



WARRNAMBOOL
CITY COUNCIL

Municipal Emergency Management Plan

Part 4: Prevention/Mitigation Arrangements

Version 3.2 –April 2020

Document Control

Amendment History

AMENDMENT			EFFECTED	
NO	DATE	PAGES AFFECTED	AUTHOR	RELEASE DATE
1	01/09/2014	Complete Review of MEMP following audit	Director – City Infrastructure	1 September 2014
V2.1	31/03/2016	Update contact details & gov't department changes. Item 4.3 Prevention Plans – add flood plans. Item 8 – remove Red Cross as primary agency for catering.	Neil Holland	
V2.2	10/11/2016	Amendments identified through the annual review process, endorsed by the MEMPC	Justin Hinch	20 December 2016
V3	15/2/2017	Review of entire document	Sue Rondeau	9 May 2017
V3	30/5/2017	Wannon Water review	Sally Obst	1 July 2017
V3.1	22/8/2017	4.3.4 updated table	Sue Rondeau	23 August 2017
V3.2	21/04/2020	CERA heat Map		

Amendment Authorisations

NAME	POSITION	DATE
Sue Rondeau	Coordinator Emergency Management	23 August 2017
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Approved By:

TITLE	NAME	SIGNATURE	DATE
Chief Executive Officer	Peter Schneider		

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PREVENTION/MITIGATION ARRANGEMENTS

Prevention is defined in section 4A (a) of the *Emergency Management Act 1986* as ‘the elimination or reduction of the incidence or severity of emergencies and the mitigation of their effects’.

4.1 THE ROLE OF THE MUNICIPALITY

Council recognises it has a key role in prevention and mitigation activities to reduce the likelihood, or minimise the consequences, of emergencies that may occur in the area.

Council is bound by the Emergency Management Act 1986 & 2013 and the Emergency Management Manual Victoria but also has responsibilities within each of the following Acts:

- Local Government Act 1989
- Country Fire Authority Act 1958
- Victoria State Emergency Service Act 2005
- Water Act 1989 and Water Industry Act 1994
- Public Health and Wellbeing Act 2008
- Electricity Safety Act 1998 and Electricity (Electricity Line Clearance) Regulations 2010
- Planning and Environment Act 1987
- Building Act 1993

Council's enforcement and continued review of policies in land use, building codes and regulations, and urban planning, ensure that all measures possible are addressed to reduce the likelihood of and consequence of an emergency.

However, Council does not do this in isolation. Other key agencies include:

- Victoria State Emergency Service,
- Victoria Police,
- Country Fire Authority,
- Department of Economic Development, Jobs, Transport & Resource;
- Department of Environment, Land, Water & Planning;
- Department of Health & Human Services,
- Powercor,
- Red Cross
- Vic Roads
- Ambulance Victoria
- Moyne Health Services
- Parks Victoria
- Salvation Army
- Coast Guard
- South West Healthcare
- Life Saving Victoria
- Victorian Council of Churches
- Worksafe Victoria
- Utilities companies

4.2 RISK MANAGEMENT

Emergency Risk Management is a process which aims to reduce risks within a community. This is achieved by identifying the risks that a community faces, assessing the vulnerability of the community to those risks and providing options to reduce or eliminate the risks.

Emergencies of some kind or another occur every day within Warrnambool City. The aim of emergency risk management is to promote public safety and reduce the impact of these emergencies.

4.2.1 Community Emergency Risk Assessment Process

In accordance with EMMV Part 6-4, MEMPC is tasked with the role of developing a list of priority risks. To achieve that, MEMPC uses the Community Emergency Risk Assessment (CERA) tool. The CERA tool provides a robust framework for a 'community of interest' to identify and prioritise those emergency risks that are likely to create most disruption to them. The assessment helps identify and describe hazards and assess impacts and consequences based upon the vulnerability or exposure of the community or its functions.

The process is subject to an annual review and will undergo a major review at least once every three years, between MEMPlan audits.

The table below outlines the 15 hazards that have been identified by MEMPC:

Hazards	
1	Bushfire – large, regional
2	Flood – Major
3	Extreme Temperatures – Heatwave
4	Storm
5	Storm Surge
6	RAIR – Road/Air/Industrial/Rail
7	Transport Incident – Marine
8	Utility Service Disruption
9	Marine Pollution
10	Hazardous Materials Release
11	Human Epidemic/Pandemic
12	Exotic Animal Disease
13	Food/Water Supply Contamination
14	Terrorism
15	Earthquake (structural collapse)

Table 7: Identified Hazards

4.2.2 Victorian Fire Risk Register (VFRR)

The Municipal Fire Management Planning Committee uses the Victorian Fire Risk Register - Bushfire (VFRR-B) to identify asset classes at risk from Bushfire.

There are four asset classes within the VFRR:

1. Human Settlement
2. Economic
3. Environmental
4. Cultural Heritage

Formulas and data used within the tool determine a risk rating and register. The contents of this register inform the Municipal Fire Management Plan which is a sub plan of this Plan.

4.3 MITIGATION STRATEGIES

An outcome of the CERA process is to identify treatments/mitigation strategies that need to be fulfilled to reduce the impact of emergencies.

4.3.1 CERA Treatments

CERA Worksheets outlining treatments for each hazard are attached at Appendix 19.

4.3.2 Key Plans, Initiatives and Partnerships

Other forms of mitigation include:

Initiatives

- Community Information Guides (formally known as Township Protection Plans) (CFA)
- Emergency Exercises (Warrnambool City Council and all emergency agencies)
- Neighbourhood Safer Places (CFA/Warrnambool City Council)
- Installation of Emergency Markers along the coast (for current sign locations refer to Council's website (Warrnambool City Council /ESTA)
- Fire Operations Plan (DELWP)
- Evacuation Plans (Police)
- Blue Green Algae Plan (Wannon Water Authority)
- Warrnambool Regional Airport Emergency Management Plan
- Public Health & Wellbeing Plan (Warrnambool City Council)
- Pandemic Plan (Warrnambool City Council)
- School Emergency Management Plans (Schools) which includes bus routes
- Hospital Emergency Management Plans (Hospitals)
- Emergency Management Plans for Warrnambool City Council operated Caravan Parks
- Traffic and road management strategies
- Health inspections and surveillance
- Flood and drainage management systems
- Maintenance of fire access roads
- Identification and planning for individuals with special needs during emergencies
- Fire plug maintenance (Water Act 1989)
- Maintaining vegetation and clearance space around power lines (the Electricity Safety Act 1998)
- Port of Warrnambool Safety & Emergency Management Plan

Plans

- Warrnambool Airport Emergency Management Plan
- Port of Warrnambool Emergency Management Plan
- Public Health Emergency Management Sub Plan – Warrnambool – A Healthy City 2013-2017
- Emergency Management Plan for Surfside Holiday Park
- Emergency Management Plan for the Shipwreck Bay Holiday Park
- Barwon-South Western Region Plan for Influenza Pandemic
- Warrnambool City Council Influenza Pandemic Response Plan
- Heatwave Plan
- Climate Change Action Plan

- Coastal Vegetation Management Plan
- Vegetation Management Plan
- Warrnambool Open Space Strategy 2014
- Road Safety Strategy
- City Wide Housing Strategy
- Warrnambool Coastal Management Plan

Regional Partnerships

- Regional Emergency Management Planning Committee
- Great Ocean Road Working Party – Sub Committee of Regional Emergency Management Planning
- South West Relief and Recovery Committee
- Barwon South West Municipal Emergency Management Enhancement Group

4.3.3 Community Education

Emergency service agencies and Council produce a range of community education. Programs include:

- Immunisation programs (Warrnambool City Council)
- Crime and injury prevention programs and strategies (VicPol)
- Flood Safe (VICSES)
- Fire Ready Victoria (CFA)
- Fire Safe Kids (CFA)
- Mums and Bubs (Safety & Emergency) (Warrnambool City Council)

4.3.4 CERA Heat Map

The heat map below displays each risk rating from Insignificant consequence with effective controls on the bottom left hand corner to catastrophic with ineffective controls on the top right hand corner .

The size of the bubble reflects the level of residual likelihood.

Community Emergency Risk Assessment (CERA) Heat Map

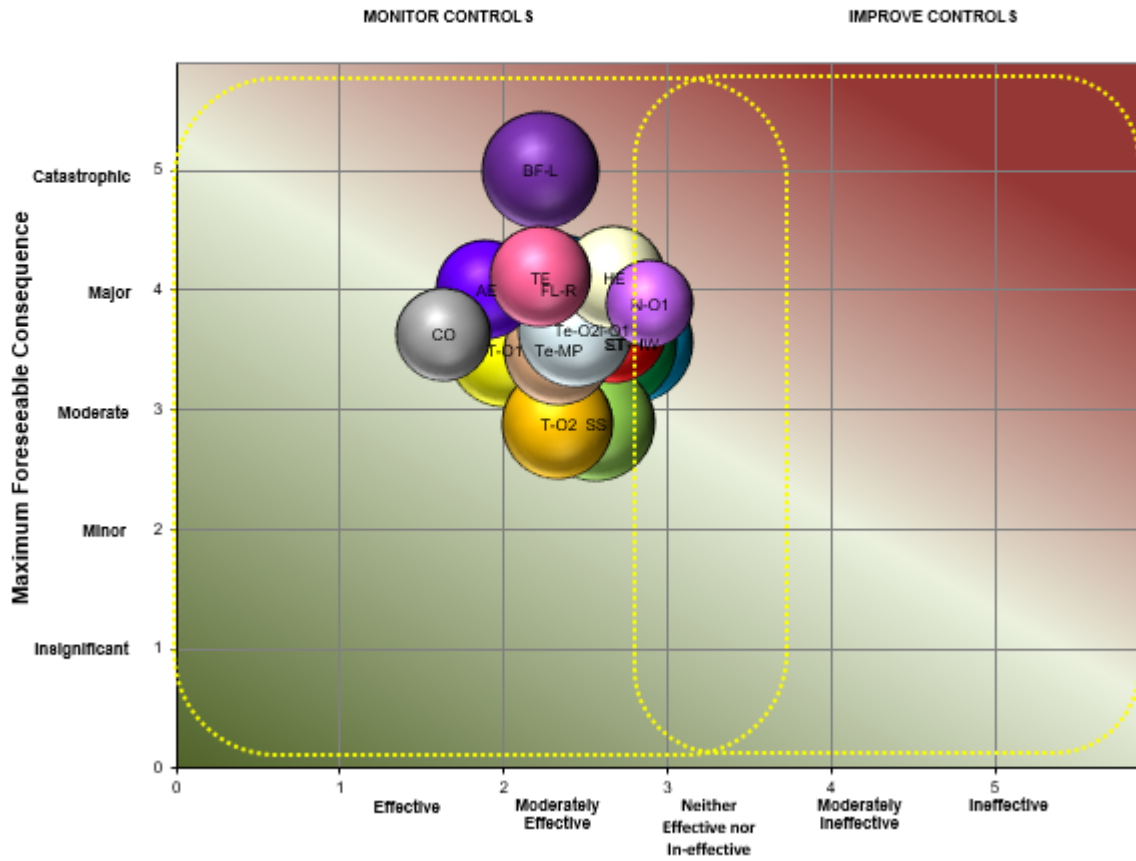


Table 8: CERA Heat Map

Warrnambool City Council			
17 January 2020			
Code	Risk	Initial Confidence	Residual Risk Rating
BF-L	Bushfire - large, regional	Med	High
FL-R	Flood - Riverine	Med	Medium
ET-HW	Heat Health	Med	Medium
ST	Storm	Med	High
SS	Storm Surge	Med	Medium
T-O1	Major Transport Incident (RAIR)	Med	Medium
T-O2	Transport Incident - Marine	Med	Medium
I-O1	Utility Service Disruption	Med	Medium
Te-MP	Marine Pollution	Med	Medium
Te-O2	Hazardous Materials Release (Trans)	Med	High
HE	Human Epidemic / Pandemic	Med	Medium
AE	Exotic Animal Disease	Med	Medium
CO	Food / Water Supply Contamination	Med	Low
TE	Terrorism / Massacre	Med	Medium
N-O1	Earthquake / Structure Collapse	Med	Medium
Te-O1	Structure Fire	Med	Medium
		Select	
		Select	
		Select	
		Select	

APPENDIX 19: CERA WORKSHEETS

Hazard		Bushfire - large	
Agency		CFA	
Risk Ref Nos		01	
1. Hazard Description			
Large scale bushfire, impacting a large area and / or threatening communities within the Warrnambool City Council, including human lives, homes and other buildings, public infrastructure, livestock and the local economy.			
The details regarding Bushfire may have already undergone a risk analysis as part of the VFRR and IFMP undertaken within the Municipality / Region. This work does not need to be duplicated into the CERA document. Refer to Warrnambool City Council Municipal Fire Management Plan for more details.			
2. Rationale for Hazard Description			
Over the past 150 years there have been a number of major fires throughout the municipality, which have resulted in the loss of life and property. The most notably being Ash Wednesday in 1983. Bushfire seasons are generally restricted to the summer months			
3. Causes and Contributing Factors			
	Description of causes/contributing factors	Description of preventative, detective and response controls your agency currently has in place for this hazard	Owner (s)
1	Lightning Strikes	Strategic Fire Detection Activities (Fire Towers, Aerial). Aerial patrols after lightning weather events over high risk areas i.e. Otway's Fire Towers manned after lightning weather events. Ability to monitor lightning strikes by mapping programs.	CFA, DELWP
2	Deliberate human activity - arson, unattended campfire	Stop Bushfire Arson campaign. BELEO Local CIU detectives trained in Arson investigation. Operation Firesetter High visibility arson prevention campaign in bushfire prone areas. Bushfire Arson Strategy Action Group (BASAG). Fire Agency Liaison Officer embedded in Victoria Police Arson & Explosion Squad. Crimestoppers bushfire arson program. Juvenile Fire Awareness Intervention Program (JFAIP).	VicPol, CFA, DELWP, PV
3	High fuel loads	Strategic Fuel Reduction Programs. Planning overlays. Asset Protection Zones around townships. Vegetation removal.	DELWP, Council, MFMPC, VicRoads
4	Weather conditions - prolonged heat / strong winds	Strategic Fire Detection Activities (Fire Towers, Aerial).	CFA, DELWP, BOM
5	Machinery	Public awareness campaigns, warnings incorporated into messaging for Total Fire Bans, Fire Danger Ratings. Media releases issue based on weather conditions for farmers. Farm fire safety campaign.	CFA, DELWP
6	Electrical incidents - faulty or fallen power lines	Roadside vegetation management (VicRoads and Council). Vegetation management program, powerline inspection program. Timber crossarm replacement ongoing. Undergrounding/modification of powerlines.	Powercor, VicRoads, Council
7	Campfire	Community education programs / activities. Restrictions - Total Fire Ban, Fire Danger Period, Fire Danger Rating.	PV, DELWP, GORCC
8	Waste disposal (eg. cigarette butts, glass)	Safety messaging	EPA, VicRoads

9	Vehicle overheating / accident		Safety messaging in Total Fire Ban warnings		CFA, VicRoads
10	Escaped burn off (private property)		Council Burning Off Guidelines, Permit to Burn system (CFA / Council)		CFA, Council
4. Impacts and existing mitigation controls (to be completed by the CERA Committee)1					
	Who or What	Vulnerability and/or Exposure	Likely Impact	Existing Impact Mitigation Controls	Owner(s)
1	People (Social)		Loss of life or serious injury, personal trauma, community cohesion.		VicPol
2	Property (Built)		Damage or loss of: private property; community infrastructure, utilities, roads, power supply.		CFA, Council
3	Economy (Economic)		Loss or damage to commerce / business, tourism, agriculture, power outage.		Council, DEDJTR, LGV
4	Environment (Natural)		Loss or damage to flora and fauna, parks, public land, waterway and land degradation and contamination		DELWP, CFA, Council, PV, Catchment Management Authority
5	Farmland (Agriculture)		Loss and damage to livestock, farmland, fencing.		DELWP, Land Owners
6	People (Social)	Children and students are located in facilities across the municipality. Due to their ages, numbers and difficulty in relocating them quickly away from a fast moving fire they can be particularly vulnerable.	Children, students and staff could face extreme impacts	All facilities are required to have an emergency management plan including a defined shelter in place. Facilities at highest risk are on the Bushfire At-Risk Register which will see these facilities pre-emptively close on designated Code Red days	Centre Managers, Principals and DET
7	Property (Built)	Raw water quality deterioration in reservoirs	Drinking water catchments – reduction in quality and/ or quantity of potable water availability - potentially for weeks/ months	Catchment-specific Fire Recovery Action Plans and contingency plans	Wannon Water

8	People	Aged Care Centres	Loss of life or serious injury, personal trauma, community cohesion.		Owner, DHHS		
5. Improvement opportunities linked to causes and impacts (to be completed by the CERA Committee)							
1	Description of Opportunity			Cause Number	Impact Number	Owners	Due Date
2	Review MFMP to improve coordination and effectiveness of outcomes					MFMPC	
3	Development and incorporation of settlement protection plans into MFMP					MRMPC	
4	BMO and other fire planning overlays. BAL assessments					Council, Land owner	
5	Bushfire response					CFA, DELWP	
6	Arson – increased investigation, intelligence gathering and enforcement					VicPol	
7	Machinery modifications and maintenance program					CFA, DELWP	
8	Cross Tenure Burning Program - completion and implementation					CFA, DELWP, COUNCIL	
9	Fuel Reduction Programs - increasing, protocols					DELWP	
10	Community Education Programs / Activities - review and enhance					CFA, Council	
11	Fire Prevention Activities - ensure ongoing support and enhancement					CFA, COUNCIL	
12	Interaction with qualified CFA staff in relation to advice on; site mitigation works, suitable shelter in place, evacuation routes and locations					Centre Managers, Principals, DET and CFA	
6. Additional actions							
7. Notes or comments							
<p>Other considerations include: Community cohesion and support, personal trauma, food, shelter and clothing. Loss of neighbours' support, loss of community's communication venues and opportunities, loss of community cohesion, loss of recreational opportunities and resources. Loss of personal resilience and quality of life in the short, medium or long term. Loss of physical wellbeing in the short term.</p> <p>Related links:</p> <p>http://warnings.cfa.vic.gov.au/#map http://www.depi.vic.gov.au/fire-and-emergencies/managing-risk-and-learning-about-managing-fire/bushfire-history http://nremap-sc.nre.vic.gov.au/MapShare.v2/imf.jsp?site=fireplan</p>							

<https://www.emknowledge.gov.au/>
<http://www.depi.vic.gov.au/fire-and-emergencies>
http://www.ifmp.vic.gov.au/images/stories/document_archive/ifmp_framework.pdf

Hazard		Flood - Major			
Agency		SES			
Risk Ref Nos		02			
1. Hazard Description					
Warrnambool City Council area has significant waterways and drainage areas that are flood prone. Flooding that can occur includes flash flooding, inundation of low lying areas and riverine flooding. Each type is found within the council area.					
Flooding has historically caused damage to many townships and infrastructure in the area.					
2. Rationale for Hazard Description					
Over the past few years there have been many cases of riverine flooding within Warrnambool City Council, refer to flood history in the Municipal Flood Emergency Plan (MFEP)					
3. Causes and Contributing Factors					
	Description of causes/contributing factors	Description of preventative, detective and response controls your agency currently has in place for this hazard			Owner (s)
1	Atmospheric disturbances - Low pressure system (east coast lows)	Weather warnings / detection / forecasting - radar, observation, modelling			BOM
2	Atmospheric disturbances - Thunderstorms (including hail, wind, lightning, heavy rain)	Weather warnings / detection / forecasting - radar, observation, modelling. Community Education programs – StormSafe, FloodSafe.			BOM, VICSES
3	This risk subject to intensification due to climate change	Studies into Climate Change effects			Government
4	Topography - Vegetation, land use	Land use planning and vegetation management			Council
5	Blockages of drainage systems eg: build up of leaves / rubbish	Building regulations – building controls, planning regulations – enforcement, maintenance of systems. Public area maintenance - parks, gardens, trees, vegetation and public area management/maintenance. Drainage strategy / capacity standard / regulation.			Council
6	Difficulty in accessing inspection pit lids on private property, due to landscaping, development over underground infrastructure, or owners not being present to allow access.	Building regulations – building controls, planning regulations – enforcement, maintenance of systems			Council
7		Suitable ERCs to accommodate displaced people			Council
8		Annual asset maintenance plan for drainage system. Proactive drain cleaning program			Council
9		State Flood Emergency Plan			VICSES
10		Annual supply contract for additional support services in storm events			Council
11		Vulnerable Person Register			VicPol, Organisations, Council
12		Anti-erosion measures along all waterways			CCMA
13		Mitigation works along waterways, retarding basins, drainage works			Council
4. Impacts and existing mitigation controls (to be completed by the CERA Committee)1					
	Who or What	Vulnerability and/or Exposure	Likely Impact	Existing Impact Mitigation Controls	Owner(s)
1	People (Social)	Young, elderly and homeless	Loss of life or serious injury	Warnings and community education	VICSES

2	Property (Built)	Railway lines in treed areas, main roads	Damage or loss of key infrastructure - utilities, telecommunications. Damage or loss of private property including buildings and vehicles.	Regulations, insurance, climate change plans, building regulations and controls, planning regulations, education (floodsafe, stormsafe).			
3	Economy (Economic)	Areas subject to wind and weather forces	Damage or loss of industry / business. Business continuity impact cleaning up the storm damage.	Insurance, Building regulations – building controls, planning regulations - enforcement, education			
4	Environment (Natural)	Significant reserves, bushland, creek and river reserves	Damage to environment	Public area maintenance - parks, gardens, trees, vegetation and public area management / maintenance. Maintenance of drainage hotspots in conjunction with CMA. Consideration of additional drainage basins in conjunction with CMA			
5	Farmland (Agriculture)	Farmland	Washing away of top soil or damage to cops / paddocks				
6	Potential Dam failure	Flood-induced dam failure	Additional downstream flooding, loss of water supply to certain communities.	Dam Safety Surveillance Program, Dam Safety Emergency Plan, contingency plans			
7	People (Social)	Children's services and schools may not be able to operate due to flood damage, staff unable to access facilities, etc.	With facilities closed many parents will be forced to stay home to look after their children and not be able to attend work. This may impact on business, industry and community services to operate effectively.				
8	People						
5. Improvement opportunities linked to causes and impacts (to be completed by the CERA Committee)							
	Opportunity			Cause Number	Impact Number	Owners	Due Date
1	Community Education Programs / Activities - review and enhance eg Local Flood Guides Promotion of VICSES FloodSmart Emergency Toolkit					Council	
2	Review of Flood Response Plans Annual Review of: Flood Emergency Plan Flood Operations plan, Flood Weather Preparation Sheet, Plant & Equipment Plan Flood Warning Manual					Council, owners	
3	Review of possible re-introduction of 'Flood Wardens' within areas					BOM	
4	Community access to VICSES storm information via linkages on Council web site.					VICSES, Council	

5	Add Storm Emergency Plan details to Flood Emergency Plan		VICSES
6. Additional actions			
7. Notes or comments			
<p>Other considerations include: Community cohesion and support, personal trauma, food, shelter and clothing. Loss of neighbours' support, loss of community's communication venues and opportunities, loss of community cohesion, loss of recreational opportunities and resources. Loss of personal resilience and quality of life in the short, medium or long term. Loss of physical wellbeing in the short term.</p> <p>Additional existing treatments being Undertaken - Council enforcement of temporary and or damaged structures eg real estate signs.</p> <p>Useful Web Sites</p> <p>http://www.depi.vic.gov.au/water/Floods-and-floodplains https://www.emknowledge.gov.au/ www.floodvictoria.vic.gov.au http://www.depi.vic.gov.au/water/floods-and-floodplains/floodplain-management http://www.ses.vic.gov.au/prepare/floodsafe http://www.ses.vic.gov.au/prepare/em-planning/em-partners-resources/state-flood-emergency-plan http://www.ses.vic.gov.au/prepare/em-planning/em-partners-resources/south-west-regional-flood-response-plan</p>			

Hazard	Extreme Temperatures - Heatwave		
Agency	VicPol		
Risk Ref Nos	03		
1. Hazard Description			
Extreme Temperature Heatwave: There is a risk that a period of unusual and uncomfortable hot weather could impact on human health, community infrastructure (such as the power supply and public transport), and services. The Victorian Department of Health has a technical definition of a heatwave based on the minimum temperature threshold over a 24 hour period that is likely to impact on the health of a community, known as the heat health temperature threshold. The average temperature is calculated from the forecast daily maximum and the forecast overnight temperature, which is the daily minimum for the following day. The average temperature threshold for the Central Weather District is 30c. (Refer State Heat Plan 2014)			
2. Rationale for Hazard Description			
The events of the January 2009 heatwave in Victoria resulted in an estimated 374 excess deaths compared with the average rate in the same week over the previous five years, and serves as a reminder that the impact of heatwaves on human health is real and life threatening. Ambulance Victoria experienced a 2.8-fold increase in cardiac arrest cases during the January 2009 heatwave compared with the same period in previous year's Key findings of the chief health officer's report on the January 2009 Victorian heatwave. The report found there was:			
<ul style="list-style-type: none"> • a 25 per cent increase in metropolitan Ambulance Victoria total emergency cases and a 46 per cent increase over the three hottest days • a 34-fold increase in metropolitan Ambulance Victoria cases with direct heat-related conditions (61 per cent in those 75 years and older) • a 12 per cent overall increase in emergency department presentations, with a greater proportion of acutely ill patients, and a 37 per cent increase in those aged 75 years and over • an eightfold increase in direct heat-related emergency department presentations (46 per cent in those aged 75 years and older) • an almost threefold increase in patients dead on arrival (69 per cent aged 75 years and older) at emergency departments • 374 excess deaths over what would be expected: a 62 per cent increase in total all cause mortality. As a consequence of climate change the event is occurring with increasing frequency and will probably occur again regularly. 			
2012-2013 8 heatwave alerts plans were activated.			
3. Causes and Contributing Factors			
	Description of causes/contributing factors	Description of preventative, detective and response controls your agency currently has in place for this hazard	Owner (s)
1	Atmospheric conditions - This risk subject to intensification due to climate change	Weather detection / forecasting - radar, observation, modelling	BOM
2	Topography - Vegetation, land use	Community Education programs (community engagement)	DHHS, Council
3	Pre-existing illness, illness, preschool children and adults over 65 years of age. (cardiovascular, psychiatric illness, cognitive impairment, neurological disorders, respiratory disease, cancer, diabetes, obesity, pregnancy)	Statewide messaging is activated and Heat Health alerts distributed in advance of a heat event to council, government departments, health services and funded agencies who deliver services to people who may be impacted. Organisations activate their heatwave plan for local communications and monitoring clients at risk. e.g HACC Services information sheets.	BOM, DHHS, Council
4	Age (under 4 or over 65 years)	Building regulations / construction	Owners
5	Urban planning – environment (heat sink affect)	Heatwave planning – identification an promotion of heatwave friendly locations	DHHS, Council

6	People exercising or working outdoors on hot days	Staying healthy in the heat communication resources in a range of formats translated into community languages and Worksafe occupational health policies for outdoor workers in hot weather.	DHHS, Council		
7	Failing to keep cool; not running air conditioners due to cost impact	Encourage appropriate behaviour such as reducing excessive clothing, using cooling devices at home.	DHHS, Council		
8	Not drinking plenty of water; dehydration	Policy for working on hot days (OHS policy)	DHHS, Council		
9	Activity levels inappropriate to climatic conditions; failing to stay out of the sun	Plan for staff shortages, for example, if there is a Code Red Day	DHHS, Council		
10	Individuals on medication/substances that may affect the way their body reacts to heat	Active monitoring of Meals on Wheels clients	Council		
11		Health of animals- services an advice	Council		
12		State and local heatwave plans	DHHS, Council		
13		VicPol coordinate response in accordance with 2014-15 BSW regional Interim risk and consequence plan for bushfire, heatwave and flood. Surge capacity for AV and health service managed in accordance with the SHERP.	VicPol, DHHS, Utilities, PTV		
4. Impacts and existing mitigation controls (to be completed by the CERA Committee)¹					
	Who or What	Vulnerability and/or Exposure	Likely Impact	Existing Impact Mitigation Controls	Owner(s)
1	People (Social)	Elderly and young	Loss of life or serious illness	Education, warnings	DHHS, Council, All
2	Public Transport – Buses	All external lines and vehicles	Damage or loss of key infrastructure – public health services, buckled tracks and loss of services	Local Heat wave plans and strategies including provision of pre-identified cool locations	DHHS, Council, All
3	Power Utilities / Water	All infrastructure	Disruption to services – i.e transport, power (brown outs and blackouts due to excessive demand)	Surge Capacity, Brownouts, prioritisation of delivery	Utilities, State Government
4	Hospitals, Ambulances and Medical Facilities	All	Increase in demand on health systems due to increase in health conditions require treatment eg Heat cramps, Heat exhaustion and Heat stroke. Pressure on Ambulance services; increased burden on	Medical facilities – surge capability. Community engagement material on managing food safety and discarding unsafe or unsuitable food after a power outage.	DHHS, Council, All

			Health and medical services.		
5	Business, Council, Emergency Services	Food handling businesses	Outbreak of gastroenteritis due to poor food handling and storage following a power disruption.	Surge planning,	All
6	Property (Built)		Lack of capacity to deliver services - Business Continuity.		
7	People (Social)	Children are listed as one of the vulnerable groups in relation to heat stress	Children's services and schools have developed procedures for declared Heat Health days	DET will forward on all Heat Health Alerts to children's services and schools to ensure they are aware of these conditions and can implement their processes including altering programs as required.	Centre Managers
8	5. Improvement opportunities linked to causes and impacts (to be completed by the CERA Committee)				
1					Due Date
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
6. Additional actions					
7. Notes or comments					
<p>Other Actions including: Weather detection / forecasting - radar, observation, modelling Community Education programs (community engagement) Warnings and information – Heat Health alert / – Extreme Heat warnings e.g HACCC Services information sheets Building regulations / construction. Heatwave planning – identification and promotion of heatwave friendly locations Staying healthy in the heat communication resources in a range of formats translated into community languages. Encourage appropriate behaviour such as reducing excessive clothing, using cooling devices at home Policy for working on hot days (OHS policy) Plan for staff shortages, for example, if there is a Code Red Day Active monitoring of Meals on Wheels clients.</p> <p>KEY WEBSITES:</p>					

[http://docs.health.vic.gov.au/docs/doc/18BA71008326BA63CA257A360018513D/\\$FILE/planning-guide.pdf](http://docs.health.vic.gov.au/docs/doc/18BA71008326BA63CA257A360018513D/$FILE/planning-guide.pdf)
<http://www.health.vic.gov.au/environment/heatwaves.htm>
<http://www.health.vic.gov.au/environment/heatwaves-plan.htm>
<http://www.health.vic.gov.au/environment/heatwaves-planning.htm>
<http://docs.health.vic.gov.au/docs/doc/Heatwave-Planning-Guide:-Development-of-heatwave-plans-in-local-councils-in-Victoria>
<http://www.bom.gov.au/weather-services/about/heatwave-forecast.shtml>
<http://environmentvictoria.org.au/heatwaves>

Other considerations include: Community cohesion and support, personal trauma, food, shelter and clothing. Loss of neighbours' support, loss of community's communication venues and opportunities, loss of community cohesion, loss of recreational opportunities and resources. Loss of personal resilience and quality of life in the short, medium or long term. Loss of physical wellbeing in the short term.

Hazard		Storm	
Agency		04	
Risk Ref Nos		SES	
1. Hazard Description			
<p>Storms in this context may include wind storms, dust storms, tornados, hail storms and severe thunderstorms including hail storms and heavy rain leading to flash flooding. A severe storm event such as high winds, hail, torrential rain, lightning, etc. could cause traffic congestion, resident displacement, damage to infrastructure, disruption to service delivery and potential casualties. Recent events have impacted large segments of the municipality and taken significant time to reinstate.</p> <p>Storm damage has the potential to cause inconvenience through obstructions to transport (both major road network and public transport networks) in major traffic congestion, injuries and increase in road accidents. The temporary loss of services may result in the displacement of some members of the community through damage to premises. Typically, the damage will be in the form of fallen trees or tree branches and damage to residential /commercial roof structures and infrastructure. Additionally flash flooding, power failure, communication overload / failure, electrical wires down etc. are also potential risks the community may be exposed to.</p>			
2. Rationale for Hazard Description			
<p>Warmnambool City Council would expect 1 - 2 large storm events (over 20 Requests for Assistance (RFA)'s for the SES and typically 20 plus for the council) per year generally in the months spanning Aug to Mar - increasing since 1990's. Between July 2009 and September 2014 there were approximately 335 RFA's for Storm / Flood / Tree Down / Building Damage for VICSES. There is a strong likelihood of reoccurrence associated with climate change.</p>			
3. Causes and Contributing Factors			
	Description of causes/contributing factors	Description of preventative, detective and response controls your agency currently has in place for this hazard	Owner (s)
1	Atmospheric disturbances - Low pressure system (east coast lows)	Weather warnings / detection / forecasting - radar, observation, modelling	BOM, VICSES
2	Atmospheric disturbances - Thunderstorms (including hail, wind, lightning, heavy rain)	Community Education programs – StormSafe, FloodSafe	VICSES, COUNCIL
3	This risk subject to intensification due to climate change	Public area maintenance - parks, gardens, trees, vegetation and public area management / maintenance	COUNCIL, PV
4	Topography - Vegetation, land use	Land use planning and vegetation management	COUNCIL, STATE GOVT
5	Blockages of drainage systems eg: build up of leaves / rubbish	Building regulations – building controls, planning regulations - enforcement	Council
6	Extensive tree cover and undulating / hilly areas	Drainage strategy / capacity standard / regulation	Council
7	Conservation type areas with larger native trees	Permits and registration for public events. Hazard tree identification and treatment.	COUNCIL, LAND MANAGERS
8	Large number of homes with established large trees and street trees planted post-WW2	Flood Emergency Plan with Storm info incorporated into	COUNCIL, VICSES
9	Difficulty in accessing inspection pit lids on private property, due to landscaping, development over underground infrastructure, or owners not being present to allow access.	Anti erosion measures along all waterways	COUNCIL, PV, DELWP
		Suitable ERCs to accommodate displaced people	COUNCIL
		Annual asset maintenance plan for drainage system	COUNCIL
		Proactive drain cleaning program	COUNCIL

			Annual supply contract for additional support services in storm events	COUNCIL		
10			Vulnerable Person Register	VICPOL, COUNCIL		
4. Impacts and existing mitigation controls (to be completed by the CERA Committee)1						
	Who or What	Vulnerability and/or Exposure	Likely Impact	Existing Impact Mitigation Controls	Owner(s)	
1	People (Social)	All with greater impact on young, elderly and homeless.	Loss of life or serious injury	Warnings and community education		
2	Property (Built)	Railway line in treed areas, main roads.	Damage or loss of key infrastructure - roads, rails, public buildings, utilities. Damage or loss of private properties.	Regulations, insurance, drainage strategy/capacity standard / regulation, building regulations		
3	Economy (Economic)		Damage or loss of industry/ business, Business continuity plans.	Insurance, Building regulations – building controls, planning regulations - enforcement, education.		
4	Environment (Natural)	Significant reserves, bushland, creek and river reserves.	Damage to environment	Public area maintenance - parks, gardens, trees, vegetation and public area management/maintenance. Climate change plans.		
5				Maintenance of drainage hotspots		
5. Improvement opportunities linked to causes and impacts (to be completed by the CERA Committee)						
1	Investigate tighter rules re temporary structures eg Marquees and signs.				Council	Due Date
2	Review large trees in reserves and significant trees on boundary lines and do not plant close to property boundary.				Council	
3	Push notification to community for severe weather events				Council	
4	Community access to VICSES storm information via linkages on Council web site.				Council, VICSES	
5	Add Storm Emergency Plan details to Flood Emergency Plan				Council, VICSES	
6. Additional actions						
7. Notes or comments						
Additional existing treatments being Undertaken. Council enforcement of temporary and or damaged structures eg real estate signs.						
Other considerations include: Community cohesion and support, personal trauma, food, shelter and clothing. Loss of neighbours' support, loss of community's communication venues and opportunities, loss of community cohesion, loss of recreational opportunities and resources. Loss of personal resilience and quality of life in						

the short, medium or long term. Loss of physical wellbeing in the short term.

Related links:

<http://www.bom.gov.au/>

<https://www.emknowledge.gov.au/>

<http://www.ses.vic.gov.au/prepare/em-planning/state-plans>

<http://www.ses.vic.gov.au/prepare/stormsafe>

<http://www.ses.vic.gov.au/prepare/em-planning/em-partners-resources/state-storm-emergency-plan>

Hazard		Storm Surge			
Agency		SES			
Risk Ref Nos		05			
1. Hazard Description					
Storm surge - Rise above the normal water level along a shore.					
2. Rationale for Hazard Description					
There have been several storm surge events over the last few years and with the weather changing there is the possibility of more. The more notable occurrence is at the Warrnambool breakwater area and along parts of the foreshore areas which experienced erosion and damage.					
3. Causes and Contributing Factors					
	Description of causes/contributing factors		Description of preventative, detective and response controls your agency currently has in place for this hazard		Owner (s)
1	Strong onshore winds		Warnings		BOM, VICSES
2	Reduced atmospheric pressure		Weather detection / forecasting		BOM
3	Intense low pressure systems in non tropical areas		Building regulations / planning regulations		Council, Govt
4	Tropical cyclones		Agricultural management		
5	Earthquakes, landslides, volcanic eruptions, meteorite impact resulting in sudden movement of the ocean causing waves.		Land use planning. Joint Tsunami Warning Centre		COUNCIL, GOVT, BOM
6			Asset protection - barriers etc		Council
7			State Tsunami Plan		VICSES
4. Impacts and existing mitigation controls (to be completed by the CERA Committee)1					
	Who or What	Vulnerability and/or Exposure	Likely Impact	Existing Impact Mitigation Controls	Owner(s)
1	People (Social)	All with greater impact on young, elderly and homeless	Loss of life or serious injury	Warnings and community education	VICSES, BOM
2	Property (Built)	Railway line in treed areas, main roads	Damage or loss of key infrastructure - roads, rails, public buildings, utilities. Damage or loss of private properties.	Regulations, insurance, drainage strategy / capacity standard / regulation, building regulations.	All
3	Economy (Economic)	Areas subject to wind and weather forces.	Damage or loss of industry/ business, tourist attractions	Insurance, Building regulations – building controls, planning regulations - enforcement, education. Business continuity plans.	
4	Environment (Natural)	Significant reserves, bushland, creek and river reserves	Damage to environment	Public area maintenance - parks, gardens, trees, vegetation and public area management/maintenance. Climate change plans.	
5. Improvement opportunities linked to causes and impacts (to be completed by the CERA Committee)					
1					Due Date
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6. Additional actions					
7. Notes or comments					
<p>Other considerations include: Community cohesion and support, personal trauma, food, shelter and clothing. Loss of neighbours' support, loss of community's communication venues and opportunities, loss of community cohesion, loss of recreational opportunities and resources. Loss of personal resilience and quality of life in the short, medium or long term. Loss of physical wellbeing in the short term.</p> <p>Related links:</p> <p>https://www.emknowledge.gov.au http://www.ses.vic.gov.au/prepare/em-planning/state-plans http://www.ses.vic.gov.au/prepare/stormsafe http://www.ses.vic.gov.au/prepare/tsunamisafe http://www.ses.vic.gov.au/prepare/em-planning/em-partners-resources/state-tsunami-emergency-plan</p>					

Hazard		RAIR (Road/Air/Industrial/Rail)			
Agency		SES			
Risk Ref Nos		06			
1. Hazard Description					
RAIR is defined as an accident involving one or more of the following: Road, Air, Industrial and Rail.					
These events could occur together (EG. Car & train) or as a single event.					
2. Rationale for Hazard Description					
Within the Warrnambool City Council area there are major roads and connector roads, the VLine Melbourne to Warrnambool railway, the Warrnambool Airport and numerous industrial areas where incidents may and have occurred in the past.					
3. Causes and Contributing Factors					
	Description of causes/contributing factors	Description of preventative, detective and response controls your agency currently has in place for this hazard		Owner (s)	
1	Driver / Pilot / Human error	Traffic focussed police and cross agency operations; disruption and detection activity			
2	Weather factors (ie wet road surface) contributing	Corrective maintenance of engineering issues; Remove risks to road users			
3	Age and infirmity issues	Education campaigns; Educate pedestrians/drivers re risks and dangers related to certain activities (linkage to State Road Safety Strategy)			
4	Engineering issues (ie road surfaces / camber)	Signage			
5	Excessive speed	Engineering controls limiting usage of certain roadways; Controls driver behaviour			
6	Drug / Alcohol affected	Traffic Management Unit (design and construction of council roads)			
7	Mechanical / Maintenance / Design defects / failures	Community Safety Road Safety committee / Council Road Safety Strategy; to educate local road users to influence driver behaviours			
8	Runway incursions	Emergency Plans - Airport / Rail			
	Structural failure	Multi-agency Exercises			
	Environment or environmental conditions	Control Centres managing / monitoring train, aircraft movements			
	Chemical reaction	Signage			
	Highway-Rail Grade Crossing Accidents	Level crossing maintenance			
	Unusual Operational Situations	Signal / signage maintenance			
9	Signal / Communication failure	Security of rail infrastructure (including stations and yards)			
10	Track / structure failure				
4. Impacts and existing mitigation controls (to be completed by the CERA Committee)1					
	Who or What	Vulnerability and/or Exposure	Likely Impact	Existing Impact Mitigation Controls	Owner(s)
1	People (Social)		Death and serious injury requiring hospitalisation / rehabilitation	After hours service	
2	Property (Built)		Financial - loss of property / wages due to injuries / cost of medical care / rehabilitation	Road Management plan	
3	Economy (Economic)		Financial impact to business	Community Information	

4	Environment (Natural)		Damage or destruction to environment /industry / business / public or private infrastructure		
			Damage or loss of utilities - power, water, gas, telecommunications		
			Disruption to transport - Traffic congestion / delays / loss of services / blocked or inaccessible roads, rail, airports, industry		
			Significant impact on air, land, water or groundwater ecosystems and/or cultural heritage area. Air contamination and/or pollution"		
			Severe disruption to community wellbeing over the wide area or for more than 24; Public transport not operable or transport infrastructure damage		
			Emotional distress / Psychological impact to family, friends and the community		
5. Improvement opportunities linked to causes and impacts (to be completed by the CERA Committee)					
1	Investigation of signal installation / upgrades at level crossings				Due Date
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6. Additional actions		
7. Notes or comments		
<p>Useful Websites:</p> <p>TAC Crash Database: http://www.tacsafety.com.au/jsp/statistics/overview.do?areaID=12 Victorian Traffic Accident Statistics: http://www.vic.gov.au/transport-vehicles/transport-safety-a/traffic-accident-statistics-a.html ABS: Accidents, Injuries and Fatalities http://www.abs.gov.au/ausstats/abs@.nsf/2f762f95845417aeca25706c00834efa/45D87006541A9B6FCA2573D20010BEF4?opendocument Australian National Crash In-depth Study http://www.monash.edu.au/muarc/projects/ancis.html RoadSafe Victoria: http://www.roadsafe.org.au/index.php?option=com_content&view=article&id=88&Itemid=193 Road safety programs undertaken by local government http://www.monash.edu.au/muarc/reports/muarc163.html VicRoads Community Safety Programs http://www.vicroads.vic.gov.au/Home/SafetyAndRules/AboutRoadSafety/StrategyAndPrograms/CommunityRoadSafetyPrograms.htm VICROADS: Strategy & programs http://www.vicroads.vic.gov.au/Home/Moreinfoandservices/RoadManagementAndDesign/StrategyAndPrograms/</p>		

Hazard		Transport Incident - Marine			
Agency		VicPol			
Risk Ref Nos		07			
8. Hazard Description					
VICPOL / Coast Guard may assist with detail					
9. Rationale for Hazard Description					
10. Causes and Contributing Factors					
	Description of causes/contributing factors	Description of preventative, detective and response controls your agency currently has in place for this hazard			Owner (s)
1	Accident with the vessel	Port Emergency Plans			
2	Deliberate act to damage / destroy the vessel	Maritime education and training			
3	Vessel malfunction - power loss	Regular emergency exercises			
4	Significant weather event	Navigational Aids			
5	Treacherous seas				
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11. Impacts and existing mitigation controls (to be completed by the CERA Committee)1					
	Who or What	Vulnerability and/or Exposure	Likely Impact	Existing Impact Mitigation Controls	Owner(s)
1	Commercial Fishing Vessels	Passengers with limited language	Loss of Life/ Injury	Emergency Exercises	
2		Large numbers of people involved	Loss or damage of vessel	Emergency plans	
3	Marine infrastructure		Economic loss through the loss or damage to ship		
4			Tourism industry losses due to the incident		
12. Improvement opportunities linked to causes and impacts (to be completed by the CERA Committee)					
1					Due Date
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13. Additional actions				
14. Notes or comments				
Useful Web Sites:				
https://www.atsb.gov.au/marine/ http://www.ppsp.com.au/default.aspx http://www.portofmelbourne.com/ http://oceans1.customer.netspace.net.au/portphillip-wrecks.html				

Hazard		Utility Service Disruption			
Agency		Department of State Development Business Innovation (Energy Sector)			
Risk Ref Nos		8			
1. Hazard Description					
Extended period (12 hours) of disruption to services such as gas, electricity, water or telecommunications may impact the community in the areas of health and business viability, cause community displacement and cause personal hardship. Vulnerable groups may be more susceptible to the impacts. Potential displacement of residents, public health concerns particularly those who require services such as dialysis, could cause injuries and potential fatalities. Loss of services would potentially have major impact on business and industry causing loss of income. Potential for hospitalisation of vulnerable members of community.					
2. Rationale for Hazard Description					
Longford gas outage; **Awaiting further statistical info from Utility companies.					
Water and Wastewater systems are prone to failure on an almost daily basis. The vast majority of these failures have limited consequence and are generally of a short-term nature (less than 1 day to restore).					
Extended outages of water and sewerage services will generally be related to regional issues of extended power outage, fires, terrorism.					
3. Causes and Contributing Factors					
	Description of causes/contributing factors		Description of preventative, detective and response controls your agency currently has in place for this hazard		Owner (s)
1	Loss of utilities due to a distribution network failure		Businesses are encouraged to have business continuity arrangements in place		Utilities
2	Industrial action affecting utility supplier		Community Education to reduce consumption		Utilities
3	Utility infrastructure failure (various reasons)		Network maintenance, investment and repairs		Utilities
4	Accident		Infrastructure security		Utilities
5	Drought affecting water and electricity supply		Monitoring of consumption		Utilities
6	Deliberate disruption		Infrastructure redundancy		Utilities
7	Scarcity of fuel		Vulnerable Persons Register		VicPol, Council
8	Adverse weather / fire		Suitable ERC and facility plans developed to accommodate displaced persons		Council
9			MAV Resource Sharing program		Council
10			Provision of resources and assistance, equipment etc via MECC		Council
11	Other regional hazard - extended power outage, fire, terrorism		Internal emergency response procedures, contingency and resilience plans, emergency power generators and prioritised use.		Water Authority
4. Impacts and existing mitigation controls (to be completed by the CERA Committee)1					
	Who or What	Vulnerability and/or Exposure	Likely Impact	Existing Impact Mitigation Controls	Owner(s)
1	People (Social)	All	Inconvenience for households (ie for cooking or hot water services)	Load Shedding,	Utilities
2	People (Social)	All	Public health issues – food safety, sanitation	Community information and warnings	Council, DHHS
3	People (Social)	Lower socio economic	Economic loss	Govt loans / grants	DHHS

4	People (Social)	Lower socio economic	Loss of key services (eg public health services, transport)	BCP, Relief centres	Council, DHHS
5	Economy (Economic)	All- particularly smaller businesses.	Disruption to industrial processes	Insurance	Businesses
6	Economy (Economic)		Loss of services to business (long term)	Alternate energy sources- eg standby generators	
7	People (Social)	Schools and children's services reliant on electricity to run water pumps for toilet flushing are particularly vulnerable as they are not able to operate if the disruption lasts for an extended time.	Facilities would need to close unless alternative power source is available with parents forced to stay home to look after their children and not be able to attend work. This may impact on business, industry and community services to operate effectively.	Notification of short term outages assist facilities to manage these situations.	Power distributors
8					
5. Improvement opportunities linked to causes and impacts (to be completed by the CERA Committee)					
				Owner	Due Date
	More data from the utility companies			Utility Companies	
	Promotion of Solar (alternate) power systems			Government	
	Opportunity to strengthen building standards			State/Govt, Council	
6. Additional actions					
7. Notes or comments					
<p>Limited historical data. Input from Utility to be sourced if possible. Power or results. AER Reliability Targets for 2013.</p> <p>#Average minutes disconnected per year (SAIDI). Unplanned 22.4 minutes</p> <p>Other considerations include: Community cohesion and support, personal trauma, food, shelter and clothing. Loss of neighbours' support, loss of community's communication venues and opportunities, loss of community cohesion, loss of recreational opportunities and resources. Loss of personal resilience and quality of life in the short, medium or long term. Loss of physical wellbeing in the short term.</p>					

Related links:

www.barwonwater.vic.gov.au

www.powercor.com.au

www.aemo.com.au

Hazard		Marine Pollution			
Agency		Department of Transport Planning Local Infrastructure			
Risk Ref Nos		09			
1. Hazard Description					
The release of liquid petroleum hydrocarbon into the environment, especially marine areas, due to human activity. Marine pollution emergency risks range in scale from small spills of a few hundred litres to very large spills of thousands of tonnes. The response will be proportionate to the event but it is worth noting that in significant spills local government will be a key participant at incident level due to associated community impacts and resource requirements.					
2. Rationale for Hazard Description					
In 2013, the Port of Melbourne Corporation reported that there were 542 shipping arrivals to Geelong and 526 departures. Of these 223 were 'bulk liquid' transport vessels. There is a potential with the amount of ship movements around Warrnambool harbour and along the coastline with bulk tankers and ships that product may make its way to the coastline or in the harbour area					
3. Causes and Contributing Factors					
	Description of causes/contributing factors	Description of preventative, detective and response controls your agency currently has in place for this hazard			Owner (s)
1	Extreme sea or weather conditions	Ship radar			
2	Collisions (ship to ship), (ship to pier), (ship & navigational marker)	On board GPS, radar, Boat / ship regulations			
3	Damaged Hull	More modern ship hulls are double skin. Planning spill response			
4	Fires and explosions	On board fire suppression equipment & training			
5	Groundings	On board GPS, radar			
6	Loading / discharging	WoVG training programs (marine pollution specific)			
7	Equipment failures	Contingency Plans, marine pollution legislation			
8	Regulatory failures	Strategically placed marine pollution assets			
	Discharge of hydrocarbons from vessel due to grounding or collision	Community Education programs to create awareness of marine pollution			
	Shore-based facilities (e.g. industry) or diffuse land-based sources (e.g. drains) discharged into the marine environment.	Sub plans – Wildlife response plan / coastal risk analysis (determination of sensitivities)			
4. Impacts and existing mitigation controls (to be completed by the CERA Committee)1					
	Who or What	Vulnerability and/or Exposure	Likely Impact	Existing Impact Mitigation Controls	Owner(s)
1	Environment (Natural)		Damage or destruction to environment	Oil spill response plan	DEDJTR
2	Economy (Economic)		Damage or loss of industry/ business		
3	Economy (Economic)		Disruption or loss of productivity		
4	Economy (Economic)		Economic impact on tourism		

5	People (Social)		Emotional distress /Psychological impact to family, friends and the community		
6	People (Social)		Loss of life or serious illness		
7	People (Social)		Loss or damage to community confidence		
8	People (Social)		Loss of life or injury		
9	Environment (Natural)		Hypothermia in birds by reducing or destroying the insulation and waterproofing properties of their feathers.		
10	Environment (Natural)		Birds become easy prey as their feathers being covered in oil make them less able to fly away.		
11	Environment (Natural)		Reduced water quality		
5. Improvement opportunities linked to causes and impacts (to be completed by the CERA Committee)					
1	Have a representative from DEDJTR speak about the Marine Oil Spill Plan at a MEMPC Meeting				Due Date
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6. Additional actions					
7. Notes or comments					
Marine pollution oil spills in Victorian coastal waters up to three nautical miles.					

Useful websites:

<http://www.dtpli.vic.gov.au/transport/emergency-management-for-transport-operators/marine-pollution>

<http://www.dtpli.vic.gov.au/transport/emergency-management-for-transport-operators/marine-pollution/victorian-plan-for-maritime-environmental-emergencies>

<http://files.dtpli.em.vic.gov.au/VicPlan/MP-VicPlan.pdf>

Hazard		Hazardous Materials Release (Transport / Facility)			
Agency		CFA			
Risk Ref Nos		10			
1. Hazard Description					
A Hazardous substance is a substance as listed on the national Hazardous Substances Information System and the concentration of the substance or its ingredients equals or exceeds the listed concentration cut-off levels that has the potential to harm people's health. These substances can be solids, liquids or gases, which often are in the form of fumes, dusts, mists and vapors.					
2. Rationale for Hazard Description					
Release of hazardous materials e.g. Chemical, Biological, Radiological (CBR) including the transportation of these materials could cause significant risk to life, damage to the environment and / or infrastructure. These incidents may often result in explosions or fires. MHFs must be licensed to operate within the State of Victoria. The operator must conduct safety assessments of potential incidents & hazards. MHFs have to demonstrate their operational safety through a Safety Case developed specifically for their unique operations and situation. The Safety Case sets out the adequacy of the site's safety management system by specifying prevention measures as well as strategies for reducing the effects of a major incident if one does occur. The relevant emergency services should be consulted on emergency plan preparation, and the local municipal council should be consulted on actions required for the safety of local community members in the event of a major incident. Product is transferred from ship to wharf pipeline, via product hose or loading arm. Possible marine pollution with leaks from hoses, valves, pipelines.					
3. Causes and Contributing Factors					
	Description of causes/contributing factors	Description of preventative, detective and response controls your agency currently has in place for this hazard			Owner (s)
1	Transportation Accident	Planning Scheme controls to ensure activities occur in appropriate zones.			Council
2	Operator error at facility	Planning, Environmental, Workplace Regulation enforcement			Worksafe, EPA
3	Equipment failure at manufacturing / storage facilities	Maintenance & inspection programs by operator and / or WorkSafe. Product monitoring and safety systems			Owner
4	Deliberate Act	CCTV equipment monitoring & other security measures Vulnerable Persons Register Operator Safety Case			Operator, VicPol, Council
5	Connecting / disconnecting ship to wharf line hoses - leak from connection.	Procedures. Pumping ceased and all valves closed during connection / disconnection. Wharf banded under pipe manifolds.			Terminals
6	Discharging product - leak under pressure	Connections nitrogen pressure tested prior to product flow to check for leaks. Hoses inspected each use and pressure tested annually. Wharf lines pressure tested			Terminals
7	Cleaning out wharf lines	Wharf lines blown through to tanks with nitrogen. Lines empty prior to being disconnected from product at each end, when pigging			Terminals
8					
4. Impacts and existing mitigation controls (to be completed by the CERA Committee)1					
	Who or What	Vulnerability and/or Exposure	Likely Impact	Existing Impact Mitigation Controls	Owner(s)
1	People (Social)	Immediate and nearby	Possible loss of life or injury. Increase in demand on health services. Displacement of people. Personal trauma. Persistent and widespread effect of	Emergency service response framework. Support services. Regulations. Suitable ERCs in place in case of evacuations.	CFA, DHHS, Council

			toxic materials extending over a couple of months.		
2	Property (Built)		Damage and / or disruption to infrastructure and utilities.	Monitoring, Emergency Response.	EPA / CFA
3	Economy (Economic)		Disruption to at least one industry sector. Loss of essential service	Economic Grants, Insurance	Owners
4	Environment (Natural)		Possible significant impact on air, land, water or groundwater ecosystems and / or cultural heritage area.	Strict emissions controls	EPA
5					EPA
6	Farmland (Agricultural)		Possible impact on air, land, water or groundwater ecosystems and / or cultural heritage area.	Strict emissions controls	EPA
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5. Improvement opportunities linked to causes and impacts (to be completed by the CERA Committee)					
1					Due Date
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6. Additional actions					
7. Notes or comments					
Useful websites: http://www.worksafe.vic.gov.au/wps/wcm/connect/wsinternet/WorkSafe/Home/Safety+and+Prevention/Health+And+Safety+Topics/Hazardous+Substances/D_Hazardous+substances					

<http://www.worksafe.vic.gov.au/wps/wcm/connect/wsinternet/WorkSafe/Home/Safety+and+Prevention/Health+And+Safety+Topics/Material+Safety+Data+Sheets/>

http://www.epa.vic.gov.au/waste/hazardous_waste.asp

<http://www.chemclear.com.au/category.php?id=18>

Hazard		Human Epidemic / Pandemic			
Agency		DH			
Risk Ref Nos		11			
1. Hazard Description					
There is a risk that a major outbreak of infectious disease can cause serious harm and illness to affected persons, anxiety to the families and disrupt workplaces. These diseases can be transmitted via person-to-person such as influenza and colds as well as vaccine-preventable diseases e.g. meningitis and chicken pox which can result in an epidemic or worldwide pandemic outbreak. Influenza is the most likely virus to cause a pandemic and the cause of the most recent pandemics. Another risk of a major outbreak is food poisoning as a result of poor food safety practices, usually from a point source, which could also be further transmitted by affected persons. These issues could adversely affect local business, community service, agencies service provision and institutional provision.					
2. Rationale for Hazard Description					
An influenza pandemic occurs when a new viral strain appears to which there is little or no immunity in the population. This is then readily transferred between humans, to produce infection in a high proportion of those exposed. New viral strains are associated with high morbidity, excess mortality and social and economic disruption. There were three pandemics in the 20th century: 1918 (Spanish Influenza caused 40–50 million deaths), 1957 (Asian Influenza caused 1 million deaths) and 1968 (Hong Kong Influenza caused 1 million deaths). In 2003, the World Health Organization (WHO) reported an outbreak of H5N1, a highly pathogenic avian influenza (bird flu), affecting a number of countries. The H5N1 virus has not yet been known to transmit effectively between humans. The WHO has warned that the world could be facing the next influenza pandemic, should the H5N1 virus mutate and be efficiently transmitted between humans. In late April 2009, the World Health Organization (WHO) announced the emergence of a novel influenza A virus. This particular H1N1 strain had not circulated previously in humans. The virus was contagious, spreading easily from person-to-person and from one country to another. Globally, the 2009 influenza pandemic was considered to be of moderate severity with the overwhelming majority of patients experiencing mild symptoms and making a rapid and full recovery. Influenza is a notifiable disease.					
3. Causes and Contributing Factors					
	Description of causes/contributing factors		Description of preventative, detective and response controls your agency currently has in place for this hazard		Owner (s)
1	Cross species transmission of a new virus strain		Council Influenza pandemic plan in development.		DHHS, Council
2	Air travel to endemic areas / break out areas		Screening at risk individuals and education programs – practice safe hygiene and follow public health official directions during outbreak. Coordinated media messaging provided to council, health services and agencies by DHHS. Multi-lingual.		DHHS, Council
3	Aerosol spread or direct contact		Treatment of high risk groups with antivirals.		DHHS, Council
4	Lack of personal hygiene		Manage the impacts of the disease in the community, with voluntary quarantine of household contacts. Enact existing environmental health protocols for management of gastroenteritis outbreaks in consultation with DHHS.		DHHS, Council
5	Lack of immunisation within the community		Immunisation Programs		DHHS, Council
6	Poor food safety		Council EHO's- monitoring and education roles		DHHS, Council
7			Inspection programs - food safety, accommodation standards, and personal care and body art industry.		DHHS, Council
8			Victoria Human Influenza Pandemic Plan.		DHHS
4. Impacts and existing mitigation controls (to be completed by the CERA Committee)1					
	Who or What	Vulnerability and/or Exposure	Likely Impact	Existing Impact Mitigation Controls	Owner(s)
1	People (Social)		Mass fatalities: significant morbidity and mortality.	Anti Virals, Medical intervention, Quarantine restrictions; in the home and at borders	DHHS, Council

2	People (Social)		Illness or injury; life threatening and / or cause life-long impairment.	Quarantine restrictions; in the home and at borders	DHHS, Council
3	People (Social)		Social isolation	Provision of information to affected communities and individuals regarding, cross infection, prevention and management of infection	DHHS, Council
4	People (Social)			MEMP sub plans - Influenza Pandemic Plan	DHHS, Council
5	People (Social)				MEMP
6	Economy (Economic)		Economic impact: loss of productivity; economic disruption, reputation of municipality.	BCP - Business Continuity Planning	Businesses
7	Property (Built)		Essential service failure or disruption	BCP - Business Continuity Planning	Council
8	Health Services		The provision of services may be effected, both increase in demand on some services, and reduced community group-related services.	SHERP	State Govt
	Environment (Natural)		Health and Medical facilities overwhelmed; ability of health and emergency systems to respond effectively is put under extreme pressure by the rapid increase of illness.	SHERP	State Govt
	People (Social)	The impact of a pandemic on children's services and schools may be to reduce staff numbers or require the closure these facilities to prevent the possible spread of infection.	With facilities closed many parents will be forced to stay home to look after their children and not be able to attend work. This may impact on business, industry and community services to operate effectively.	Children's services and schools have hygiene plans in place. A pandemic will be managed by DET centrally and will liaise with the State Control Centre and State Emergency Management Team.	Centre Managers
5. Improvement opportunities linked to causes and impacts (to be completed by the CERA Committee)					
1	Regular review of the Influenza Pandemic Plan				Due Date
2	Regular review of MEMP and sub-plans				

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6. Additional actions					
7. Notes or comments					
<p>Pandemic Plans has been developed. Other considerations include: Community cohesion and support, personal trauma, food, shelter and clothing. Loss of neighbours' support, loss of community's communication venues and opportunities, loss of community cohesion, loss of recreational opportunities and resources. Loss of personal resilience and quality of life in the short, medium or long term. Loss of physical wellbeing in the short term.</p> <p>Related links:</p> <p>http://health.vic.gov.au/ http://docs.health.vic.gov.au/docs/doc/Victorian-health-management-plan-for-pandemic-influenza--October-2014</p> <p>http://health.vic.gov.au/sherp/index.htm</p>					

Hazard		Exotic Animal Disease			
Agency		DH			
Risk Ref Nos		12			
1. Hazard Description					
An emergency animal disease can occur in the municipality at any time of year. They are most often caused by failure of biosecurity measures or introduction from wild animals. Under the right environmental conditions, an emergency animal disease has the potential to impact large numbers of properties and livestock and last weeks or months.					
Diseases that affect cattle, sheep and goats may be caused by: • Infections from bacteria, viruses or fungi • Parasite infestations • Nutritional deficiencies, excesses or imbalances • Metabolic disorders					
2. Rationale for Hazard Description					
Whilst no emergency disease outbreaks have previously occurred in livestock in the Warrnambool City Council area, the risk still remains high given the large volume of agriculture in this municipality and the saleyards. Impacts include loss of international markets which may require agriculture activity to cease; damage to reputation; media attention; economic losses to individuals and regions; health and wellbeing issues for affected people; social problems; imposition of product and transport movement restrictions; litigation issues; method of destruction and disposal may cause further environmental impacts eg. burning stock, mass burial sites.					
3. Causes and Contributing Factors					
	Description of causes/contributing factors	Description of preventative, detective and response controls your agency currently has in place for this hazard		Owner (s)	
1	Disease outbreaks - exotic, endemic, major other disease	Inspections of facilities and site to ensure compliance with state and federal regulations			
2	Poor hygiene controls in agriculture production areas	Quarantine and biosecurity measures			
3	People breaching biosecurity measures	Education & community awareness			
4	Industry not understanding risks associated with disease	Imposition of vaccination programs			
5	Financial pressures forcing businesses to take short cuts	Destruction of stock			
6	Deliberate act	Animal welfare controls			
7	Change in climate	National tracing systems of livestock			
8	Animals not being vaccinated	Veterinary inspections - significant disease investigations			
	Imported from overseas - visitors, foodstuffs	Several disease surveillance programs			
	Wild animals and birds contaminating feed and water supplies	Disease surveillance database			
	Wild animals and birds causing direct introduction to animals	National and state exercises			
	Periurban landholders	Scenario-based training			
		Warrnambool City Council Municipal Animal Welfare Plan			
4. Impacts and existing mitigation controls (to be completed by the CERA Committee)1					
	Who or What	Vulnerability and/or Exposure	Likely Impact	Existing Impact Mitigation Controls	Owner(s)

1	Economy		Loss of stock	Report to a local vet or by contacting the Emergency Animal Disease Watch Hotline	
2	Economy		Reduced productivity rates	Promptly treating or depopulating any animals suffering from disease	
3	Economy		Loss or destruction of business	Identification of burial sites	
4	Economy		Economic downturn within local area	Quarantine plan of local area	
5	Economy		Impact on tourism (eg Hendra virus impact on racing - Melton Harness racing industry, Melbourne Cup)	Community Warnings and information	
6	People		Psychosocial impacts on individuals/families	Response and recovery plans	
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5. Improvement opportunities linked to causes and impacts (to be completed by the CERA Committee)					
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6. Additional actions					
7. Notes or comments					
Helpful Websites http://www.dpi.vic.gov.au/agriculture/pests-diseases-and-weeds/animal-diseases/notifiable-diseases2					

Hazard		Food / Water Supply Contamination			
Agency		DH			
Risk Ref Nos		13			
1. Hazard Description					
Presence in food and water of harmful chemicals and microorganisms which can cause consumer illness. Examples could be cryptosporidium in water supply, intentional food contamination (extortion), salmonella poisoning.					
2. Rationale for Hazard Description					
There have been a number of food related contamination events within the local area, some have been isolated and some have been more widespread.					
3. Causes and Contributing Factors					
	Description of causes/contributing factors	Description of preventative, detective and response controls your agency currently has in place for this hazard			Owner (s)
1	Pathogens	MOUs / Cross Municipality Agreements			
2	Chemicals / chemical discharge	Business Continuity Planning			
3	Bad food / water handling	Emergency Kits			
4	Potable water contamination	Externally-certified Water Quality Risk Management Plan, water quality testing and response procedures.			
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4. Impacts and existing mitigation controls (to be completed by the CERA Committee)1					
	Who or What	Vulnerability and/or Exposure	Likely Impact	Existing Impact Mitigation Controls	Owner(s)
1	People (Social)		Loss of life, increase in illness		
2	Environment (Natural)		Damage or destruction to environment		
3	Economy (Economic)		Damage or loss of agriculture		
4	Economy (Economic)		Damage or loss of industry / business		
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5. Improvement opportunities linked to causes and impacts (to be completed by the CERA Committee)					
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6. Additional actions					
7. Notes or comments					
<p>Other considerations include: Community cohesion and support, personal trauma, food, shelter and clothing. Loss of neighbours' support, loss of community's communication venues and opportunities, loss of community cohesion, loss of recreational opportunities and resources. Loss of personal resilience and quality of life in the short, medium or long term. Loss of physical wellbeing in the short term.</p> <p>Related links:</p> <p>www.barwonwater.vic.gov.au http://www.goodfood.com.au/good-food/food-news/when-food-goes-wrong-20140301-33s1h.html http://www.health.vic.gov.au/foodsafety/ http://www.health.vic.gov.au/water/index.htm</p>					

Hazard		Terrorism			
Agency		VicPol			
Risk Ref Nos		14			
1. Hazard Description					
Warrnambool City Council is host to thousands of visitors per year through its extensive foreshore, summer activities and events. Any mass gathering of people provides the opportunity for terror related activities to occur and are essentially non preventable to a certain extent.					
2. Rationale for Hazard Description					
Whilst the Warrnambool City Council has not been directly exposed to any terror related incident, the Commonwealth Government has a National Terrorism Threat Advisory System which is sitting at Probable in May 2017.					
3. Causes and Contributing Factors					
	Description of causes/contributing factors	Description of preventative, detective and response controls your agency currently has in place for this hazard			Owner (s)
1	Revenge	Counter Terrorism Intelligence Gathering, Planning and Coordination			
2	Mental Disorders	Emergency Management Plans including specific local community and facilities			
3	Racism	Emergency Management Plans for major events and mass gatherings			
4	Extremist beliefs	Protection of Assets			
5	Religious value conflicts	Review of security systems and protocols			
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4. Impacts and existing mitigation controls (to be completed by the CERA Committee)1					
	Who or What	Vulnerability and/or Exposure	Likely Impact	Existing Impact Mitigation Controls	Owner(s)
1	Community Members	Target or indirect exposure	Mass loss of life and injury	Emergency Response Framework	
2	Residences, Businesses and Infrastructure	Target or indirect exposure	Displacement; short term	Municipal Emergency Management Plan	
3	Health Services Business and Industry Demand for utilities	Target or indirect exposure and service provision	Psychological impact and emotional distress	State Health Emergency Response Plan	
4	Council Services	Target or indirect exposure and service provision	Disruption to Businesses and Industry	Emergency Response Plans	

5	Transport Network	Target or indirect exposure	Disruption to transport		
6			Increased demand for health services and/or disruption		
7			Increased demand for council services and/or disruption		
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5. Improvement opportunities linked to causes and impacts (to be completed by the CERA Committee)					
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6. Additional actions					
7. Notes or comments					
Useful Websites:					
https://www.nationalsecurity.gov.au/Securityandyourcommunity/Pages/National-Terrorism-Threat-Advisory-System.aspx					

Hazard		Earthquake			
Agency		SES			
Risk Ref Nos		15			
1. Hazard Description					
Shaking and vertical and / or horizontal vibration at the surface of the Earth caused by underground movement along a fault plane or by volcanic activity.					
It is generally accepted that an earthquake greater than 4 is the trigger point for significant damage					
2. Rationale for Hazard Description					
Australia sits on a Tectonic Plate, however there are many fault lines within the Barwon South West Region. There have been approximately 8 earthquakes since 1900 within the Warrnambool City Council area area or just offshore in Bass Strait.					
On the 6th April 1903 an earthquake occurred and again on the 15th July 1903 an earthquake of magnitude 5.3 occurred in the Warrnambool area which caused some building damage.					
3. Causes and Contributing Factors					
	Description of causes/contributing factors	Description of preventative, detective and response controls your agency currently has in place for this hazard			Owner (s)
1	Rocks break and move as a result of stresses caused by tectonic plate movements	Earthquake monitoring			VICSES
2	Volcanic activity	Community education programs – QuakeSafe			VICSES
3	Melting of ice sheets – less pressure on underlying rocks	Building Regulation / planning			Council/State Govt
4		Public warning announcements			VICSES
5		Dam assessments / strengthening			Owners, DELWP
6		Retrofit legacy assets, specific vulnerable / critical structures for review			Owners, DELWP
7		Exercise and planning			VICSES
8		Emergency planning individual / household			VICSES
		Emergency planning industrial / commercial			VICSES
		State Earthquake Plan			VICSES
4. Impacts and existing mitigation controls (to be completed by the CERA Committee)1					
	Who or What	Vulnerability and/or Exposure	Likely Impact	Existing Impact Mitigation Controls	Owner(s)
1	People (Social)		Loss of life or injury. Disruption to essential services – health services, schools		
2	Property (Built)		Damage or loss of infrastructure, utilities, private property.		
3	Economy (Economic)		Loss of business/industrial output		

4	Environment (Natural)				
5	Farmland (Agricultural)				
6	Other Emergency Response		Results in landslides, avalanches, fires, tsunamis, floods	Restrict Access / Evacuation planning	
7	People		May lead to disease and lack of basic necessities (food, water)	Restrict Access / Evacuation planning	
8	Water supply reservoirs	Seismic induced failure of dam walls	Downstream flooding, potential life-risk, long term water availability impact in some catchments	Dam design in accordance with National guidelines, Dam Safety Emergency Plans and Dam Safety Surveillance program	
5. Improvement opportunities linked to causes and impacts (to be completed by the CERA Committee)					
1	Development of a Regional Earthquake Plan			VICSES	Due Date
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6. Additional actions					
7. Notes or comments					
Other considerations include: Community cohesion and support, personal trauma, food, shelter and clothing. Loss of neighbours' support, loss of community's communication venues and opportunities, loss of community cohesion, loss of recreational opportunities and resources. Loss of personal resilience and quality of life in the short, medium or long term. Loss of physical wellbeing in the short term.					
Related links:					

<http://www.ses.vic.gov.au/prepare/quakesafe>

<http://www.ga.gov.au/earthquakes/>

<http://www.disasters.ema.gov.au/Browse/Categories.aspx>

<http://www.ga.gov.au/earthquakes/searchQuake.do;jsessionid=471F404DD6FCEB8C72F4AC0DD566CBC3?isNewSearch=false&paging=true®ion=4®ionSelect=select&northLat=-38.16&westLon=143.78&eastLon=144.39&southLat=-38.71&magnitudeMin=0.0&magnitudeMax=9.9&startDate=01%2F01%2F1900&startTime=00%3A00&endDate=03%2F05%2F2015&endTime=23%3A59&depthMin=0&depthMax=1000&quakeType=1&sortAttributeName=utcdat&sortType=desc&rowsPerPage=25&displayMap=1&search=Search>

<http://www.ses.vic.gov.au/prepare/em-planning/em-partners-resources/state-earthquake-emergency-plan>