

Department of Premier and Cabinet

Submission to the Independent Review into the
June 2016 Tasmanian Floods

December 2016

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1. Background

The June 2016 floods had widespread impact on the State, causing devastation to individuals, families, businesses, farmers and local communities across 19 local government areas. Tragically, two Tasmanians lost their lives and another remains missing.

The full impact of the floods may take many months or years to be realised. However, based on current estimates:

- the total damage bill will exceed \$180 million, including \$80 million damage to infrastructure;
- the economic cost to agribusiness is estimated to be \$70 million and the estimated cost to small business is \$3.4 million;
- numerous parks and reserves suffered significant damage, including roads, bridges, walking tracks, campgrounds, viewing platforms and other public amenities with the cost of repair estimated to be \$6.4 million; and
- significant damage was caused to local government assets and there is likely to be significant and ongoing impacts on many industries, such as tourism, which cannot yet be fully quantified.

This submission focuses on how the Department of Premier and Cabinet (DPAC) performed its functions in the period 4 to 10 June 2016 consistent with Tasmania's emergency management arrangements and, where appropriate, raises policy issues for the Review's consideration. Not addressed are matters relating to operational response, which are the province of emergency services, or medium-long term recovery arrangements, which are still underway and will be the subject of a separate report by the Flood Recovery Taskforce.

DPAC played a key role in supporting emergency services and the community during the response and consequence management phases of the floods. Key activities included managing whole-of-government support for public information, activating the call centre and Service Tasmania shops for the dissemination of information, and coordinating support to emergency services by personnel from other agencies.

DPAC also played a key role in supporting the broader Tasmanian Government strategy for managing the floods by providing support to the Premier and other Ministers, supporting cross-agency coordination through the establishment of the Multi-Agency Recovery Committee and assisting in the establishment of Flood Recovery Taskforce.

This submission provides a high level description of Tasmania's emergency management arrangements (Section 2), describes DPAC's role in emergency management (Section 3) and addresses each of the Review's Terms of Reference (Section 4).

DPAC notes that, in addition to this Review, there are a number of other inquiries, studies and reviews underway in relation to the floods including:

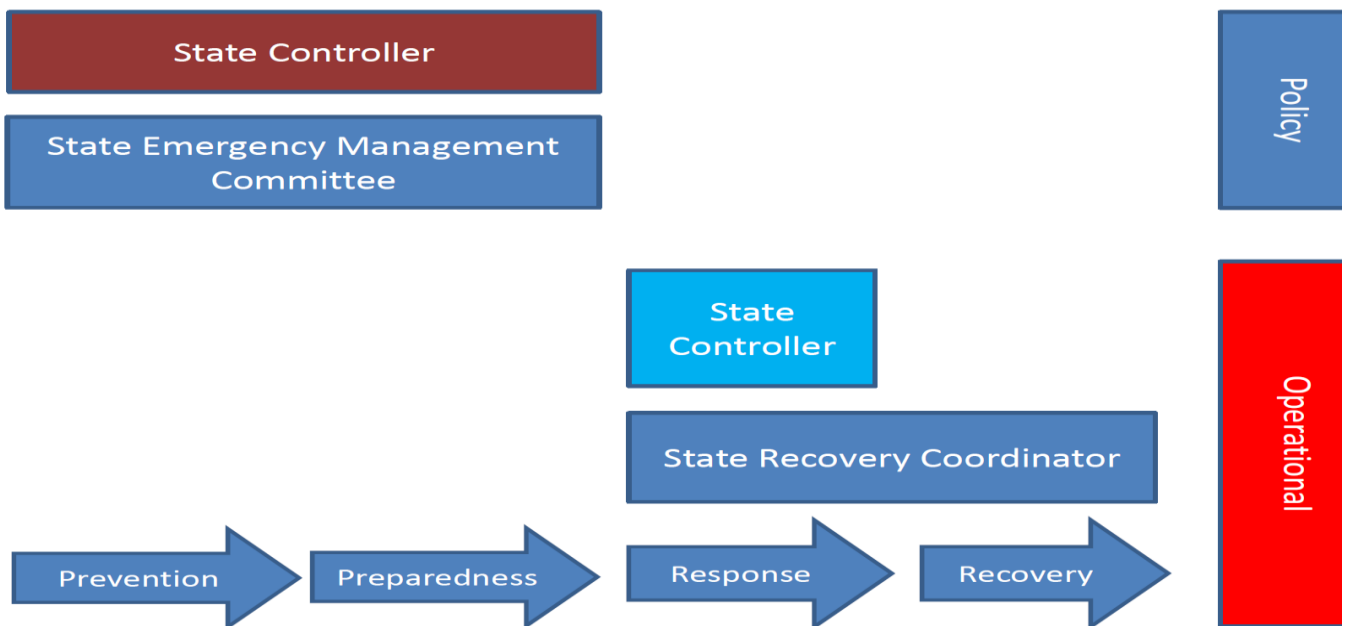
- Coronial inquests into the circumstances that led to at least two Tasmanians losing their lives;
- the State Emergency Service (SES)'s review of the response to the floods;
- Hydro Tasmania's review of its cloud seeding program to make improvements in its processes, including in relation to seeding when there is a risk of floods from natural causes;
- the Department of Primary Industries, Parks, Water and Environment (DPIPWE)'s study into what needs to be done to rehabilitate affected rivers; and

- the Bushfire and Natural Hazards Cooperative Research Centre cost-benefit analysis of the flood levees and other flood mitigation measures in Launceston; and
- the Tasmanian Flood Recovery Taskforce report to Government on lessons learned in relation to recovery.

2. Tasmania’s Emergency Management Arrangements

Tasmania has a comprehensive approach to emergency management, as outlined in the *Emergency Management Act 2006*, the *Tasmanian Emergency Management Plan (TEMP)* and associated *Special Emergency Management Plans*, as well various interagency agreements and protocols. Under the arrangements:

1. The State Controller (Commissioner of Police), supported and advised by the State Emergency Management Committee, sets the policy in the prevention and preparedness phases of emergency management;
2. The response is led by the Management Authority (MA) as identified in the Tasmanian Emergency Management Plan (TEMP). During significant emergencies the State Controller may assume overall control. The State Emergency Management Committee (SEMC) supports the MA and State Controller in the discharge of their obligations but has no operational role; and
3. The option exists for a State Recovery Coordinator to be appointed to implement and oversee recovery arrangements.



Tasmania’s emergency management arrangements have been the subject of a number of inquiries and reviews in recent years, including the *2013 Bushfires Inquiry* which, in turn, recommended a broader independent review of emergency management arrangements that was managed by the Department of Justice (DoJ). A number of the recommendations from these reviews relate to DPAC’s role in emergencies and are relevant to the Terms of Reference for the current Review.

The Review may like to consider whether there is value in establishing a 'continuous improvement' branch that would be responsible for managing recommendations from inquiries, lessons learned from exercises and the outcomes of debriefs from major operations as well as overseeing the treatment of lessons learned/implementation of recommendations across government. This could add value to Tasmania's emergency management arrangements by supporting a consistent approach to the assessment, implementation and ongoing management of the investment made by the State in reviewing its performance in responding to, and recovering from, significant emergencies like the June 2016 floods.

2.1 *Emergency Management Act 2006*

The Emergency Management Act is the principal legislation that underpins emergency management in Tasmania. This legislation provides for a three-tiered approach under which policy and planning committees are established at state, regional and municipal levels.

The primary functions of committees at each level are to institute, coordinate, and support emergency management, including the preparation and review of the TEMP, Special Emergency Management Plans, Regional Emergency Management Plans and municipal plans.

The Act also provides for the appointment of the State Controller and Regional Controllers and describes their functions and powers, including the declaration of emergency powers if necessary.

2.2 *Tasmanian Emergency Management Plan (TEMP)*

The TEMP outlines how the various components of Tasmania's legislated emergency management arrangements work together. Its objectives are to:

- outline the principles for emergency management in Tasmania;
- record roles and responsibilities related to identified hazards and functions;
- outline the arrangements for prevention and mitigation, preparedness, response and recovery (PPRR); and
- describe how the components of Tasmanian emergency management work together under a single, comprehensive and flexible framework.

Under the TEMP, lead agencies (MAs) are identified in relation to particular hazards. The Department of Police, Fire and Emergency Management (DPFEM)' SES is responsible for the management and response to flooding events.

There is no single MA nominated for recovery. This recognises the whole-of-government nature of recovery in that the various services, expertise and capabilities that may be used to support the recovery of a community impacted by a natural disaster are found across government.

2.3 *Ministerial Committee*

Depending on the nature and scale of an emergency, the Premier may convene Cabinet or establish a Ministerial Committee (section 12 of the Emergency Management Act) to ensure whole-of-government coordination, determine strategic policy and establish arrangements for reconstruction and recovery.

The only legislated members of the Ministerial Committee are the Premier and the State Controller. It may also include such Ministers and other persons as the Premier considers necessary or appropriate to facilitate the sharing of information and timely decision-making.

With the exception of some specific statutory authorisations, it is not the role of the Premier or the Ministerial Committee to manage the operational deployment of agency resources.

2.4 State Emergency Management Committee (SEMC)

The SEMC is a policy and planning committee. Its membership includes the State Controller as chair, Heads of Agencies and other senior officials.

If the SEMC is convened by the State Controller during an emergency its role is limited to assisting the State Controller in the exercise of his/her functions and coordinating advice to the Tasmanian Government. It does not extend to managing the deployment of resources or other activities carried out by operational agencies.

3. Role of the Department of Premier and Cabinet in Emergency Management

In an emergency, DPAC has a coordinating, supporting and facilitating role. DPAC's role includes but is not limited to:

- Providing policy advice to the Premier, Cabinet, Ministerial Committee (if established) and SEMC as required;
- Performing defined policy and recovery coordination roles in the State Control Centre (SCC) if activated;
- Developing a whole-of-government media and public information strategy and managing whole-of-government support for the dissemination of non-operational public information through TasALERT, social media and other channels;
- Assisting with public inquiries through the call centre (Tasmanian Emergency Information Service (TEIS)) and Service Tasmania shopfronts;
- Managing arrangements for support to emergency services by personnel from other agencies (Interoperability Arrangements);
- Coordinating the collection of data on the longer-term impacts of emergencies to inform decisions regarding recovery arrangements;
- At the request of the State Controller, assuming responsibility for coordination and leadership of longer-term recovery-related activities;
- Activating arrangements for government financial assistance; and
- Liaising with the Australian Government regarding Commonwealth assistance and support.

These functions are delivered by three divisions of DPAC: the Office of Security and Emergency Management (OSEM), the Communications and Protocol Unit (CPU) and Service Tasmania in liaison with emergency services, other agencies, local government, the community, the Australian Government and other jurisdictions as necessary.

3.1 State Control Centre (SCC)

The SCC is activated at the discretion of the State Controller when management of an event requires whole-of-government coordination of strategy, policy, public information, response and recovery.

If activated the SCC is staffed primarily by DPFEM and DPAC. Members of DPAC will perform the roles of Policy Adviser and Recovery Adviser to the State Controller (see SCC Guidelines).

The SCC was not activated in relation to the June 2016 floods.

3.2 Public Information

The Public Information Unit (PIU) coordinates non-operational public information during an emergency. DPAC's CPU is responsible for managing PIU arrangements using communications personnel from across Government. Activation of the PIU is governed by the *Protocol for whole-of-government Public Information Support in Emergencies* and is dependent on the scale, impact and longevity of an emergency or a multi-agency response.

The initial set-up of the PIU is staffed from CPU. However, the PIU comprises communications staff from across government. PIU volunteers fall under the wider Interoperability Arrangements meaning issues, such as transport, overtime, workplace safety, have been resolved up-front. There are currently over 40 PIU volunteers and the skill sets include marketers, media officers, web developers and project managers.

If activated the PIU will:

- Develop a whole-of-government media and public information strategy;
- Gather official information from across Government and disseminate this to the Tasmanian community;
- Embed a Community Liaison Officer into the affected area (through the relevant Regional Emergency Management Committees (REMCs) and Service Tasmania shops);
- Provide the script information for TEIS through TasALERT and also a Liaison Officer into the TEIS facility;
- Social media monitoring and reporting;
- Provide assessments of media coverage and public reaction;
- Undertake communications planning for the transition to recovery;
- Provide advice on the development of media releases and talking points; and
- Organise accessible information for Culturally and Linguistically Diverse (CALD) communities, including activating translation services.

To communicate whole-of-government information to the public, the PIU uses all available communication channels including radio, TV, printed publications and the TasALERT channels, which include a public website, social media accounts and the TEIS. TasALERT is the central point of reference for up to date information for the TEIS.

3.2.1 Tasmanian Emergency Information Service (TEIS)

The TEIS is a contact centre administered by Service Tasmania. It complements other communication channels such as social media and websites. It has no role in the operational response to an emergency and does not replace '000' or other emergency contact arrangements.

The TEIS is a resource for all Tasmanian Government agencies that may wish to provide information during an emergency. It is supported by a Handbook that outlines the service and the associated roles and responsibilities of activating agencies. The TEIS allows for a range of activation levels, depending on the severity of the emergency and the volume of calls being received. Staffing resources mirror the activation levels and range from support provided by the Government Contact Centre through to the use of interoperability staff from across Government at the peak of the emergency. TEIS can, if required, be escalated into the National Emergency Call Centre (NECC) arrangements maintained by the Australian Government. The capacity to activate the TEIS and transfer calls to the NECC is regularly tested by Service Tasmania.

3.2.2 TasALERT Website

Outside emergency response periods, the TasALERT website provides the community with disaster preparedness and resilience-focused information, along with other information on topics such as volunteering, donations and the use of social media.

During an emergency the TasALERT website provides clear information relating to the incident from across government in an easy-to-use and accessible interface. The site includes a back-end 'Portal' that allows the PIU to manage and publish messages across multiple channels including the public website, Twitter and Facebook. The 'Portal' can be used from any computing device including tablets and smartphones providing the ability to author, review, publish and manage communications from anywhere with internet access.

The resilient infrastructure that TasALERT is hosted on allows performance to scale when an emergency situation occurs and traffic grows rapidly. The infrastructure also has active/active redundancy meaning that if one data centre goes down there is no impact on service.

3.3 Recovery

Section 35 of the Emergency Management Act provides for the development of Special Emergency Management Plans. DPAC has responsibility for maintaining the *State Special Emergency Management Plan - Recovery* (the Recovery Plan) which was approved by the State Controller in November 2012. The purpose of the Recovery Plan is to provide a broad framework that can be tailored to the requirements of each emergency and that supports the affected community in managing its own recovery. It is not an operational guide to recovery in Tasmania. Documentation relevant to the implementation and management of the functions identified in the Plan are the responsibility of identified agencies.

The Recovery Plan:

- identifies the range of recovery activities that occur in Tasmania;
- ensures that all stakeholders involved in the implementation of the Plan undertake recovery within a planned, coordinated and flexible framework;
- provides clarity for all government agencies (Commonwealth, State and local) and other stakeholders on their roles and responsibilities for recovery; and

- outlines governance arrangements, management processes and activation arrangements that exist in relation to recovery.

Under the Plan DPAC, at the request of the State Controller, may assume responsibility for coordination and leadership of recovery-related activities where necessary and appropriate during and following an emergency.

The approach to recovery adopted in the Plan is consistent with the *National Principles for Disaster Recovery*. The Plan supports the use of local capacity first. This approach recognises that individual and community needs after an emergency are best met by existing service providers and businesses, supplemented by additional resources where there are capacity or capability constraints identified by the affected local community. It is only where an emergency is beyond local capacity to manage or affects more than one local government area (such as extensive flooding or bushfire), that broader coordination and support arrangements may be required.

3.3.1 Tasmanian Relief and Recovery Arrangements

The *Tasmanian Relief and Recovery Arrangements* (TRRA) is the Tasmanian Government's policy for providing assistance to communities and local government to recover from an emergency. The TRRA includes the:

- Personal Hardship and Distress Assistance Policy;
- Natural Disaster Relief to Local Government Policy; and
- Community Recovery Policy.

DPAC is responsible for maintaining and administering the *Natural Disaster Relief to Local Government Policy* and leading discussions with the Australian Government on the options available to support communities under Category C (the Community Recovery provisions) of the Australian Government's *Natural Disaster Relief and Recovery Arrangements*. This includes providing clean-up grants to primary producers and small business of up to \$25,000.

3.3.2 Natural Disaster Relief and Recovery Arrangements (NDRRA)

The *Natural Disaster Relief and Recovery Arrangements* (NDRRA) allow a state/territory to seek partial reimbursement from the Australian Government for eligible costs related to a significant natural disaster.

The NDRRA's policy objective is to act as a financial safety net for jurisdictions affected by such disasters. In summary 'eligible costs' are:

- Category A - Personal hardship and distress as a direct result of a natural disaster. Any cost in excess of \$240,000 are to be shared between the state/territory government and the Australian Government on a 50-50 basis;
- Category B - Restoration or replacement of essential public assets. The Australian Government will reimburse 50 per cent of costs over \$11 million;
- Category C - Recovery assistance. Shared equally between the Australian Government and the state/territory government; and
- Category D - Acts of relief or recovery to relieve distress or damage that are, in the opinion of the Australian Government, exceptional.

The Australian Government will, subject to providing an appropriate audit opinion, meet between 50 and 75 per cent of all Category A and B costs in excess of a total of \$22 million. All Category C costs are shared equally by the state government and the Australian Government. Under the NDRRA, a state/territory government is required to notify the Australian Government that it has had a natural disaster event that is a potentially 'eligible disaster' that has exceeded, or is expected to exceed \$240,000 of Category A or B costs. This is an administrative measure and is not a declaration of a disaster or similar statement by the state/territory.

The NDRRA provides for betterment of assets rather than simple replacement of assets to the same standard.

The NDRRA and related documents can be found at: <https://www.disasterassist.gov.au/Pages/related-links/Natural-Disaster-Relief-and-Recovery-Arrangements.aspx>.

3.3.3 Review of Recovery Arrangements

OSEM has established a project to review structural arrangements for recovery from natural disasters. The project will address roles and responsibilities in the early stages of recovery, taking into account capabilities and capacities of local government. In addition the project will address arrangements for transition from immediate recovery to medium-long-term recovery.

The project is in response to a number of recommendations from both the *2013 Bushfires Inquiry* and the *Independent Review of the Tasmanian Emergency Management Arrangements* and will be completed in 2017.

3.4 Interoperability Arrangements

The Tasmanian Government's *Interoperability Arrangements for Sharing Skilled Resources* describes the human resource arrangements under which Tasmanian Government agencies can provide personnel to assist emergency services during an emergency.

The arrangements are maintained by OSEM and draw on the resources of the Tasmanian public service to provide additional capacity to support non-operational incident management arrangements. This includes providing staff to work in a range of areas such as logistics support, planning and public communications. As at 1 January 2016, 176 staff were registered as available for deployment under the Interoperability Arrangements.

The Interoperability Arrangements were activated to provide support to call-centre and emergency services following the June 2016 floods.

3.5 Office of Security and Emergency Management (OSEM)

OSEM is a business unit in DPAC which provides whole-of-government management and coordination support for security and emergency management policy issues. Located in Tasmania Police headquarters, OSEM works closely with the Emergency Management Unit (EMU) of the SES and the Special Response and Counter-Terrorism (SRCT) of DPFEM to:

- manage the collaborative development of whole-of-government policy and advice about security and emergency management in Tasmania;
- lead whole-of-government initiatives to improve Tasmania's capacity to prevent, prepare for, respond to and recover from emergencies;

- contribute to national policy development through active participation and support for the work of relevant intergovernmental working groups, committees and other forums;
- liaise with stakeholders in the community, industry and other jurisdictions in relation to emergency management policy and arrangements;
- support state crisis management arrangements during emergencies, including the SCC (if activated);
- coordinate whole-of-government arrangements for recovery from emergencies; and
- manage whole-of-government processes to support the NDRRA.

4. Terms of Reference

4.1 The effectiveness of the strategies, preparedness and plans relating to managing the flood risk in Tasmania that were in place prior to June 2016 floods occurring; including existing and potential levee systems

Tasmania has plans and arrangements for dealing with a broad range of potential hazards. Taken together they form an all-hazards framework for emergency management. Within an all-hazards framework, emergency management is viewed as a continuum of:

- **Prevention & Mitigation:** Measures to eliminate or reduce the incidence or severity of crises by preventing events from occurring or, where this is not possible, by putting in place arrangements to mitigate their effects.
- **Preparedness:** Arrangements to ensure that, should an emergency occur, all those resources and services that are needed to cope with the effects can be efficiently mobilised and deployed.
- **Response:** Actions taken in anticipation of, during and immediately after an emergency to ensure that its effects are minimised, and that people affected are given immediate relief and support.
- **Recovery:** The coordinated process of supporting emergency-affected communities in reconstruction of the physical infrastructure and restoration of psychological, social, economic, environmental and physical wellbeing.

On 13 February 2011, the Council of Australian Governments (COAG) agreed to the *National Strategy for Disaster Resilience* (the Strategy). The Strategy outlined a new approach to risk management that focused on the Australian community accepting a shared responsibility to prevent, prepare, respond and recover from natural disasters. This includes developing a shared understanding of the level of risk.

The Strategy reinforces the need for governments, industry and individuals to articulate and attribute the ownership of risk to those who are going to benefit from the treatment of them. A core objective of the Strategy is to ensure that, over time, risks from natural hazards are factored into the decision making processes and investment decisions.

Tasmania has implemented a number of policies and programs in recent years to support community resilience consistent with the National Strategy, including the development of a *Framework for the Mitigation of Natural Hazards through Land Use Planning and Building Control* (the Framework).

The broad principles endorsed as part of the Framework are that:

- private risks associated with natural hazards are the responsibility of individuals and business;
- governments should encourage public and private risks to be factored into investment decisions;
- governments can support individuals and business to understand and manage private risks through the collection of evidence, provision of information, and facilitation of collective action;
- governments should ensure that private investment minimises unacceptable public risk;
- governments should minimise investment, regulation, or policy that give rise to unacceptable public or private risks; and
- governments should have regard to, and support individuals and business to consider, how natural hazards may change in the future, including through climate change.

4.1.1 Tasmanian State Natural Disaster Risk Assessment

The 2016 Tasmanian State Natural Disaster Risk Assessment (TSNDRA) is an assessment of the state level risks associated with floods, bushfires, severe weather events, earthquakes, landslips, coastal inundation, heatwaves, and human influenza pandemic, in Tasmania. The aim of the 2016 TSNDRA is to contribute to disaster resilience by delivering an increased understanding and awareness of emergency risks affecting Tasmania and provide a basis to inform decision-making across the Tasmanian emergency management sector; particularly in relation to risk reduction and mitigation activity priorities.

The 2016 TSNDRA was prepared by a project team from the University of Tasmania, the RMIT University and the Antarctic Climate and Ecosystems Cooperative Research Centre. It was endorsed by the SEMC in June 2016 as the authoritative state level natural disaster risk assessment for Tasmania.

Relevant MAs are required to develop treatment plans in relation to identified risks.

4.1.2 Local Risk Assessments

Under Tasmania's Emergency Management Arrangements, municipal committees are required to maintain an Emergency Management Plan that includes information on the hazards and risks particular to the council area. For example, under the Break O'Day Emergency Management Plan the risk that the Georges River may flood is identified as well as treatment options including strategic asset management and land use planning controls for residential developments.

4.1.3 Flood Mapping in Tasmania – Evidence to Inform Decision Making and Develop Policy

There is a long history of flood mapping in Tasmania. Modelling is typically developed by local government to manage the risk to individual towns. The flood mapping has been developed to a variety of standards in relation to annualised exceedance probabilities and other assumptions. Most of this mapping is available for emergency management purposes but there are varying views regarding the adequacy and accuracy of the data used to produce the maps.

The State has floodplain mapping - detailed maps of areas subject to flood risks - for nine geographical areas of the State. These maps are predominantly urban areas where significant historic information is available, and where the potential economic cost of flooding is high. These maps are freely available to the general public.¹ In addition, the Tasmanian Government has produced Flood Data Books. The Books are a collation of existing information on rural floods and their extent and include photographs, maps of flood extent, flood profiles and a tabulation of heights reached by floods.

The State has invested significant resources into flood mapping as part of the *Climate Futures for Tasmania* Project including flood mapping for four catchments (Huon, Forth, Derwent and Mersey) in Tasmania at the 1:10, 1:50, 1:100 and 1:100 Annual Exceedance Probability (AEP). The maps include a baseline period incorporating historical data and scenarios for three future periods (2010-39, 2040-69 and 2070-99).

The State continues to work with councils on this issue as part of the project to develop a State framework for ensuring that appropriate consideration is given to the mitigation of the impact from natural hazards in the planning and building system. This project is considering methodologies to provide consistent flood mapping for the State to support local government, land use planning, building controls, and emergency management.

4.1.4 Flood mapping of the event

DPAC coordinated the capture of flood mapping of the June 2016 floods. The survey was undertaken to inform decision making in government by identifying impacts on a consistent basis and also informing the community about the nature and extent of those impacts.

This was the first time that coordinated survey of the extent of the floods had been undertaken in Tasmania. The work required the development of procedures and consideration of the options available to undertake the survey such as the use of satellite and aerial remote sensing, helicopter tracking, Unmanned Aerial Vehicle (UAV) mapping, extending the Rapid Impact Assessment (RIA) mapping to include extent (but not height) and surveying the high water mark (height and extent).

Further work is required on the policies and procedures to support such flood surveys in future. Having reliable flood height and extent information for the event verifies flood studies, enables consideration in the planning and building systems and provides valuable information for recovery.

4.1.5 Managing the Flood Risk through the Planning and Building Systems

The planning and building systems in Tasmania are going through a period of significant reform. In relation to flood management there has been a reduction from 29 different approaches by local government to flood management in the planning system to three methods under the Interim Planning Schemes. The Interim Planning Schemes will be further rationalised into a single statewide planning scheme with a code relating to riverine inundation. A single approach to riverine flooding will ensure better coordination with the building system so that consistent controls and risk tolerances can be applied throughout the State for the first time.

¹ See <http://www.dpiw.tas.gov.au/inter.nsf/WebPages/RPIO-4Y49UN?open>

Climate change and the increased frequency of severe weather events have resulted in an increased focus on the how the planning system manages risk. OSEM is working with local government and industry to provide policy guidance on the mitigation of risks through land use planning and building systems to provide certainty for local government, industry and the community. The approach also supports identifying vulnerable communities for which coastal hazards will need to be considered as part of settlement planning.

The project will develop policy on riverine flooding, similar to what has been completed for coastal inundation and landslip.

4.1.6 Flood Mitigation

Measures for flood mitigation – levees, planning and building controls, education, adaptation, use of warnings - require a robust understanding of what the state views as a minimum flood tolerance so that mitigation measures can be implemented to a consistent standard. For example, in coastal hazards the a tolerable level of risk to mitigate a storm surge to the equivalent of a 1 per cent AEP event in 2100, or in the bushfire context it is to ensure all new buildings are constructed to withstand design event Fire Danger Index of 50 with construction level of BAL 19.

4.1.7 Structural Mitigation - 2006 Cost Benefit Analysis of the Launceston Flood Levee

In the absence of the levee, the Invermay area of Launceston is susceptible to annual flooding.

In 2006, due to the age of the levee system, the Tasmanian Government and the Launceston City Council commissioned a study to evaluate the risk of flooding to Launceston.

The study required a cost benefit assessment to be undertaken to determine what action could be taken to mitigate the risk. In completing the study, an examination of the various costs and benefits for a range of options from an engineering, social and economic perspective was undertaken. Following this, risk modelling of various options involving levee height, emergency management, planning controls and building controls was conducted. The outcomes of the risk and scenario modelling demonstrated that the costs of flooding over the forecast period of 50 years, if the current situation remained, would result in a damage bill of \$90 million comprising:

- \$50 million to the residential sector;
- \$35 million to the industrial and commercial sectors; and
- \$5 million to the government sector for infrastructure costs.

The local economic impact on Launceston was estimated to be up to \$140 million in total over the forecast period.

As a result of the study the Tasmanian Government, together with the Australian Government and the Launceston City Council, invested over \$70 million to upgrade levee infrastructure to withstand a 1:200 year event. A copy of the Report is available at <http://www.stors.tas.gov.au/au-7-0092-00028>.

The Tasmanian Government is working with the Bushfire and Natural Hazards Cooperative Research Centre (BNHCRC) to conduct another cost-benefit analysis of the Launceston flood levees and other flood mitigation measures. The study will be done in collaboration with a range of stakeholders including the insurance sector, the Launceston City Council, the SES, the Launceston Flood Authority and the Flood Recovery Taskforce.

The study, which will report shortly, aims to:

- develop an improved understanding of effectiveness of the recent investment in the Launceston region to reduce flood risk;
- assess what the economic impacts would have been in the absence of the levees; and
- identify opportunities for further flood mitigation in the Launceston area.

Separate to the work with the BNHCRC, the Government will also support the Huon Valley Council to identify flood mitigation options to protect Huonville.

4.1.8 Non-Structural and Behavioural Modification Mitigation

The role of mitigation and the benefits that it can provide should not focus solely on structural mitigation. Australian Government reports, such as *Benefits of Flood Mitigation in Australia* produced by the Bureau of Transport and Regional Economics, highlight that non-structural and behaviour modification mitigation are equally important in terms of flood mitigation. In terms of future savings, the study found that for every \$1 invested in mitigation, a future saving of \$2.10 is made. The study is currently being updated.

Similarly, the Bushfire Cooperative Research Centre has found that community preparedness campaigns are extremely effective in reducing the potential for property losses from bushfire.

4.2 Community preparation, resilience and awareness, including awareness of insurance matters, relating to major flood events in Tasmania

In December 2009, the Council of Australian Governments (COAG) agreed to adopt a whole-of-nation resilience-based approach to disaster management, recognising that a national, coordinated and cooperative effort was needed to better withstand and recover from emergencies and disasters.

Disaster resilience is the collective responsibility of all sectors of society, including all levels of government, business, the non-government sector and individuals.

COAG adopted the *National Strategy for Disaster Resilience: Building our nation's resilience to disasters* in February 2011. The Strategy recognises that a national, coordinated and cooperative effort is required to enhance Australia's capacity to withstand and recover from emergencies and disasters and provides high-level, strategic direction and guidance for new or ongoing disaster resilience work.

The Strategy recognises that governments, at all levels, have a significant role in strengthening the nation's resilience to disasters by:

- Developing and implementing effective risk-based land management and planning arrangements and other mitigation activities;
- Having effective arrangements in place to inform people about how to assess risks and reduce their exposure and vulnerability to hazards;
- Having clear and effective education systems so people understand what options are available and what the best course of action is in responding to a hazard as it approaches;
- Supporting individuals and communities to prepare for extreme events;
- Ensuring the most effective, well-coordinated response from our emergency services and volunteers when disaster hits; and

- Working in a swift, compassionate and pragmatic way to help communities recover from devastation and to learn, innovate and adapt in the aftermath of disastrous events.

In 2009, various Commonwealth programs for disaster mitigation and emergency management were replaced by the *National Partnership Agreement on Natural Disaster Resilience* (NPA). The NPA provides approximately \$27 million per year to states and territories to increase community resilience to natural disasters. The NPA focuses on mitigation works, measures and related activities that contribute to safer, sustainable communities that are better able to withstand the effects of disasters, particularly those related to climate change.

4.2.1 Insurance

DPAC engaged with the Insurance Council of Australia (ICA) in the days following 4 June 2016 in relation to the floods. On 7 June the ICA declared an insurance catastrophe in relation to floods in Tasmania and Victoria.

The ICA declares a catastrophe for events involving large numbers of claims, or complex issues. Claims are coordinated through a general insurance industry taskforce that is established for the event and closed when the insured community recovery is completed.

The 2007 Report produced by the *Insurance Council of Australia (The Non-Insured: Who, Why and Trends)* estimated that:

- 7,200 owner occupied households in Tasmania did not purchase any form of building insurance. This represents a non-insurance rate for buildings only of approximately 5 per cent;
- 47,000 of the households in Tasmania did not have contents insurance representing a non-insurance rate for contents only of approximately 24 per cent; and
- The majority of risk was carried by those classified as being on a low income².

The Report did not identify the type of insurance coverage held. As such, it is not possible to assess or compare the extent of flood insurance held by Tasmanian households.

This submission does not comment on the performance of individual insurance companies following the floods. However, there are broader policy issues that the Review may wish to consider such as:

- The responsibilities of individuals in managing their private risks;
- The role of governments in supporting individuals to manage private risks;
- The impact of government policies on the ownership of risks and the capacity or likelihood that risks from natural hazards will be factored into investment decisions; and
- The impact of government policies on community resilience and the ability of communities to own and manage risks at the local level.

The Australian/New Zealand Standard for Risk Management (AS/NZS ISO 31000:2009) supports the principle of managing risk, or ensuring that the likely costs associated with an exposure to a natural hazard such as flood is known and balanced against the benefits that arise from the activity that gives rise to the exposure. In terms of residential properties, perfect risk management would mean that all residents are aware of the risks from flood and make a conscious choice that the benefits of occupying the property are greater than the costs, including the cost associated with flooding.

² Insurance Council of Australia (2007) "The Non Insured: Who, Why and Trends" prepared by Dr Richard Tooth and Dr George Barker from the Australian National University, Centre for Law & Economics.

In relation to the June 2016 floods, there were some issues which emerged relating to insurance including the timely assessment of claims, payout processes, misunderstandings about the nature and extent of individual insurance policies and dispute resolution processes, specifically the difference between damage caused by a storm and that from flooding.

Some individuals may have voluntarily opted out of flood coverage. This may be a conscious decision made by a person based on their own financial circumstances, or a general misunderstanding about the nature and extent of an insurance policy and perceptions of risk. The Review could seek to understand this issue, identify possible causes and recommend actions.

The Tasmanian Government has previously advocated for insurance companies to actively engage with policy holders to provide information about the level of risk from natural disasters that a property may be threatened by. For example, a more innovative approach to insurance renewal that prompts individuals to reassess their insurance arrangements is low-cost option that may produce improved outcomes. It is acknowledge that some, but not all insurers, upon offering to renew an insurance contract, do identify the additional premium that would be incurred if a person elected to increase their insurance coverage.

DPAC would welcome increased involvement from the insurance industry in managing the risks from natural hazards in Tasmania. Some insurers invest in their own hazard mapping to assist with actuarial assessments. It would be useful if those insurers who have undertaken their own studies or mapping made this information available to governments. Another option could be that the insurance industry provides coverage information to the State so that it can be used to inform policy development.

4.2.2 Improving information to Landowners Regarding Risks to their Property

With the assistance from funding from the Australian Government under the *National Partnership Agreement on Natural Disaster Resilience*, OSEM is managing a project to pilot an internet site, linked to TasALERT where members of the public can enter a property address and be provided with all available information about natural disaster risks to the property. The information will be provided in an easy-to-understand format and describe the nature and extent of site-based natural hazards, as well as information on the options available to mitigate the risk.

4.3 The causes of the Floods that were active in Tasmania in the period 4-7 June 2016 including cloud seeding, water storage management and debris management

These matters relate to the responsibilities of other agencies and organisations.

4.4 The use and efficacy of forecasting, community alerts, warnings and public information by authorities in responding to flooding events

4.4.1 Public Information Unit

As noted in Section 3.2 of this submission, DPAC manages arrangements for cross-agency support to the MA in relation to public information during an emergency. On 6 June 2016, the PIU was activated for the second time in 2016 in response to a request by the SES.

On this occasion, the PIU was staffed by volunteers from DPAC, DPIPWE, the Department of Health and Human Services (DHHS) and DoJ.

The scale and geographical distribution of the floods presented a challenging communications environment. To ensure that the PIU was providing the most timely, relevant, accurate and consistent information to the community and government, the PIU worked very closely with the SES, as the MA, and other key stakeholders, both internal and external.

To communicate whole-of-government information to the public, the PIU used the TasALERT channels, which include a public website and social media accounts. The TasALERT website and social media accounts were very active, with positive community feedback and increased direct questioning from the public.

Even prior to the activation of the PIU, warnings for the severe weather and flooding events were being issued via TasALERT social media channels from 4 June 2016:

- Facebook - 89 posts from 4 to 16 June 2016 with an average reach of 33,464 (the highest reach was on 4 June with 99,213)
- Twitter - 76 Tweets from 4 to 16 June with average reach of 7,700 (the highest reach was on 7 June with 37,537)

The PIU circulated a daily document with updated and verified 'non-operational' information on key public information topics to a wide range of stakeholders. The type of information included in this daily update included school closures, impacts on tourism operators, evacuation centres, help for animals, advice on volunteering and donating, disaster assistance and public health messages in relation to flood waters. This information was released daily at 10.30am to stakeholders, and updates were sought from official sources at 2.30pm for release the next day.

The PIU conducted debriefs in relation to the June 2016 flood events and developed an action plan to address issues identified to ensure improvements in any future activations.

4.5 The effectiveness of the transition from response to recovery in the week following the June floods; including capacity and priorities for infrastructure repair; and immediate assistance payments

In the period referred to in the Review's Terms of Reference, the recovery undertaken was consistent with the arrangements described in the Emergency Management Act, the TEMP and the stated role of DPAC in the *State Special Plan for Recovery*.

In the week following the floods:

- the State Controller had overall governance responsibility under Tasmania's emergency management arrangements;
- the Regional Controllers were responsible for the immediate response to and recovery from the floods working with the SES as the MA and members of the REMC; and
- immediate recovery needs were being met primarily through local government and Tasmanian Government agencies' services. For example, the establishment of evacuation centres for displaced persons and providing emergency assistance grants by DHHS of up to \$750 per family to assist impacted persons with meeting essential needs. Immediate recovery activities are focused on supporting affected persons to deal with the immediate consequences of the event, in particular to meet basic personal needs.

Consistent with its responsibilities, DPAC, coordinated by OSEM, undertook a range of activities:

– Saturday 4 June

Issued initial information on flood warnings through TasALERT – this was the first of 165 posts across the website, Facebook and Twitter that occurred reaching on average 33,464 (Facebook) and 7,700 (Twitter) per day for the period 4 to 16 June 2016.

– Monday 6 June

Briefed the Premier on the flooding prior to the House of Assembly Estimates Committee.

Attended a specially convened meeting of the SEMC. At that time, DPAC recommended that a Multi-Agency Recovery Committee (MARC) be established to coordinate the recovery activities of State agencies. DPAC chaired the MARC until the formal appointment of a Recovery Coordinator. Commander Peter Edwards was appointed as the Recovery Coordinator and the Tasmanian Flood Recovery Taskforce formally commenced on 14 June 2016.

Activated the PIU and commenced daily preparation and distribution of verified non-operational information on key public information topics to a range of stakeholders (this included information on school closures, impacts on tourism operators, evacuation centres, help for animals, advice on volunteering, assistance and public health messages).

Placed the TEIS on standby to support public information requirements (requested operational at midday 7 June).

Coordinated the deployment of staff under the Interoperability Arrangements.

– Tuesday 7 June

Briefed the Premier on the flooding prior to the Legislative Council Estimates Committee.

Activated TEIS Level 1 (12 noon), with calls being received as priority by the Government Contact Centre.

Activated the TEIS Level 3 through the NECC for coverage from 5.30pm until 9.00am the following morning.

Initiated discussions with the Australian Government through Emergency Management Australia (EMA), a division of the Australian Government's Attorney-General's Department, in relation to the NDRRA. Discussions with the Australian Government related to measures that the Tasmanian Government was implementing to support impacted communities and the identification of options as to how the Australian Government could assist.

– Wednesday 8 June

(9am) interoperability staff commenced operations within the TEIS Level 2 room.

Met with a representative from the Insurance Council Australia to discuss the needs of the impacted communities.

Notified the Australian Government of the potential for the floods to be an 'eligible disaster' for the purposes of the NDRRA. Advice was also provided regarding assistance measures already in place or those that were being activated to support the community.

Provided advice to the Premier recommending that a range of assistance measures be made available to support impacted communities. This included grants of up to \$28,000 for low income households whose homes were damaged or destroyed financial assistance to local government for infrastructure repair and restoration, a low interest loan scheme for small businesses and primary producers and clean up grants to sporting clubs (further information on the assistance is provided below).

– Thursday 9 June

Second meeting of the SEMC.

Supported the Premier in announcing the range of assistance measures that would be made available to the community in addition to already provided services.

Held the first meeting of the established the MARC to bring together agencies to coordinate of recovery needs that could not be met through already available services. DPAC provided secretariat support to the MARC.

– Friday 10 June

Convened a teleconference with all impacted councils to discuss recovery arrangements for the long weekend of 11, 12 June and 13 June 2016 and worked with DPAC's Service Tasmania to open key Service Tasmania shops in the North and North West to support the delivery of recovery services by State agencies and other organisations and to have the TEIS operating over the long weekend.

During the period being considered by the Review:

- 30 staff were deployed under the Interoperability Arrangements;
- 367 calls were received by the TEIS; and
- The TasALERT website was updated on 94 separate occasions and was viewed 187,526 times. Through its various channels, TasALERT reached over 100,000 people (103,880).

4.5.1 Assistance Payments to Individuals and Financial Assistance to Local Government

As noted in section 3.3.1 of this submission, the TRRA establishes the policy framework for providing assistance to communities following a significant natural disaster. Under the TRRA, the Personal Hardship and Distress Policy outlines the type of assistance that may be made available to an individual and the Local Government Policy outlines the assistance that may be made available to impacted local governments.

DPAC is responsible for maintaining the TRRA as well as implementing the local government assistance policy and providing whole-of-government advice to the Premier on the need for Relief and Recovery Grants.

Emergency Assistance Grant

The Emergency Assistance Grant (EAG) is a standard assistance measure that is administered by DHHS. It can provide a one off grant of up to \$750 per family and is intended to assist with meeting basic needs (clothing, food and water, transport, shelter and personal items). It is a grant based on the identified needs of a person, not an entitlement. Needs may be met through other services such as the brokering of temporary accommodation.

DHHS provided the EAG from 7 June 2016. These grants were available from Recovery Centres and could be accessed by calling the TEIS. Across the long weekend (11-13 June) the EAG was available from Service Tasmania, Civic Square, Launceston and the Latrobe Recovery Centre.

Relief and Recovery Grants

Relief and recovery grants provide assistance to individuals most in need following a natural disaster where there has been widespread damage resulting in significant community disruption and dislocation. These grants are also administered by DHHS.

Households most in need are those who are unable to provide for their own recovery. For this reason, eligibility criteria are applied so that assistance is targeted to low-income households with a modest asset base and no or inadequate insurance.

The maximum level of assistance available is \$28,000. Any assistance provided is not intended as compensation or intended to act as default insurance against loss. Individuals and families are required to manage personal losses through measures such as home and contents insurance.

The Relief and Recovery Grants were made available to impacted communities from 10 June 2016.

Support to Local Government

The Local Government Policy of the TRRA provides a financial safety net for Tasmania's 29 councils to assist with the costs of responding to and recovering from natural disasters. The objectives of the Policy are to:

- assist with the financial burden imposed upon councils as a result of extraordinary expenses incurred during and following eligible natural disaster events; and
- ensure financial assistance is delivered in a responsible, cost effective and timely manner.

The Policy may be activated by the Premier where the impact of an eligible natural disaster is a serious disruption to a community. This involves consideration by the State of the capacity of a council to fund the response to, and recovery from, the eligible natural disaster and an assessment of the impact on the local community. When activated, assistance is available once a council's expenditure on eligible relief and recovery measures exceeds its first threshold. More assistance is available if the council's second threshold is passed.

The thresholds are calculated using the same method as is applied by the Australian Government in relation to reimbursement to states and territories. A council's first expenditure threshold is 0.225 per cent of its total general rates revenue and general purpose grants receipts two financial years prior and its second threshold is 1.75 times that amount. Unlike NDRRA, the expenditure thresholds are not activation thresholds. When activated, the eligibility criteria for assistance under the Policy require a council to demonstrate that they have taken all reasonable steps to mitigate the potential impact of natural disasters in their municipality. This may include, but is not limited to councils:

- having appropriate planning controls in place to mitigate the potential impact of natural disasters;
- where available, taking out insurance for council assets where insurance terms are commercially acceptable to the council; and
- having emergency management plans in place to enable a council to effectively respond to a natural disaster.

Assistance is provided to councils to restore an asset to its pre-disaster standard, subject to current planning and developmental controls and building standards. However, subject to the agreement of the State to the additional expenditure, the policy does provide for a council to improve an essential public asset beyond this standard if it is to improve the disaster resilience of the essential public asset.

Assistance to local government was announced on 10 June 2016.

4.6 Capability and Priorities for Infrastructure Repair

The June 2016 flood event caused extensive damage to Tasmania's infrastructure. The capacity and prioritisation for infrastructure repair will be addressed in the submissions of relevant asset owners.

4.7 Consideration of the detrimental environmental effects of the flooding on the landscape, and what effective mitigation measures may be necessary to avoid similar events

A study is being undertaken on the environmental effects of the flooding upon the landscape. This study is being overseen by DPIPWE. It will include recommendations on what remediation activities may be necessary to address significant issues and what mitigation measures may be necessary to avoid similar events in the future.

4.8 Any other matters relevant to the Terms of Reference

As noted earlier, Tasmania's emergency management arrangements have been the subject of a number of inquiries and reviews in recent years. It would be appropriate for the current Review to consider the outcomes of previous inquiries and the ongoing work in relation to implementing their recommendations.

DPAC is also currently reviewing Tasmania's recovery arrangements. This review is being led by OSEM and will report to SEMC in 2017. The review will consider the final report of the Flood Recovery Taskforce, and any relevant recommendations from the current Review will also be incorporated into revised recovery arrangements.

5. Conclusion

During the period being addressed by the Review DPAC performed its role in accordance with:

- its established emergency management role in support of the Premier, the Ministerial Committee and DPAC representatives on the SEMC;
- responsibilities outlined in emergency management plans, including the TEMP and the *State Special Plan for Recovery*; and
- requests for support or assistance from response agencies including the establishment of a whole-of-government PIU, including the use of the TEIS and TasALERT, Interoperability Arrangements and Service Tasmania Shops as Recovery Centres.

DPAC is committed to a best practice approach to emergency management has taken steps to review its performance since the June 2016 flood event. This has included a review and updates to TEIS, PIU and Interoperability Arrangements, enhancements to TasALERT and clarifying the role of Service Tasmania in emergencies. Recovery arrangements are the subject of a separate longer-term review that will be completed in 2017.