normally around three hours and will be updated or cancelled as required. The warnings are issued for all parts of the state.

4.2.2.3 Bureau of Meteorology Severe Thunderstorm Warning for the Melbourne Area

The Severe Thunderstorm Warning - Melbourne Area is a more detailed warning issued to the public, emergency services and other organisations when severe thunderstorms are detected, or there is a high confidence they will develop in the designated region. These Warnings depict and describe individual severe thunderstorm cells and rely heavily on a detailed analysis of radar data.

If wind gusts greater than 125km/hr are forecast or observed, the severe thunderstorm warning should be upgraded to include the term “destructive winds”.

If a particularly dangerous thunderstorm is identified that is capable of producing giant hail (hail >5cm diameter) or destructive winds (wind gusts > 125km/hr), the storm will be labelled “This thunderstorm is very dangerous” on the graphical product, and specifically mentioned in the text. The most common type of thunderstorm to produce these conditions is a supercell thunderstorm.

The Severe Thunderstorm Warning – Melbourne Area will be issued by Bureau of Meteorology whenever there is sufficient meteorological evidence to suggest that severe thunderstorm development is likely, or when a severe thunderstorm has already developed in the Greater Melbourne area.

The area for which a Severe Thunderstorm Warning may be issued in the Melbourne area.

As soon as a requirement for a Severe Thunderstorm Warning has been identified, it will be issued as quickly as possible in order to ensure the maximum lead-time possible.

A warning lead-time target of half an hour is aimed for, longer if possible. Lead times greater than one hour may occasionally be achievable, particularly in the eastern suburbs of Melbourne in the event of storms tracking from the west.

The maximum validity period of a Severe Thunderstorm Warning for the Melbourne Area is 60 minutes. These warnings are to be updated whenever a significant change to the current warning is required, but this must not exceed one hour. If possible, updates every 30 minutes should be produced.
4.3 Critical Infrastructure Resilience

Infrastructure is essential to the delivery of essential services to communities. Part 7A of the Emergency Management Act 2013 outlines the legislative arrangements for building critical infrastructure resilience. This is supported by the Victorian Critical Infrastructure Resilience Strategy available at:


4.4 Household, Business and Farm Plans

The Victorian Emergency Management Sector encourages every household, business and farm to have the written emergency plan. Information on the development of these plans can be found at: www.ses.vic.gov.au

4.5 Community Safety Advice

The Victoria State Emergency Service has developed awareness packages and key safety messages for the community regarding storms which are available at:

5 Collaboration

5.1 Escalation and notification

Advice to the Victoria State Emergency Service of a pending Severe Weather Event will be provided by the either the Bureau of Meteorology Regional Forecasting Centre or the State Control Centre Weather Service.

All Severe Weather and Severe Thunderstorm Warnings will be provided directly from the Bureau of Meteorology Regional Forecasting Centre to the Victoria State Emergency Service - State Duty Officer.

Irrespective of issuing a warning, the Bureau of Meteorology should attempt to contact Victoria State Emergency Service whenever severe weather is imminent or has been observed.

When a severe thunderstorm warning is upgraded to include the term “This thunderstorm is very dangerous”, Bureau of Meteorology is to contact the State Duty Officer and include this information and a statement to contact the Bureau of Meteorology urgently regarding the warning.

Upon the receipt of a warning, the Victoria State Emergency Service as the Control Agency for response to storms in Victoria has the responsibility to disseminate notifications and advice to the emergency services, affected communities and key support organisations at State, Regional and Local levels.

On the issuing of a Severe Weather or Severe Thunderstorm Warning the State Duty Officer will alert the Emergency Services Telecommunications Authority (ESTA) of the warning via phone so that they can take appropriate preparedness activities.

If the warning specifically describes a serious and imminent threat, based on the advice from the Bureau of Meteorology, the State Duty Officer will notify all Emergency Service Organisations, including the Emergency Services Telecommunications Authority, via the State Emergency Management Team (SEMT) and relevant agency Duty Officers. Regional Duty Officers will notify all Regional Emergency Service Organisations via their Emergency Management Team and relevant agency Regional Duty Officer.
The Victoria State Emergency Service Chief Officer is responsible for notifying the Emergency Management Commissioner (in accordance with Joint Standard Operating Procedure 3.16 Significant Event Notification). The Emergency Management Commissioner can assist through the State Control Centre to notify State Coordination Team and the State Emergency Management Team.

In the event where Bureau of Meteorology are indicating ahead of warnings that a significant severe weather episode (extreme winds or heavy rainfall) is likely, the State Duty Officer will provide initial planning advice to Emergency Service Organisations via email. Based on triggers within the Victoria State Emergency Service Standard Operating Procedures, the State Duty Officer will determine the need for the Emergency Management Commissioner to be advised.

The Victoria State Emergency Service has developed a detailed notification process for severe weather events which is documented in the Victoria State Emergency Service Standard Operating Procedures.

The Victoria State Emergency Service understands the need to be proactive in early warnings to the community regarding the potential for severe weather and its associated impacts. The Victoria State Emergency Service and the Bureau of Meteorology will work in close partnership to ensure the timely notification of severe weather events in Victoria.

5.2 Emergency Management Commissioner

Under the Emergency Management Act 2013, the Emergency Management Commissioner has legislated management responsibilities across major emergencies, with the exception of terrorism-related emergencies. These include response coordination, ensuring effective control arrangements are established, consequence management and recovery coordination.

5.3 Agency roles and responsibilities

5.3.1 The Role of the Victoria State Emergency Service

The Victoria State Emergency Service is the Control Agency for storm as defined in Part 7 of the Emergency Management Manual Victoria. In this role the Victoria State Emergency Service is responsible for:

- Undertaking strategic planning for response;
- Provision of public information and warnings including the provision of public safety advice to the community;
- Supporting Victoria Police with evacuations;
- Rescue of persons entrapped by collapsed structures; and
- Protection of property from further damage.
5.3.2 Supporting Agency roles and responsibilities
A storm event requires a coordinated response from multiple supporting agencies. Roles and responsibilities of supporting agencies are listed in Appendix A. This should be read in conjunction with Section 7 of the Emergency Management Manual Victoria.

5.4 Victorian government management arrangements
This section describes the management arrangements for a whole of Victorian government approach to managing a major storm emergency.

The Emergency Management Commissioner manages the State response to major emergencies through the following five key teams:

- State Coordination Team (SCOT);
- State Control Team (SCT);
- State Emergency Management Team (SEMT);
- Emergency Management Joint Public Information Committee (EMJPIC); and
- The Executive.

During a large-scale emergency, the Victorian Government’s Security and Emergency Management Committee of Cabinet (SEMC) provides whole of government ministerial oversight. The State Crisis and Resilience Council (SCRC) provides the Security and Emergency Management Committee with assurance that the broad social, economic, built and natural environmental consequences of the emergency are being addressed at a whole of government level. The State Crisis and Resilience Council also has responsibility for the oversight of the development of a whole of government communications strategy for the approval of Security and Emergency Management Committee.

Neither the Security and Emergency Management Committee nor the State Crisis and Resilience Council have an operational response role.

5.5 Emergency Management Team
Emergency Management Teams are formed at each activated tier of emergency response management as follows:

- State Emergency Management Team (SEMT);
- Regional Emergency Management Team (REMT); and
- Incident Emergency Management Team (IEMT).

Emergency Management Teams are collaborative forums where agencies with a diverse range of responsibilities during emergencies meet to discuss the risks and likely consequences of a flood and assist the Emergency Management Commissioner and controllers establish priorities and plan a ‘whole of government’ approach to the management of these risks and consequences.
An Emergency Management Team ensures the response and recovery agencies, other agencies, local government and service providers are coordinated in their approach.

Because the response to a storm event may involve a range of disparate emergencies (e.g. health emergencies, power and transport emergencies, urban fire etc), the Emergency Management Commissioner, Regional Emergency Response Coordinators and Municipal Emergency Response Coordinators chair their respective Emergency Management Team.

Once formed, an Emergency Management Team operates throughout a continuum for the response to and recovery from the storm event.

Not all agencies have the capability to provide a representative for Emergency Management Team at each tier. For example, a person may represent their agency at both the Regional Emergency Management Team and Incident Emergency Management Team.

Further detail can be found in the State Emergency Response Plan.

5.6 Consequence Management

After a damaging storm or upon notice of a possible significant weather event, the Emergency Management Commissioner appoints a Consequence Manager, responsible for assessing the likely consequences of the storm and working with the State Emergency Management Team and Regional Emergency Management Team to ensure a whole-of-government approach to the management of these consequences.

5.7 Reporting to Government

During a storm response, the Emergency Management Commissioner may request agencies to report on the impact and consequences of the event on their area of responsibility, identifying any emerging issues and actions to resolve these.

This information forms the basis of the State Emergency Management Team Situation Report, which the Emergency Management Commissioner uses to brief the Minister for Emergency Services and the State Crisis and Resilience Committee, and for the State Emergency Management Team members to brief their departmental executive and respective Minister.

5.8 Management of Spontaneous Volunteers

It is likely in the aftermath of a damaging storm that self-organised volunteer community groups may emerge to assist in response and recovery efforts. Where identified, Local Government will assist to coordinate support and community liaison officers may be deployed to assist groups with logistics and risk management.
6 Capability

6.1 Regional Storm Planning

Each Victoria State Emergency Service Region will develop a Storm Plan that will include the identification of a suitable Control Centre location in consultation with other key emergency management agencies. The Control Centre shall have appropriate facilities to accommodate a multi-agency Emergency Management Team (EMT). Consideration of the selection and placement of the Control Centre must allow for contingencies and provide flexibility to deal with access limitations.

The Victoria State Emergency Service Regional Storm Plans should ensure that consideration is given to, but not limited to:

- Regional risk assessment,
- Sources of incident intelligence,
- Dissemination of warnings and information,
- Location of Incident Control Centres,
- Consequence management,
- Incident Management Arrangements,
- Sector and division requirements,
- Rescue arrangements,
- Resource arrangements for within the region,
- Traffic management plans,
- Planned staging areas, and
- Cross boundary / State arrangements.

6.2 Municipal Storm Emergency Planning

Where storm is identified through the Community Emergency Risk Assessment (CERA) as a high risk to a community, the Victoria State Emergency Service will provide advice and support to the Municipal Emergency Management Planning Committee (MEMPC) to ensure the Municipal Emergency Management Plan contains at a minimum, arrangements for the response to a storm event based on all-hazards and all-agency response.
7 Managing a Storm Event

7.1 Concept of Operations

At the State tier, the Victoria State Emergency Service will act as the Control Agency for the response to a storm event. Other agencies will support operations as detailed in this Plan. The Emergency Management Commissioner may vary this arrangement in consultation with Victoria State Emergency Service and the State Response Controller.

Control and coordination of a storm event should be carried out at the lowest effective level. The State Response Controller shall consult with the Regional Controller and the State Control Team to determine the most appropriate structure to manage the event.

There may be multiple consequential emergencies resulting from a storm (e.g. fire, building collapse, hazmat, flooding). Incident Controllers shall therefore be appointed from appropriate support agencies to lead incident control at the incident site based on the dominant consequential emergency (e.g. a building collapse).

Controllers at all times will ensure the occupational health and safety of emergency service personnel; this includes ensuring that adequate risk treatments are implemented in the event of secondary flood effects.

7.2 Strategic Response Planning

On receipt of advice from the Bureau of Meteorology of the potential for storm activity that may result in significant and widespread damage, the Emergency Management Commissioner, Victoria State Emergency Service and all agencies with responsibilities in the management of storm damage will collectively plan for the integrated management of the impact and consequences at the State and Regional tiers through the State, Regional and Incident Emergency Management Teams. Actions may include:

- Establishing the control structure for managing the event.
- Providing consistent emergency warnings and information to the community.
- Implementation of evacuation and emergency relief plans.
- Confirming agencies at all tiers are activated and appropriate arrangements are in place.
• Identifying the likely consequences of the storm event and any interdependencies that may affect planning.
• Confirming agencies have adequate resources in place to fulfil their responsibilities and are planning for sustainment and surge capacity, including identification of need for inter-state assistance.
• Identifying mass gatherings and large public events that maybe at-risk, and arrangements to ensure the safety of individuals attending.
• Confirming agencies with call taking responsibilities have resources in place and back up
• arrangements to cope with the expected call load.
• Positioning of Emergency Management Liaison Officers from key support agencies to the State Control Centre and Regional Control Centres, where appropriate.
• Arranging for regular meetings of the State, Regional and Incident Emergency Management Teams.
• Providing whole-of-government situation reports to relevant Government Ministers.

7.3 Community Information

The Victoria State Emergency Service acknowledges that community information and warnings are a key operational priority to ensure timely community preparedness can occur.

Victoria State Emergency Service response activities will include providing current situational advice to the community, based on potential severity. This will be done in conjunction with other key stakeholders. Storm prediction information will be based on forecast information from Bureau of Meteorology and enhanced with advice from Victoria State Emergency Service and where applicable the nominated Incident Control Centre.

Dependent upon imminent threat and/or potential consequences, the Victoria State Emergency Service will consider use of the Flood and Storm Information Line (1300 842 737), hosted by the Department of Environment, Land, Water and Planning Customer Service Centre for provision of public information. Multiple methods will be used to disseminate storm update information to the community and community emergency warnings may be disseminated through broadcast media including ABC radio, Sky, commercial media and community media outlets in accordance with the formal agreements.
7.4 Initial Impact Assessment

Immediate reconnaissance of affected areas will be managed by the Incident Controller responsible for that area. Rapid reconnaissance is required to establish the extent of damage and a likely estimate of the casualty numbers so a response can be planned.

Impact assessment should include data on people (casualties, injuries, displacement), property (residences, businesses) and essential community infrastructure (roads, bridges, water, sewerage, telecommunications).

The State Response Controller will ensure that arrangements are in place for initial impact Assessment data to be incorporated into the operational response. Information collected may be derived from several sources, for instance multiple agency Incident Management Systems may be used for smaller type events whilst large events may require the use of dedicated Initial Impact Assessment Coordinator teams (located within Incident Control Centres and the State Control Centre to collate collected data).

Intelligence gathered will be used to inform situational awareness, incident action planning and recovery planning.

The Incident Controller will:

- Ensure that Initial Impact Assessment data is collected, collated and passed on to the appropriate agencies in timely manner; and
- Ensure systems are put in place to manage the collection and collation of Initial Impact Assessment data and that they are determined by the level of operation and severity of the incident.

7.5 Evacuation

Evacuation is a risk management strategy, which may be used as a means of mitigating the effects of an emergency on a community. It involves the movement of people to a safer location. However, to be effective it must be correctly planned and executed.

In Victoria, evacuation is largely voluntary. The Incident Controller makes a recommendation to evacuate and it is the choice of individuals as to how they respond to this recommendation. However, in particular circumstances legislation provides some emergency service personnel with authority to remove people from areas or prohibit their entry e.g. Coroners Act 2008 (sections 37(2), 37(3) & 38(1)).

7.6 Energy

When predictions/intelligence indicates that communities, neighbourhoods and/or households may have their energy supply disrupted, the providers of essential services will lead the communications on service outages both individually and through established industry protocols. In events of State significance, government may choose to lead communications. The Victoria State Emergency Service will be informed from electricity and gas industry updates during major storm events and support these messages through its own communication processes.

7.7 Medical Response

During a storm event, the Department of Health and Human Services has a support function and coordinates the health response from their State Emergency Management Centre (SEMC).


The State Health and Medical Commander is responsible for directing health and medical resources, and the Health Commander is responsible for directing the pre-hospital response in an emergency and represent several agencies in the State Emergency Management Team. These agencies may include:

- Department of Health and Human Services,
- Ambulance Victoria,
- first aid providers,
- medical providers (including general practitioners),
- health services (public and private hospitals), and
- residential and aged care services.

In response to mass fatalities, Victoria Police will manage the disaster victim identification process and will administer the handling and investigation of deceased persons and their subsequent removal on behalf of the State Coroner.

7.8 Debris Removal

Local Government, relevant statutory authorities and individual landowners/householders will arrange for the removal of debris from sites affected by storm damage. Debris on roads is the responsibility of the road owner. Victoria State Emergency Service is not responsible for removing debris.
7.9 Emergency Relief

The State Emergency Relief and Recovery Plan provides the overall arrangements for management of emergency relief. Incident Controllers are responsible for ensuring that relief arrangements have been considered and implemented where required under the State Emergency Response Plan, however, the decision to recommend the opening of an emergency relief centre rests with Local Government in consultation with the Incident Controller.

If the Regional Emergency Response Coordinator becomes satisfied that the event exceeds the capacity of the council to perform this function, a request to the Department of Health and Human Services to coordinate emergency relief at the regional level will be made. To ensure a smooth transition of responsibility, a Council should notify the Department of Health and Human Services as soon as it becomes apparent an event will exceed its capacity. This does not replace the requirement for the Regional Emergency Response Coordinator to monitor the emergency relief situation.

7.10 Recovery

Recovery activities will be undertaken in accordance with the State Emergency Relief and Recovery Plan (see www.emv.vic.gov.au/policies/emmv), 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 operational level (State, regional, municipal). The response function will continue at least until the following conditions are met:

- All rescues have been accomplished,
- All injured have been attended to, and
- Displaced people have been provided with shelter, and essential services.

Emergency Management Victoria supported by the Australian Red Cross is responsible for relief and recovery at the State level, and the Department of Health and Human Service supported by the Australian Red Cross is responsible for coordinating relief and recovery at the regional level. At the local level Municipal Councils are responsible for coordinating relief and recovery.
## Appendix A – Roles and Responsibilities of Supporting Agencies

<table>
<thead>
<tr>
<th>Agency</th>
<th>Responsibilities</th>
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</thead>
</table>
| **Ambulance Victoria**                      | - Provide Health Commander(s) to the Emergency Management Team/Incident Management Team under the State Health Emergency Response Plan  
- Continue response to emergency medical ‘000’ calls in altered environment  
- Support relocation/evacuation of health and aged care facilities  
- Treat sick and injured people, including the provision of pre-hospital care and transport |
| **Australian Red Cross**                    | - Support Victoria Police with the registration of evacuees  
- Support relief and recovery operations |
| **Volunteer Marine Search and Rescue Services** | - Support the warning of the at-risk communities  
- Support Victoria Police with the evacuation of at-risk communities  
- Support marine property protection tasks  
- Support emergency relief agencies with the resupply of isolated properties and/ or communities  
- Support water rescue operations where training and equipment are suitable (note: that operations involving service vessels will typically be restricted to navigable waters on coastal estuaries and lakes). |
| **Bureau of Meteorology (BOM)**             | Preparedness  
- Assist in the planning and development of storm warning services  
- Assist with community education  
Response  
- Issue warnings on severe weather, severe thunderstorms and other weather conditions likely to endanger life or property  
- Provide weather forecasts and meteorological information  
- Provide expert advice for emergencies that are influenced by meteorological conditions  
- Provide weather-related information to media, including direct broadcast via radio  
- Provide Severe Weather prognosis prior to bi weekly Victoria  
- State Emergency Service teleconferences |
<table>
<thead>
<tr>
<th><strong>Country Fire Authority (CFA)</strong></th>
<th><strong>Department of Education and Training (DET)</strong></th>
<th><strong>Department of Health and Human Services Response</strong></th>
<th><strong>Relief and Recovery</strong></th>
</tr>
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<tbody>
<tr>
<td>• Support incident management</td>
<td>• Provision of on-site assistance and support for management of local issues involving students</td>
<td>• Through the State Health Emergency Response Plan coordinate deployment of medical personnel under the direction of the State Health and Medical Commander</td>
<td>• Coordinate relief and recovery planning at Regional levels</td>
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<tr>
<td>• Provide access to ICC facilities</td>
<td>• Management of closure and evacuation of schools</td>
<td>• Provide advice on public health consequences via Chief Health Officer to Incident Controller</td>
<td>• Coordinate provision of psychosocial support at incident sites and across the community</td>
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<tr>
<td>• Support the Initial Impact Assessment process</td>
<td>• Support the Initial Impact Assessment process</td>
<td>• Support the Initial Impact Assessment process</td>
<td>• Coordinate the provision of emergency financial assistance to eligible community members</td>
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<tr>
<td>• Assist with mapping</td>
<td>• Coordinate emergency relief and recovery at Regional level</td>
<td>• Control agency for incidents involving retail food contamination, food/drinking water contamination, human illnesses/epidemics, radiological substances and biological materials</td>
<td>• Support councils and community recovery committees in recovery planning and managing recovery activities</td>
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<tr>
<td>• Provide skilled and equipped personnel to assist with damage control operations to limit danger to the public</td>
<td>• Support service delivery to affected individuals, groups and/or communities</td>
<td>• Support service delivery to affected individuals, groups and/or communities</td>
<td>• Provide support, advice, information and assistance to affected individuals, communities, funded agencies and municipal councils</td>
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<tr>
<td>• Provide resources for pumping water out of buildings and from low lying areas</td>
<td>• Provision of advice in relation to potable water quality in a flood emergency</td>
<td>• Provision of advice in relation to potable water quality in a flood emergency</td>
<td>• Assist with provision of temporary accommodation</td>
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<tr>
<td>Department of Economic Development, Jobs, Transport and Resources (DEDJTR)</td>
<td>Preparedness</td>
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<td></td>
<td>• Assist Victoria State Emergency Service to identify infrastructure at-risk of storm for incorporation into planning and intelligence</td>
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<td></td>
<td>• Develop awareness in agricultural industries regarding environmental emergencies and risk management planning</td>
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<td></td>
<td>• Develop awareness amongst animal owners and agencies regarding planning for and responding to animal welfare needs in an emergency</td>
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<tr>
<td>Response</td>
<td>• Provide advice about the disposal and rehabilitation of livestock</td>
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<td></td>
<td>• Provide advice on potential animal welfare issues and arrangements in place for their management</td>
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<td></td>
<td>• Coordinate the provision of emergency animal welfare services as per the Victorian Emergency Animal Welfare Plan</td>
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<td></td>
<td>• Support the Initial Impact Assessment process</td>
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<td></td>
<td>• Facilitate the provision of skilled personnel to provide engineering advice regarding damaged transport infrastructure</td>
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<td></td>
<td>• Provide information regarding the status of the transport network and associated infrastructure</td>
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<td></td>
<td>• Facilitate the provision of transport capabilities when requested to support evacuation, passenger transport and logistics purposes</td>
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<td></td>
<td>• Responsible for marine pollution response</td>
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<tr>
<td>Recovery</td>
<td>• Assess losses of agricultural assets and livestock, and needs of affected persons and communities</td>
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<td></td>
<td>• Advise individuals, communities and government agencies on re-establishment of rural enterprises or alternative strategies for economic relief</td>
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<td></td>
<td>• Administer specific relief subsidies</td>
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<td>• Advise councils on the disposal of dead or maimed stock.</td>
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<td></td>
<td>• Advise distribution bodies (e.g. VFF) on needs for donated fodder.</td>
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<tr>
<th>Metropolitan Fire Brigade (MFB)</th>
<th>Preparedness</th>
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<tr>
<td></td>
<td>• Support incident management</td>
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<td></td>
<td>• Provide access to Incident Control Centre facilities</td>
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<td></td>
<td>• Support the Initial Impact Assessment process</td>
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<td></td>
<td>• Support Victoria Police with evacuation.</td>
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<td></td>
<td>• Provide skilled and equipped personnel to assist with damage control operations to limit danger to the public following an earthquake</td>
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<td></td>
<td>• Undertake response to hazmat incidents</td>
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<td>• Undertake urban fire suppression</td>
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<td></td>
<td>• Assist with mapping</td>
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<td></td>
<td>• Support the deployment of the State USAR response team</td>
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<td></td>
<td>• Provide a swift water capability</td>
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<tr>
<td>Municipal Councils</td>
<td>Preparedness</td>
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<td></td>
<td>• Ensure Municipal Emergency Management Plans are appropriate to response to a storm event</td>
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<td>• Assist with and contribute to storm education programs</td>
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<td></td>
<td>• Provision of resources as available and needed by the community and response agencies</td>
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<td></td>
<td>• Support the Initial Impact Assessment process</td>
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<td></td>
<td>• Provision of engineering advice</td>
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<td>• Provision of facilities for emergency services staging areas</td>
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<td>• Assist with the delivery of public information</td>
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<td>• Co-ordination of the provision and operation of emergency relief (includes catering, emergency relief centres, emergency shelters and material needs)</td>
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<td>• Clear storm debris from public land and council managed roads</td>
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<td>• Assist with the provision of plant and skilled operators</td>
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<td>• Support to VICROADS for partial/full road closures and determination of alternative routes</td>
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<tr>
<td>Recovery</td>
<td>• Provision of information services to affected communities (e.g. using information lines, newsletters, community meetings and websites)</td>
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<td></td>
<td>• Provision and staffing of Recovery/Information Centre(s)</td>
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<td></td>
<td>• Formation and leadership of Municipal/Community Recovery Committees</td>
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<td></td>
<td>• Post-impact assessment — gathering and processing of information</td>
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<td>• Survey and determination regarding occupancy of damaged buildings</td>
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<td></td>
<td>• Environmental health management — including food and sanitation safety, vector control, such as removing dead animals (domestic, native or feral) from waterways</td>
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<td>• Oversight and inspection of rebuilding/redevelopment</td>
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<td>• Provision and management of community development services</td>
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<td>• Provision and/or co-ordination of volunteer helpers</td>
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<td>• Provision of personal support services (e.g. Counselling, advocacy)</td>
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<td>• Co-ordination of clean up activities, including disposal of dead animals (domestic, native and feral)</td>
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<td>• Provision/co-ordination of temporary accommodation</td>
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<td></td>
<td>• Repair/restoration of infrastructure (e.g. Roads, bridges, sporting facilities, public amenities)</td>
</tr>
</tbody>
</table>
| Department of Environment, Land, Water and Planning (DELWP) | • Provide access to ICC facilities  
• Support incident management  
• Assist with mapping  
• Provision of human and physical resources to assist with incident management and teams in field assisting with Initial Impact Assessment or tree clearing  
• Provision of personnel to assist with storm damage control where training and equipment are suitable  
• Provide advice regarding major power and energy outages including any known need to disconnect electricity or gas  
• Provide advice regarding the timetable for restoration of services as available  
• Assist with the identification of interdependencies between storm damage and utility services |
| Environment Protection Authority (EPA) | • Assess the environmental impact of the emergency  
• Determine practical measures to protect the environment  
• Advise emergency services on the properties and environmental impacts of hazardous materials  
• Ensure that appropriate disposal methods are adopted for detritus and waste  
• Implement the Community Environmental Trauma Protocol when required |
| Emergency Services Telecommunications Authority (ESTA) | • Advise Triple Zero of flood warnings  
• Provide facilities for Emergency Management Liaison Officer  
• Implement staffing arrangement to manage surge for an imminent event |
| Melbourne Water Corporation | • Partner with Victoria State Emergency Service for community education programs such as StormSafe  
• Provide skilled personnel to provide engineering advice regarding damaged structures  
• Support the Initial Impact Assessment process  
• Implement crisis and incident management plans when assets fail to perform their function (water supply and sewerage)  
• Provide information on impact to water assets or services  
• Provision of emergency works to alleviate flooding and clearance of waterways and drainage as required |
| Parks Victoria | • Control agency for waterway pollution within its operating area  
• Support agency for emergency flood situations within its parks and reserves  
• Support incident management  
• Rehabilitation of flora and fauna affected by an emergency within its parks and reserve  
• Clearing and restoration of roads, bridges and other assets within its parks and reserves  
• Close and evacuate at risk camping grounds in National Parks  
• Provision of human resources for storm response |
| **VICROADS**                                                                 | • Manage road closures and diversions  
|                                                                             | • Undertake traffic management planning  
|                                                                             | • Provide information to the Emergency Management Team and the community about road closures  
|                                                                             | • Provide skilled personnel to provide engineering advice regarding damaged structures  
|                                                                             | • Support the Initial Impact Assessment process  
|                                                                             | • Assist with the communication of warnings and information provision to the public through the use of variable message signs  
|                                                                             | • Provide engineering assistance and advice  
|                                                                             | • Clear debris from VicRoads managed roads  
|                                                                             | • Assist with the provision of plant and skilled operators  
| **Victoria Police**                                                         | • Coordinate evacuation in consultation with Incident Controller  
|                                                                             | • Coordinate USAR resources in consultation with Incident Controller  
|                                                                             | • Coordinate registration of evacuees – with support from the Australian Red Cross  
|                                                                             | • Coordinate public enquiry system for disaster victims  
|                                                                             | • Coordinate disaster victim identification  
|                                                                             | • Assist with media management  
|                                                                             | • Traffic management planning  
|                                                                             | • Provide water rescue  
|                                                                             | • Support Initial Impact Assessments  |