

# Queensland Floods Commission of Inquiry Final Report implementation update

August 2013

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### Introduction

In June 2012, the Queensland Government released its response to the Queensland Floods Commission of Inquiry Final Report. The government's response supported all of the final report's recommendations and committed to working collaboratively with local government and other key stakeholders to implement all the Commission's recommendations. The disasters in January and February 2013 caused by ex-Tropical Cyclone Oswald highlighted the need for the state to continue to build capacity to respond to natural disasters and, importantly, improve our disaster resilience to mitigate the impact of disasters when they do occur.

As a result, the government has made a significant commitment to a disaster resilience agenda that focuses on our capacity to withstand natural disasters by betterment of flood-prone infrastructure and investment in structural flood mitigation measures. This has included the establishment of an \$80 million Betterment Fund for councils to apply for funding to build stronger, more flood resilient infrastructure.

In 2013–14, the government also introduced a new streamlined process to deliver disaster mitigation and resilience funding to Queensland communities through a joint application package for funding from Royalties for the Regions, the Local Government Floods Response Subsidy and the Natural Disaster Resilience Program. The state's priorities for flood mitigation funding include projects that will improve infrastructure and flood resilience outcomes and address outstanding needs from the flood events of 2010/11 and January 2013. Funded projects are being delivered locally with State support, to enable local communities to take the lead on flood protection.

The Queensland Government will continue to work with local governments and other organisations to enhance our preparation, flood security and education about responses to natural disasters, and ultimately reduce expenditure on natural disaster reconstruction and recovery activities.

### Implementation framework

As outlined in the government's response to the Commission's final report, the government established a framework to guide, coordinate and monitor the implementation of the Commission's recommendations. This involved the establishment of five implementation groups to deliver on the recommendations, overseen by a committee of Queensland Government chief executives.

These implementation groups—Planning, Building, Environment and Mines, Emergency Management and Dams—have met regularly over the last year to implement relevant recommendations, in consultation with local government and other relevant entities.

### Key implementation achievements

Significant progress has been made on delivering a wide range of initiatives that address the Commission's recommendations. Some of the initiatives implemented by the government over the last year are outlined below. A full update to the government's response to each of the final report's recommendations follows at **Appendix 1**.

#### Brisbane River catchment flood study

The Queensland Government, in partnership with the Brisbane City Council, Ipswich City Council, Somerset Regional Council and Lockyer Valley Regional Council, is conducting a flood study for the Brisbane River catchment. The flood study will provide an up-to-date, consistent and agreed set of hydrological and hydraulic models for the Brisbane River catchment, which will be used as the technical basis for assessing flood risk management options, strategies and action plans for the Brisbane River catchment. The flood study is expected to be completed by the end of 2015, and is anticipated to then contribute to development of a Brisbane River catchment floodplain management study (including an integrated assessment framework) and Brisbane River catchment floodplain management plan to guide future planning and the provision of critical infrastructure in the Brisbane River catchment.

While the studies are being completed, a disaster management modelling tool is being produced in collaboration with the councils. Inundation maps will be available to each council by early November 2013. These maps will be used by councils as part of their disaster management strategies, including to inform the community should a flooding event occur over the coming wet season.

#### Flood mapping and portal

In September 2012, the Queensland Reconstruction Authority launched the FloodCheck website, which includes the Flood Information Database and Portal, to provide the public with access to a central repository of flood mapping information.

The Queensland Reconstruction Authority has also delivered the Queensland Flood Mapping Program under which flood investigations were completed for 104 towns across 40 local government areas in Queensland. The mapping products for each town have now been finalised in consultation with the relevant council and uploaded to the FloodCheck website.

### Single State Planning Policy

Since 2012, the government has been delivering a significant planning reform agenda, which has included the development of a single State Planning Policy to articulate the state's interests in local planning decisions. The proposed new single State Planning Policy will include a natural hazards chapter that will address the Commission's recommendations relating to *State Planning Policy 1/03: Mitigating the Adverse Impacts of Flood, Bushfire and Landslide* (SPP 1/03) and the development of model flood planning controls for use by local governments.

The draft single State Planning Policy was released for consultation from 15 April 2013 to 12 June 2013, with workshops held across the state including targeted sessions with peak industry bodies. A suite of three documents has been developed—a policy document, mandatory requirements and guidance materials—that will provide clarity as to the process required to meet the state's interest and give guidance to councils in making planning decisions in flood-prone areas.

### Regulation of levees

The government has commenced implementation of a new regulatory framework for the construction of new levees and modification of existing levees. The legislative framework for the regulation of levees was established with the passage of amendments to the *Water Act 2000* in May 2013. A Consultation Regulatory Impact Statement was released on 26 July 2013 for community consultation until 6 September 2013 to determine the impact of the new framework, consider the levels of assessment that should apply to different types of levees, and finalise assessment manager and referral agency roles.

A technical working group is currently developing the assessment tools including codes and guidelines to support the framework, in consultation with key stakeholders including the Local Government Association of Queensland.

### Queensland Development Code

The draft Queensland Development Code for buildings in flood hazard areas was adopted on 26 October 2012, following a revision to reflect the Commission's recommendations with a focus on providing practical flexibility in the application of the code.

The code now requires buildings in flood hazard areas to be designed to resist actions that are reasonably expected during a flood. Utilities must also be protected, including electrical switchboards and hot water systems, lift motors and lift motor rooms for emergency lifts, fire indicator panels and backup power supplies for essential services. Customer dedicated substations must also be protected.

Buildings are also required to be protected against sewage backflow through the installation of a reflux valve between the building and the sewage connection point. Buildings that use on-site sewage treatment facilities must also have a reflux valve fitted between the building and the plant connection point.

### Queensland Urban Drainage Manual

The Department of Energy and Water Supply has reviewed the Queensland Urban Drainage Manual taking into account the insights gained during the 2010/11 floods. The manual assists engineers and stormwater designers in the planning and design of urban drainage systems within Queensland and provides guidance to be applied to local conditions. A provisional 2013 edition of the manual was released on 23 April 2013 to seek feedback from the industry and practitioners, and a final version will be published in December 2013 incorporating relevant feedback.

### Mine water releases

The government introduced a new regulatory tool to allow for the release of water from flooded mines—a temporary emissions licence—through amendments to the *Environmental Protection Act 1994*, which commenced on 11 December 2012. These licences were used during the floods in January 2013. A guideline has been developed in consultation with industry to provide assistance to applicants by outlining the process for application, issuing and management of temporary emissions licences.

In addition, a pilot program was implemented to conduct enhanced mine water releases over the 2012/13 wet season. Amended environmental authorities were issued in November 2012 to four coal mines in central Queensland: Norwich Park, Peak Downs, Saraji and Goonyella Riverside. At the end of the 2012/13 wet season, the pilot had allowed for a net decrease in legacy water across the four pilot mines. An assessment of

the process indicated that the pilot represented the most cost effective solution for both legacy and long-term mine water management and release. Pilot conditions will be extended to other mines in 2013/14.

The Department of Environment and Heritage Protection updated its mine site-based risk assessment methodology in mid-2012. This methodology was used to guide the pre-wet season inspections for 2012/13 to ensure that attention was focused on the sites that present the highest risk of uncontrolled releases. This risk assessment and compliance inspection program, combined with more flexible approval conditions for water management, will help to reduce both unauthorised discharges and the retention of further legacy water on mine sites.

### State Emergency Service

*Amendments to the Disaster Management Act 2003* commenced on 11 December 2012, which allow for the appointment of an Emergency Management Queensland officer to direct State Emergency Service operations in extraordinary circumstances. The directives and policies necessary to govern operation of this role have been developed, and relevant staff have been trained in the new arrangements. The new arrangements were first used following the floods in January and February 2013, and were found to operate effectively.

### Dam operations

The Wivenhoe and Somerset Dam Optimisation Study and North Pine Dam Optimisation Study are progressing, with delivery of the studies to be staged. Stage one of each of the studies focuses on optimising dam operations to provide flood mitigation benefits while balancing water supply security, social and environmental impacts. Stage two of the studies will investigate potential new or upgraded infrastructure.

Stage one of the North Pine Dam Optimisation Study and the Wivenhoe and Somerset Dam Optimisation Study are due to be delivered for government consideration by early 2014.

Amendments to the *Water Supply (Safety and Reliability) Act 2008*, which commenced on 8 November 2013, designate the Minister (rather than the chief executive) as the person responsible for approving flood mitigation manuals. To assist the Minister in this role, the Ministerial Advisory Council for Flood Mitigation Manuals was established to assess flood mitigation manuals and provide advice to the Minister. The advisory council was appointed on 29 April 2013, and comprises an independent chair, engineering and scientific experts and local government representatives.

### Flood event reports

The United States Bureau of Reclamation and the United States Army Corp of Engineers completed an independent review of Seqwater's flood event report for the January flood event at Somerset and Wivenhoe Dams on 22 September 2012. The independent review found that operational decisions were prudent and made with appropriate engineering judgment but identified a range of issues for consideration by Seqwater and the Department of Energy and Water Supply. Implementation of the recommendations from the independent review is ongoing and will be incorporated into subsequent versions of the flood mitigation manuals for Wivenhoe and Somerset dams.

Seqwater has also improved processes for the preparation, governance and review of flood event reports. The January 2013 floods enabled Seqwater to test the improved processes through preparation of flood event reports, and the new arrangements were found to operate effectively.

### Referable dams

Amendments to the *Water Supply (Safety and Reliability) Act 2008*, which commenced on 8 November 2012, include a new requirement for referable dam owners to have approved emergency action plans for their dams.

The Referable Dams Working Group, consisting of representatives of Queensland Government agencies, the Local Government Association of Queensland, Brisbane City Council, Seqwater and SunWater, has been working with the Office of the Dam Safety Regulator to update the Emergency Action Plan Guidelines for referable dams.

A provisional version of the guidelines was released in June 2013 to assist referable dam owners in updating emergency action plans in the lead-up to the 2013/14 wet season and submitting plans for approval by 1 October 2013. The Department of Energy and Water Supply and Emergency Management Queensland also delivered education and information sessions with referable dam owners during July 2013 to aid in the development and updating of emergency action plans.

### Ongoing implementation arrangements

While the majority of the Commission's recommendations have now been completed, it should be noted that many of the recommendations in the final report were intended to address long-term, complex issues faced by the state in improving its capacity to prepare for, respond to and recover from natural disasters.

As a result, some recommendations remain ongoing as long-term technical and policy work continues. Completion of these ongoing recommendations will continue to be monitored by the government to ensure that

the issues identified by the Commission are addressed and solutions implemented. However, in place of the formal implementation group structure, relevant Directors-General will be responsible for delivering these recommendations as part of the core business of their departments.

An outline of governance arrangements for recommendations that remain ongoing is at **Appendix 2**.

Rec No.	Recommendation	Primary responsibility	Lead Queensland Government agency	Government response	Implementation update as at August 2013
1	<b>No recommendations for this chapter</b>				
2.1	The steering committee of the Wivenhoe Dam and Somerset Dam Optimisation Study should consider whether it would be more effective for the floodplain management investigation to be removed from the Wivenhoe Dam and Somerset Dam Optimisation Study.	State	DEWS	<p>The Queensland Government has considered this recommendation and agrees that it would be more effective to remove floodplain management investigations from the Wivenhoe Dam and Somerset Dam Optimisation Study (WSDOS).</p> <p>The Departments of Natural Resources and Mines and State Development, Infrastructure and Planning will jointly lead and coordinate the floodplain management investigations. The Department of Natural Resources and Mines will lead the Brisbane River catchment flood study (see recommendation 2.2) and the Department of State Development, Infrastructure and Planning will lead the floodplain management risk work.</p> <p>This work will occur in parallel with the flood management and dam operations investigations being led by Seqwater and the water supply security investigations being led by the Queensland Water Commission.</p> <p>The Department of Energy and Water Supply will chair the WSDOS, assuming the role from Seqwater.</p>	<p><b>Complete</b></p> <p>The Government response to the Final Report agreed to the removal of the floodplain management investigation from the Wivenhoe Dam and Somerset Dam Optimisation Study (WSDOS). On 14 June 2012, the Director-General of the Department of Energy and Water Supply wrote to the chief executive of Seqwater to explain the new governance arrangements and the handover process. The final meeting of the former WSDOS steering committee was held on 14 June 2012.</p>
2.2	Brisbane City Council, Ipswich City Council and Somerset Regional Council and the Queensland Government should ensure that, as soon as practicable, a flood study of	LG / State	DNRM	The Queensland Government, through the Departments of State Development, Infrastructure and Planning, Natural Resources and Mines and Energy and Water Supply,	Ongoing – refer to Appendix 2 (Brisbane River Catchment Flood Study)

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	<p>the Brisbane River catchment is completed in accordance with the process determined by them under recommendation 2.5 and 2.6. The study should:</p> <ul style="list-style-type: none"> <li>• be comprehensive in terms of the methodologies applied and use different methodologies to corroborate results</li> <li>• involve the collation, and creation where appropriate, of the following data: <ul style="list-style-type: none"> <li>– rainfall data including historical and design data and radar</li> <li>– stream flow data</li> <li>– tide levels</li> <li>– inundation levels and extents</li> <li>– data on the operation of Wivenhoe and Somerset dams</li> <li>– river channel and floodplain characteristics including topography, bathymetry, development and survey data</li> </ul> </li> <li>• involve determining the correlation between any of the data sets above</li> <li>• produce suitable hydrologic models run in a Monte Carlo framework, taking account of variability over the following factors: <ul style="list-style-type: none"> <li>– spatial and temporal rainfall patterns</li> <li>– saturation of the catchment</li> <li>– initial water level in dams</li> <li>– effect of operating procedures</li> <li>– physical limitations on the operation of the dams</li> <li>– tidal conditions</li> <li>– closely occurring rainfall events</li> </ul> </li> <li>• validate hydrologic models to ensure</li> </ul>			<p>will work with the Brisbane City Council, Ipswich City Council and Somerset Regional Council on a collaborative approach to progressing the Brisbane River catchment flood study.</p> <p>Terms of Reference are currently being finalised to outline the scope, objectives, methodology, estimated costs and responsibilities for the study which is expected to be completed in several stages over the next two to three years.</p>	

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	<p>they reproduce:</p> <ul style="list-style-type: none"> <li>- observed hydrograph attenuation</li> <li>- probability distributions of observed values for total flood volume and peak flow</li> <li>- timing of major tributary flows</li> <li>- observed flood behaviour under no dams conditions and current conditions</li> </ul> <ul style="list-style-type: none"> <li>• produce a suitable hydraulic model or models that: <ul style="list-style-type: none"> <li>- are able to determine flood heights, extents of inundation, velocities, rate of rise and duration of inundation for floods of different probabilities</li> <li>- are able to deal with movement of sediment and changes in river beds during floods</li> <li>- are able to assess historical changes to river bathymetry</li> <li>- are able to be run in a short time to allow detailed calibration and assessment work</li> <li>- characterise the backwater effect at the confluence of the Brisbane and Bremer rivers and other confluences as appropriate</li> </ul> </li> <li>• involve analysis of the joint probability of floods occurring in the Brisbane and Bremer rivers (and any other pair of rivers if considered appropriate)</li> <li>• be iterative, and obtain a short-term estimate of the characteristics of floods of different probabilities in all significant locations in the catchment (at least Brisbane City, Ipswich City and at Wivenhoe Dam) in order to determine the priorities for the rest of</li> </ul>				



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	the study.				
2.3	Ipswich City Council should determine whether the results, models and maps produced by the Brisbane River flood study are sufficient for its floodplain management. If they are not, Ipswich City Council should ensure appropriate work is done by way of data collection and creation and hydrologic and hydraulic modelling for use in its floodplain management.	LG	Ipswich City Council		
2.4	A recent flood study should be available for use in floodplain management for every urban area in Queensland. Where no recent study exists, one should be initiated.	LG / State	QldRA (DSDIP)	<p>While not legislatively required, local governments have generally undertaken flood studies as relevant to their needs and within available resources.</p> <p>The Queensland Government, through the Queensland Reconstruction Authority, has written to every local government in Queensland seeking details of the extent of existing flood studies. In addition, the Queensland Reconstruction Authority has developed a secure webpage (<a href="http://www.qldreconstruction.org.au/floodstudies">www.qldreconstruction.org.au/floodstudies</a>) which allows councils to provide flood information and upload flood studies/data that exists for their local government area.</p> <p>The Queensland Government will provide support and guidance to councils to undertake flood risk identification and mapping, including:</p> <ul style="list-style-type: none"> <li>As part of the review of State Planning Policy 1/03: <i>Mitigating the Adverse Impacts of Flood, Bushfire and Landslide</i> (SPP 1/03), the</li> </ul>	<p><b>Complete</b></p> <p>The Queensland Government is continuing to provide support to local governments to conduct flood studies for their local areas as relevant to their needs.</p> <p>Funding to conduct flood studies is available to councils through the Local Government Floods Response Subsidy and the Natural Disaster Resilience Program. The objectives of these funds include supporting councils to identify, manage and respond to future flood risks through flood management studies, modelling and flood mapping.</p> <p>In 2013/14, funding of \$13.13 million is being made available through the Local Government Floods Response Subsidy to conduct flood mapping or implement other flood mitigation measures like construction of levees. Over \$12 million was also allocated for flood mitigation projects through the Local Government Floods Response Subsidy in 2012/13. Funded projects are being delivered locally with State support, to enable local communities to take the lead on flood protection.</p>

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				<p>Department of State Development, Infrastructure and Planning will develop guidance for local governments in undertaking flood risk assessments and their transition into planning schemes.</p> <ul style="list-style-type: none"> <li>The Queensland Reconstruction Authority will provide assistance to up to 100 priority towns for Level 2 flood investigations (moderate complexity). These studies will be prioritised based on recommendation 2.5 and will generally be targeted at smaller flood-prone towns as identified by the Bureau of Meteorology. The Departments of Natural Resources and Mines and Science, Information Technology, Innovation and the Arts will provide existing data and information to assist the investigations.</li> <li>Access to funding for local governments will be provided through specific funding of \$40 million from the existing Local Government Grants and Subsidies Program to assist local governments with flood management.</li> </ul>	<p>The Queensland Reconstruction Authority wrote to all local governments in May 2012 to determine the extent of flood information available to individual councils. Local governments were requested to provide details of existing flood studies and to upload flood mapping information to the FloodCheck website established in accordance with recommendations 2.11 and 2.16.</p> <p>This process has assisted in developing a comprehensive picture of flood information available across the State, which can be used to inform future flood mapping priorities.</p> <p>In addition, the Government is introducing a single State Planning Policy which will include guidance on natural hazard management. Under the new requirements of the State Planning Policy, it will be mandatory for local governments to assess what type of flood investigation should be undertaken across their planning area. The supporting material for the State Planning Policy will include guidance for local governments on the different levels of flood hazard investigations which should be undertaken for urban and rural areas.</p>
2.5	The Queensland Government, in consultation with councils, should determine which urban areas in Queensland do not have access to flood information from a current flood study. The Queensland Government should rank those areas in order of priority in accordance with their need for updated flood information by reference to factors including:	State	QldRA (DSDIP)	The Queensland Government, through the Queensland Reconstruction Authority, has written to every local government in Queensland seeking details of the extent of existing flood studies. In addition the Queensland Reconstruction Authority has developed a secure web page ( <a href="http://www.qldreconstruction.org.au/floodstudies">www.qldreconstruction.org.au/floodstudies</a> ) which allows councils to provide flood	<p><b>Complete</b></p> <p>The Queensland Reconstruction Authority has completed Level 2 flood investigations for 104 high-risk flood towns in 40 local government areas across the State under the Queensland Flood Mapping Program. The final flood investigations were provided to each council for incorporation into planning schemes and to inform emergency management response plans,</p>

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	<ul style="list-style-type: none"> <li>a. population</li> <li>b. sophistication of land use planning and emergency management measures already in place in those areas</li> <li>c. currency of any flood risk information available to the council</li> <li>d. approximate frequency of damaging floods in the area according to the historical record.</li> </ul>			<p>information and upload flood studies/data that exists for its local government area.</p> <p>This information will be used to develop a list of priority towns requiring flood investigations, in accordance with the factors identified by the Commission. The Queensland Reconstruction Authority, together with the Departments of Natural Resources and Mines and Science, Information Technology, Innovation and the Arts, will undertake up to 100 Level 2 flood investigations (moderate complexity) by the end of 2012 to provide flooding information suitable for land use planning and emergency response purposes.</p>	<p>and have been uploaded to the FloodCheck website.</p> <p>The flood investigations were prioritised based on the Bureau of Meteorology's assessment of flood risk for each town, along with a determination of current mapping, historical records or flood risk information available to the relevant council and the availability of data to develop the flood models. Support for the mapping process was provided by the Department of Natural Resources and Mines and the Department of Science, Information Technology, Innovation and the Arts through provision of existing data and information.</p> <p>Further priority areas have been identified for flood investigations, with funding for Level 2 flood investigations for approximately 60 priority towns allocated through the 2012/13 Natural Disaster Resilience Program.</p> <p>The Government has also identified and committed funding for a number of high priority flood mitigation projects. This has included the allocation of funding to the Balonne Shire Council (\$5 million) and Maranoa Regional Council (\$12.4 million) to conduct flood studies and construct flood levees for St George and Roma, and the Bundaberg Regional Council (\$2.4 million) to construct two flood levees, undertake river stabilisation works and conduct flood studies.</p> <p>The Government will continue to work with councils across the State to support the inclusion of flood mapping information within planning schemes and to support the conduct of flood studies for high flood risk areas.</p>

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2.6	<p>By reference to the order of priority determined in accordance with recommendation 2.5, the Queensland Government and councils should together ensure that the council responsible for each urban area in Queensland has access to current flood study information. This will include determining:</p> <ol style="list-style-type: none"> <li>a process or processes by which the flood studies will be completed, including the involvement of the Queensland Government and relevant councils</li> <li>how, and from whom, the necessary technical and financial resources will be obtained</li> <li>a reasonable timeframe by which all flood studies required will be completed.</li> </ol>	State / LG	QldRA (DSDIP)	<p>The Queensland Government will work with local governments to address process, scope and scale, resourcing and timeframe issues associated with completion of flood studies, in accordance with the list of priority towns requiring flood investigations being developed by the Queensland Reconstruction Authority with support from the Departments of Natural Resources and Mines and Science, Information Technology, Innovation and the Arts.</p> <p>As part of the review of SPP 1/03, the Department of State Development, Infrastructure and Planning and the Queensland Reconstruction Authority may also develop guidance for local governments to effectively include the results of flood studies in planning schemes. This work will build upon the guidance already provided within the Queensland Reconstruction Authority's <i>Planning for stronger, more resilient floodplains</i> guideline.</p>	<p><b>Complete</b></p> <p>It is primarily the responsibility of local governments to conduct flood studies, in accordance with the needs of their local communities. However, the Queensland Government has an ongoing program to provide support to councils to undertake flood studies and to assist in identifying priority areas for flood mapping.</p> <p>For the 2013/14 financial year, the Government introduced a new process to deliver disaster mitigation and resilience funding to Queensland communities. A joint application package provides applicants with a single point for all disaster mitigation and resilience funding administered by the Queensland Government and offers a streamlined assessment process.</p> <p>The joint application package for disaster mitigation and resilience funding incorporates the following programs:</p> <ul style="list-style-type: none"> <li>Royalties for the Regions – \$10 million available in 2013/14 (administered by the Department of State Development, Infrastructure and Planning).</li> <li>Local Government Floods Response Subsidy – \$13.13 million available in 2013/14 (administered by the Department of Local Government, Community Recovery and Resilience).</li> <li>Natural Disaster Resilience Program – joint Queensland and Australian Government program, with funding for 2013/14 and 2014/15 dependent on finalisation of a new agreement between the governments (administered by the Department of Community Safety).</li> </ul>

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					<p>The conduct and maintenance of comprehensive and up-to-date flood mapping across Queensland will involve ongoing effort at a Commonwealth, State and local level. The Queensland Government will continue to support councils in this process as part of its ongoing disaster resilience agenda. This will include seeking further funds from the Commonwealth Government to contribute to flood mapping and mitigation measures in Queensland.</p>
2.7	As far as is practicable, councils should maintain up-to-date flood information.	LG	Councils		
2.8	<p>When commissioning a flood study, the body conducting the study should:</p> <ul style="list-style-type: none"> <li>• check whether others, such as surrounding councils which are not involved in the study, dam operators, the Department of Environment and Resource Management, and the Bureau of Meteorology, are doing work that may assist the flood study or whether any significant scientific developments are expected in the near future, and decide whether to delay the study</li> <li>• discuss the scope of work with the persons to perform the flood study as well as surrounding councils which are not involved in the study, dam operators, the Department of Environment and Resource Management, and the Bureau of Meteorology.</li> </ul>	LG	Councils		
2.9	Elected representatives from councils should be informed of the results of each flood study relevant to the	LG	Councils		

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	council's region, and consider the ramifications of the study for land planning and emergency management.				
2.10	Elected representatives from all agencies involved in a flood study should be informed of recommendations made for future work, and determine, on a risk basis, whether that further work is to be completed.	State / LG	Councils	The Queensland Government agrees that elected representatives at state and local levels should be kept informed of the outcomes of flood studies as a matter of practice.	<p><b>Complete</b></p> <p>The Director-General of the Department of State Development, Infrastructure and Planning wrote to relevant agencies on 6 May 2013 to request that they ensure that appropriate arrangements are in place to advise Ministers and, where necessary, Cabinet of the outcomes and any recommendations for future work arising from flood studies. In line with principles of good government, Ministers would generally be kept informed about the outcomes of such studies.</p>
2.11	The Queensland Government and Commonwealth Government should ensure the existence and maintenance of a repository of data of the type used in flood studies. The database should include the types of data which the expert panel specified as needed for a comprehensive flood study. Councils, Queensland and Commonwealth Government agencies and dam operators should be able to deposit and obtain access to data.	State / Cth	QldRA / DNRM (joint)	<p>The Queensland Government is working with the Commonwealth Government on the development of a new national flood risk information portal.</p> <p>The Queensland Reconstruction Authority has developed a secure webpage (<a href="http://www.qldreconstruction.org.au/floodstudies">www.qldreconstruction.org.au/floodstudies</a>) which allows councils to provide flood information and upload flood studies/data that exists for their local government area.</p> <p>This stocktake will provide a comprehensive picture of existing and up-to-date data that exists across the state. This information will then be used to further recommendations 2.4, 2.5 and 2.6. The Queensland Reconstruction Authority, together with the Department of Natural Resources</p>	<p><b>Complete</b></p> <p>The Queensland Flood Studies Database was launched on 28 September 2012, utilising fields which are compatible with the Australian Flood Studies Database. Approximately 400 studies have been loaded onto the database, collated from State agencies and local governments, and it continues to be updated to reflect the latest known flood study information. This has created a central repository of flood study information which can be efficiently integrated with the Commonwealth national flood information portal, as required.</p>

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				<p>and Mines, will use the stocktake results to develop the Queensland flood portal and ultimately input into the proposed national flood risk information portal.</p> <p>In the interim, floodplain mapping and mapping of recent flood events is available on the Queensland Reconstruction Authority website (<a href="http://www.qldreconstruction.org.au">www.qldreconstruction.org.au</a>) and the Department of Natural Resources and Mines website (<a href="http://www.derm.qld.gov.au">www.derm.qld.gov.au</a>).</p>	
2.12	Councils in floodplain areas should, resources allowing, develop comprehensive floodplain management plans that accord as closely as practicable with best practice principles.	LG	Councils		
2.13	<p>For urban areas or areas where development is expected to occur:</p> <p>a. councils with the requisite resources should develop a flood map which shows 'zones of risk' (at least three) derived from information about the likelihood and behaviour of flooding</p> <p>b. councils without the requisite resources to produce a flood behaviour map should develop a flood map which shows the extent of floods of a range of likelihoods (at least three).</p>	LG	Councils		
2.14	For non-urban areas or areas where limited development is expected to occur councils should consider, on a	LG	Councils		

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	<p>risk basis, what level of information about flood risk is required for the area, and undertake the highest ranked of the following options which is appropriate to that need and within the capacities (financial and technical) of the council:</p> <ul style="list-style-type: none"> <li>a. a map showing 'zones of risk' (at least three) derived from information about the likelihood and behaviour of flooding</li> <li>b. a map showing the extent of floods of a range of likelihoods (at least three)</li> <li>c. a flood map based on historic flood levels that have been subjected to a flood frequency analysis to estimate the annual exceedance probability of the selected historical flood</li> <li>d. a historic flood map without flood frequency analysis</li> <li>e. the Queensland Reconstruction Authority Interim Floodplain Assessment Overlay as a way to determine those areas for which further flood studies are required, or</li> <li>f. the Queensland Reconstruction Authority Interim Floodplain Assessment Overlay (preferably refined using local flood information) as a trigger for development assessment.</li> </ul>				
2.15	Councils should ensure that areas for which there has been no assessment of the likelihood of flooding are indicated on a map and that, as part of the development assessment process	LG	Councils		



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	for these, there is at least some enquiry into whether a site proposed for development could be subject to flooding.				
2.16	Councils and the Queensland Government should display on their websites all flood mapping they have commissioned or adopted.	LG / State	QldRA / DNRM (joint)	<p>Councils will have responsibility for publishing flood mapping they commission or adopt, within any contractual obligations and technical constraints associated with the display of some flood maps on council websites. In addition a link will be provided to the Queensland Government flood portal.</p> <p>In accordance with recommendation 2.11, the Queensland Government will publish details of flood mapping which it commissions or adopts, within technical constraints associated with the display of some flood maps on websites.</p> <p>Currently, the Queensland Reconstruction Authority administers an interactive floodplain mapping portal which displays floodplain maps for all relevant sub-basins in the state. This portal will be updated progressively as more detailed flood information becomes available.</p>	<p><b>Complete</b></p> <p>The Queensland Flood Portal was launched on 28 September 2012 as an updated version of the interactive FloodCheck website (<a href="http://qldreconstruction.org.au/flood-check-map">http://qldreconstruction.org.au/flood-check-map</a>).</p> <p>The data and information provided through the FloodCheck website include:</p> <ul style="list-style-type: none"> <li>• Imagery and flood lines of historic events (1893, 1974 and 2011 for Brisbane)</li> <li>• Flood study locations and information drawn from the Queensland Flood Studies Database</li> <li>• State-wide floodplain mapping (Queensland Floodplain Assessment Overlay) <ul style="list-style-type: none"> <li>• Downloadable flood information reports for properties or areas of interest</li> <li>• Location of river gauges in each catchment</li> <li>• Flood simulations from Queensland Flood Mapping Program flood investigations estimating flood heights, and</li> <li>• Where available, flood animations that show the natural flow of water and impact from a particular event.</li> </ul> </li> </ul>
2.17	Flood maps, and property specific flooding information intended for use by the general public, should be readily interpretable and should, where necessary, be accompanied by a comprehensible explanatory note.	LG	Councils		

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2.18	Councils that do not currently do so should consider offering an online database which allows the public to conduct a search on a parcel of land to find development approvals relevant to that parcel of land.	LG	Councils		
2.19	The Queensland Government should consider implementing a mechanism by which prospective purchasers of property are alerted to the issue of flood risk. To that end, the Queensland Government should consider consulting the Real Estate Institute of Queensland and the Law Society of Queensland as to the appropriateness of amending standard contract conditions so as to include a 'subject to flood search' condition, or other means of achieving the same objective.	State	DJAG	<p>The Queensland Government is undertaking consultation with the Queensland Law Society and the Real Estate Institute of Queensland regarding a mechanism which will alert prospective purchasers of property to flood risk issues.</p> <p>The Department of Justice and Attorney-General, in consultation with the Department of Local Government, will lead this work with advice to be provided to Government on a recommended way forward by July 2012.</p>	<p><b>Complete</b></p> <p>The Department of Justice and Attorney-General has consulted the Real Estate Institute of Queensland (REIQ) and the Queensland Law Society (QLS) regarding possible amendment to standard contract conditions to alert prospective property purchasers to the issue of flood risk. The REIQ and QLS have advised they will not be amending their contract to include a standard flood search condition due to the difficulty of drafting a suitable 'one size fits all' clause.</p> <p>The new FloodCheck website provides a useful additional search tool which will enable prospective purchasers to alert themselves to the potential flood risk of a property when they undertake due diligence searches.</p>
2.20	The Queensland Government should endeavour to ensure that Queensland conditions are appropriately considered in the National Flood Risk Advisory Group's review of best practice principles.	State	DSDIP	<p>The Queensland Government, through its representation on the National Flood Risk Advisory Group, will continue to advocate for Queensland's unique local flooding scenarios to be reflected in national best practice principles.</p> <p>Further guidance to address Queensland-specific conditions will be considered as part of the review of SPP 1/03.</p>	Ongoing – refer to Appendix 2 (National best practice for floodplain management)

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2.21	In the event that the review does not adequately account for Queensland conditions, the Queensland Government should produce a document that provides appropriate guidelines for floodplain management in the Queensland context.	State	DSDIP	The Queensland Government will consider the development of appropriate guidelines and other supporting information, taking into account outcomes from the National Flood Risk Advisory Group, as part of the review of SPP 1/03.	Ongoing – refer to Appendix 2 (National best practice for floodplain management)
2.22	The Queensland Government should determine whether existing guidelines are sufficient for councils to understand best practice in the performance of flood studies and the production of flood maps. If a lack of current guidelines is identified, the government should create and circulate guidance material for councils.	State	DSDIP (QldRA)	The Queensland Government has provided initial policy and technical guidance on floodplain mapping through the Queensland Reconstruction Authority's <i>Planning for stronger, more resilient floodplains</i> guideline.  Further consideration will be given to the best means to identify and map flood hazards, and implementation support and guidance to be offered to local governments as part of the review of SPP 1/03 and the finalisation of the Queensland Reconstruction Authority's Part 2 guideline: <i>Measures to support floodplain management in existing planning schemes</i> .	Ongoing – refer to Appendix 2 (National best practice for floodplain management)
3	<b>No recommendations for this chapter</b>				
4.1	The Queensland Government should: a. narrow the definition of 'development commitment' in State Planning Policy 1/03: <i>Mitigating the Adverse Impacts of Flood, Bushfire and Landslide</i> to ensure more development applications are assessed for compatibility with flood, and b. investigate whether the compensation provisions of the	State	DSDIP	The Queensland Government, in the review of SPP 1/03, will consider the most appropriate means to address the Commission's findings relating to 'committed development' and make any necessary policy or legislative amendments to ensure natural hazards are appropriately considered regardless of the location or type of development.	Ongoing – refer to Appendix 2 (State Planning Policy for natural hazards [4.1a] and Delivery of flood provisions in the planning framework [4.1b])

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	<p><i>Sustainable Planning Act 2009</i> act as a deterrent to the inclusion of flood controls in a planning scheme and consider whether they ought be amended.</p>			<p>Consideration is also being given to amendment of the compensation provisions of the <i>Sustainable Planning Act 2009</i>. If considered necessary, legislative amendments will be included in the annual <i>Sustainable Planning Act 2009</i> amendments expected for late 2012.</p> <p>Further, the Queensland Government will investigate, in consultation with councils, the viability of introducing legislation regarding statutory immunity similar to that in section 733 of the <i>Local Government Act 1993</i> (NSW).</p>	
4.2	<p>If, as part of a state interest review process, the Department of Local Government and Planning decides that no condition should be imposed requiring a council's proposed planning scheme to incorporate the effect of the Department of Community Safety's comments about State Planning Policy 1/03: <i>Mitigating the Adverse Impacts of Flood, Bushfire and Landslide</i>, it should advise the Department of Community Safety of the reasons for its decision.</p>	State	DSDIP	<p>The Queensland Government has reinforced its operational procedures requiring consultation with all relevant state agencies during the local government planning scheme review process. The Department of State Development, Infrastructure and Planning will ensure that the Department of Community Safety is notified of the outcome of the consideration of its comments as part of any state interest review process.</p> <p>In addition, the Department of State Development, Infrastructure and Planning is developing an electronic portal for State agencies to comment on planning schemes which will facilitate monitoring of state agency comments.</p> <p>The review of SPP 1/03 will include an analysis of the most effective means to</p>	<p><b>Complete</b></p> <p>Revised administrative arrangements have been implemented in the Department of State Development, Infrastructure and Planning, to ensure notification to the Department of Community Safety of the outcome of consideration of its comments as part of state interest review processes.</p>

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				ensure SPP 1/03 is considered during planning scheme drafting processes in future, including procedures for ensuring other departments are notified of the outcomes of consideration of their comments.	
4.3	The Department of Community Safety should put in place administrative arrangements which ensure it can readily ascertain whether its comments are being reflected in council planning schemes. If the Department of Community Safety becomes aware that its comments are not being adequately addressed, it should take steps to follow this up with the Department of Local Government and Planning.	State	DCS	<p>As noted in recommendation 4.2 above, procedures have been reinforced to ensure that the Department of Community Safety is notified of the outcome of consideration of comments provided as part of a state interest review process.</p> <p>The Department of Community Safety will monitor the consideration of its comments relating to flood-related matters and follow up with the Department of State Development, Infrastructure and Planning where advice on the outcome of the consideration of its comments has not been received, or where other issues are identified.</p>	<p><b>Complete</b></p> <p>Revised administrative arrangements have been implemented in the Department of Community Safety and the Department of State Development, Infrastructure and Planning, to ensure notification and follow-up of the Department of Community Safety's comments as part of state interest review processes.</p>
4.4	The Queensland Government should ensure that the circumstances in which the Department of Community Safety is to consult the Department of Environment and Resource Management about a planning scheme's flood modelling and flood mapping are clear.	State	DCS	<p>The review of SPP 1/03 will consider the relative responsibilities of state agencies, including the Departments of Community Safety, Natural Resources and Mines, and State Development, Infrastructure and Planning.</p> <p>New administrative procedures will be implemented to support a clear and common understanding of these responsibilities.</p>	Ongoing – refer to Appendix 2 (State Planning Policy for natural hazards)
4.5	The Queensland Government should change Temporary State Planning	State	QldRA (DSDIP)	All councils which have utilised the Queensland Reconstruction Authority's	Ongoing – refer to Appendix 2 (State Planning Policy for natural hazards)

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	Policy 2/11: <i>Planning for stronger more resilient floodplains</i> to remove the possibility of councils' using the interim floodplain assessment overlay mapping and Model Code as part of a permanent amendment to their existing planning scheme or as part of a new planning scheme.			Interim Floodplain Assessment Overlay maps for amendments to their planning schemes are also undertaking local verification of the mapping as part of the process.  The Queensland Reconstruction Authority will review Temporary State Planning Policy 2/11: <i>Planning for stronger, more resilient floodplains</i> (TSPP 2/11) to ensure that Ministerial approval for councils to utilise TSPP 2/11 is conditional upon the council undertaking refinement of the interim flood mapping.	
4.6	Councils should consider using the limited development (constrained land) zone in their planning schemes for areas that have a very high flood risk.	LG	Councils		
4.7	The Queensland Government should consider amending the <i>Sustainable Planning Act 2009</i> to require that consideration be given to the risk of flooding in the preparation or revision of a regional plan.	State	DSDIP	The Queensland Government, through the Department of State Development, Infrastructure and Planning, is reviewing the processes for development and review of regional plans as part of its review of the Sustainable Planning Instruments program.  If the existing provisions require strengthening, further consideration will be given to amendments to the <i>Sustainable Planning Act 2009</i> to impose more stringent requirements for consideration of flood risk during development of regional plans.	<b>Complete</b>  Following significant reform to Queensland's planning framework, amendments to the <i>Sustainable Planning Act 2009</i> to specifically require consideration of the risk of flooding in the preparation and revision of a regional plan are not considered necessary.  Flood risk planning is adequately addressed by both regional and local planning processes through these reforms, particularly through the proposed new single State Planning Policy, which will include mandatory requirements and guidance for managing flood risks at a local planning and development application level.  Local governments are best placed to locally contextualise flood risks and the planning and

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					development controls required to be imposed when preparing local planning instruments. Administrative processes, including the standardised template used by the Department of State Development, Infrastructure and Planning, ensure all State interests (including flood risk as a natural hazard) are appropriately considered in the planning scheme approval process.
5.1	<p>The Queensland Government should draft model flood planning controls, using a similar format and structure to that in the Queensland Planning Provisions that councils can adapt for local conditions. The Queensland Government should require these controls to be reflected in new planning schemes. This may be achieved by including the controls in either:</p> <ul style="list-style-type: none"> <li>• a state planning policy dealing with flood, with an accompanying amendment to the <i>Sustainable Planning Act 2009</i>, or</li> <li>• the Queensland Planning Provisions.</li> </ul> <p>The Queensland Government should consult councils to determine which of the two state planning instruments is the more appropriate to include the model flood planning controls.</p>	State	DSDIP (QldRA)	<p>The Queensland Government has provided an initial model flood hazard overlay code through the Queensland Reconstruction Authority's <i>Planning for stronger, more resilient floodplains</i> guideline.</p> <p>The Queensland Government will further develop model flood planning controls for use by councils in the finalisation of the Queensland Reconstruction Authority's Part 2 guideline: <i>Measures to support floodplain management in existing planning schemes</i>.</p> <p>The Queensland Government will develop model flood planning controls for use by councils, incorporating relevant provisions of the Queensland Reconstruction Authority's TSP 2/11 and Interim Floodplain Assessment Overlay maps. It is anticipated that new codes and criteria will be developed and introduced as part of the review of SPP 1/03.</p>	Ongoing – refer to Appendix 2 (State Planning Policy for natural hazards)
5.2	The Queensland Government should include in the model flood planning controls a requirement that councils have a flood overlay map in their	State	DSDIP (QldRA)	The model flood planning controls will be developed and introduced as part of the review of SPP 1/03. The reviewed SPP 1/03 is likely to incorporate a	Ongoing – refer to Appendix 2 (State Planning Policy for natural hazards)

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	<p>planning schemes. The map should identify the areas of the council region:</p> <ul style="list-style-type: none"> <li>• that are known not to be affected by flood</li> <li>• that are affected by flood and on which councils impose planning controls (there may be subsets in each area to which different planning controls attach)</li> <li>• for which there is no flood information available to council.</li> </ul>			<p>requirement that planning schemes include a flood overlay map. Until the review of SPP 1/03 is completed, the Queensland Reconstruction Authority, in its review of TSPP 2/11, will include a requirement that new planning schemes require a flood overlay map.</p> <p>In the interim, the Queensland Reconstruction Authority, in consultation with the Department of Natural Resources and Mines, will update the Interim Floodplain Assessment Overlay maps to allow this mapping to be used by councils with local verification where no other flood mapping exists.</p>	
5.3	<p>If the Queensland Government does not include a requirement for such an overlay map in the model flood planning controls, councils should include a flood overlay map in their planning schemes. The map should identify the areas of a council region:</p> <ul style="list-style-type: none"> <li>• that are known not to be affected by flood</li> <li>• that are affected by flood and on which councils impose planning controls (there may be subsets in each area to which different planning controls attach)</li> <li>• for which there is no flood information available to council.</li> </ul>	LG	Councils		
5.4	<p>The Queensland Government should include in the model flood planning controls a model flood overlay code that consolidates assessment criteria relating to flood.</p>	State	DSDIP (QldRA)	<p>The Queensland Government has provided an initial model flood hazard overlay code through the Queensland Reconstruction Authority's <i>Planning for stronger, more resilient floodplains</i></p>	<p>Ongoing – refer to Appendix 2 (State Planning Policy for natural hazards)</p>



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				<p>guideline.</p> <p>The Queensland Government will further develop model flood planning controls for use by councils in the finalisation of the Queensland Reconstruction Authority's Part 2 guideline: <i>Measures to support floodplain management in existing planning schemes</i> and in the review of SPP 1/03.</p> <p>It is anticipated that new requirements regarding model flood overlay codes will be developed and, if deemed appropriate, introduced as part of the new state planning policy for natural hazards or a more suitable alternative state planning instrument.</p>	
5.5	If the Queensland Government does not include such a code in the model flood planning controls, councils should include in their planning schemes a flood overlay code that consolidates assessment criteria relating to flood.	LG	Councils		
5.6	<p>The Queensland Government should include in the model flood planning controls a model planning scheme policy that:</p> <ul style="list-style-type: none"> <li>for development proposed on land susceptible to flooding, outlines what additional information an applicant should provide to the assessment manager as part of the development application, or</li> <li>for development proposed on land where the potential for flooding is unknown, requires an applicant to</li> </ul>	State	DSDIP (QldRA)	<p>The Queensland Government has provided an initial model flood hazard overlay code through the Queensland Reconstruction Authority's <i>Planning for stronger, more resilient floodplains</i> guideline.</p> <p>The Queensland Government will further develop model flood planning controls for use by councils in the finalisation of the Queensland Reconstruction Authority's Part 2 guideline: <i>Measures to support</i></p>	Ongoing – refer to Appendix 2 (State Planning Policy for natural hazards)

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	<p>provide:</p> <ul style="list-style-type: none"> <li>- as part of the development application, information to enable an assessment of whether the subject land is susceptible to flooding, and</li> <li>- upon a determination the subject land is susceptible to flooding, more detailed information, to allow an assessment of the flood risk.</li> </ul>			<p><i>floodplain management in existing planning schemes</i> and in the review of SPP 1/03.</p> <p>It is anticipated that suitable models flood planning controls to address additional information requirements for development applications where land may be susceptible to flooding will be implemented via an appropriate state planning instrument.</p>	
5.7	<p>If the Queensland Government does not include such a policy in the model flood planning controls, councils should include in their planning schemes a planning scheme policy that:</p> <ul style="list-style-type: none"> <li>• for development proposed on land susceptible to flooding, outlines what additional information an applicant should provide to the assessment manager as a part of the development application, or</li> <li>• for development proposed on land where potential for flooding is unknown requires an applicant to provide: <ul style="list-style-type: none"> <li>- as part of the development application, information to enable an assessment of whether the subject land is susceptible to flooding, and</li> <li>- upon a determination the subject land is susceptible to flooding, more detailed information to allow an assessment of the flood risk.</li> </ul> </li> </ul>	LG	Councils		

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5.8	<p>The Queensland Government should consider amending the <i>Sustainable Planning Act 2009</i> to expressly provide either a power to remake or a power to extend a temporary local planning instrument containing interim flood regulation for a further limited period. The power to remake or extend should:</p> <ol style="list-style-type: none"> <li>a. permit the modification of the temporary local planning instrument to the extent required to ensure its provisions remain relevant, having regard to any requirement that may have been introduced or any information that may have become available while the original temporary local planning instrument was in force</li> <li>b. be contingent on the Minister's being satisfied that the circumstances listed in section 105 of the <i>Sustainable Planning Act</i> continue to exist and that there are proper grounds for the failure to make a permanent scheme amendment while the original temporary local planning instrument was in force.</li> </ol>	State	DSDIP	<p>The Queensland Government will consider amending Statutory Guideline 1/12: <i>Making and Amending Local Planning Instruments</i> to more clearly articulate when planning instrument amendments are considered to be minor, or when an instrument needs to be remade or extended.</p>	<p>Ongoing – refer to Appendix 2 (Delivery of flood provisions in the planning framework)</p>
5.9	<p>The Queensland Government should consider allowing councils to amend a planning scheme to update existing flood mapping information by way of the minor amendment process, provided that adequate public consultation has occurred.</p>	State	DSDIP	<p>The Queensland Government has existing processes which allow planning schemes to be amended to update existing flood mapping, through the minor amendment process. The application of this existing process will be clarified with councils as required.</p>	<p><b>Complete</b></p> <p>The Department of State Development, Infrastructure and Planning has reinforced, in discussions with individual local governments, that planning schemes can be amended to update existing flood mapping through the minor amendment process.</p> <p>The Queensland Reconstruction Authority guideline <i>Planning for stronger, more resilient</i></p>

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					<p><i>floodplains</i> outlines the process by which flood mapping in planning schemes can be updated through the minor amendment process. Further guidance will be provided through amendment to roles and responsibilities in implementing the new State Planning Policy for natural hazards.</p>
6.1	<p>The Queensland Government should consider amending the <i>Urban Land Development Authority Act 2007</i>, the <i>South Bank Corporation Act 1989</i>, the <i>State Development and Public Works Organisation Act 1971</i> insofar as it governs state development areas, and other legislation which establishes alternative planning systems that operate independently of the <i>Sustainable Planning Act 2009</i>, to require that:</p> <ul style="list-style-type: none"> <li>• any planning scheme, interim or otherwise, appropriately reflects any state planning policy with respect to flood</li> <li>• flood risk be considered in the assessment of any development application.</li> </ul>	State	DSDIP	<p>The Queensland Government will consider possible amendments to the <i>Urban Land Development Authority Act 2007</i>, <i>South Bank Corporation Act 1989</i> and <i>State Development and Public Works Organisation Act 1971</i> to ensure that requirements relating to SPP 1/03 are appropriately dealt with in an administrative, policy or legislative context.</p>	<p><b>Complete</b></p> <p>The Department of State Development, Infrastructure and Planning has undertaken an assessment of satellite planning systems, which considered the option of amending the <i>Urban Land Development Authority Act 2007</i>, <i>South Bank Corporation Act 1989</i> and the <i>State Development Public Works Organisation Act 1971</i>, to ensure that State Planning Policy requirements regarding flood are considered during planning and development assessment.</p> <p>An issues paper was developed for consultation with stakeholders. Following consultation, it has been determined that no legislative amendments are required as existing operational and administrative arrangements are considered adequate to consider flooding issues.</p>
6.2	<p>The Coordinator-General should amend the guideline for preparing an 'initial advice statement' for a significant project under the <i>State Development and Public Works Organisation Act 1971</i> so that it specifically requires an applicant to consider and provide information about the project's flood risk.</p>	State	DSDIP	<p>The <i>Guideline for preparing an initial advice statement</i> under the <i>State Development and Public Works Organisation Act 1971</i> has been amended to specifically require applicants to consider and provide information about flood risk for significant projects.</p> <p>Further amendments to the guideline may be considered following detailed consideration of all satellite planning instruments.</p>	<p><b>Complete</b></p> <p>The <i>Guideline for preparing an initial advice statement</i> under the <i>State Development and Public Works Organisation Act 1971</i> was amended in May 2012 to require applicants to consider and provide information about flood risk for significant projects. This was monitored to identify any further necessary amendments to guidance material and/or development application and approval processes to ensure they are consistent with other planning and development assessment policies and</p>

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					procedures. The wording in the guideline was further revised as part of the November 2012 revision.
7.1	The Queensland Government should consider extending the application of a state planning policy dealing with flood to the types of community infrastructure which are identified in the <i>Sustainable Planning Regulation 2009</i> and which the community needs to continue functioning, notwithstanding flood.	State	DSDIP	Queensland Government departments involved in the provision or management of community and public infrastructure will work together to consider the best approach to ensuring community infrastructure is resilient to flooding and provides sufficient refuge for communities during natural hazard events.	Ongoing – refer to Appendix 2 (State Planning Policy for natural hazards)
7.2	The Queensland Government should draft assessment criteria to be included in the model flood planning controls that require community infrastructure (including the types of community infrastructure which are identified in the <i>Sustainable Planning Regulation 2009</i> and which the community needs to continue functioning, notwithstanding flood) to be located and designed to function effectively during and immediately after a flood of a specified level of risk.	State	DSDIP	The Queensland Government will consider assessment criteria for community infrastructure in developing the model flood planning controls in accordance with recommendation 5.1.  These new criteria will also be considered as part of the review of SPP 1/03 and new provisions introduced via the most appropriate state planning instrument.	Ongoing – refer to Appendix 2 (State Planning Policy for natural hazards)
7.3	If the Queensland Government does not include such assessment criteria in model flood planning controls, councils should include assessment criteria in their planning schemes that require community infrastructure (including the types of community infrastructure which are identified in the <i>Sustainable Planning Regulation 2009</i> and which the community needs to continue functioning, notwithstanding flood) to be located and designed to function	LG	Councils		

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	effectively during and immediately after a flood of a specified level of risk.				
7.4	The Queensland Government should draft assessment criteria to be included in the model flood planning controls that require the impact of flood on commercial property to be minimised.	State	DSDIP	<p>The Queensland Government, as part of the review of SPP 1/03, will consider the most appropriate means for ensuring planning provisions appropriately address natural hazard impacts on commercial property.</p> <p>If considered the most effective solution, new criteria will be included in the new state planning policy for natural hazards or via the most appropriate state planning instrument.</p>	Ongoing – refer to Appendix 2 (State Planning Policy for natural hazards)
7.5	If the Queensland Government does not include such assessment criteria in the model flood planning controls, councils should include assessment criteria in their planning schemes that require the impact of flood on commercial property to be minimised.	LG	Councils		
7.6	The Queensland Government should ensure that the criteria under the <i>Environmental Protection Act 1994</i> that apply to the assessment of development applications for material change of use for environmentally relevant activities include consideration of the risk of flooding at the site on which the activity is proposed to occur.	State	DEHP	The Queensland Government will prepare amendments to the <i>Environmental Protection Regulation 2008</i> to ensure that development applications for environmentally relevant activities include assessment of potential flooding risk.	<b>Complete</b> The <i>Environmental Protection Regulation 2008</i> has been amended to ensure that applications to approve environmentally relevant activities include assessment of potential flooding risk. The amendment commenced on 9 November 2012.
7.7	The Department of Environment and Resource Management should amend its information sheet about applications for a material change of use for environmentally relevant activities so that applicants are prompted to include	State	DEHP	<b>Complete</b> The Queensland Government has amended the information sheet <i>Information to be provided with an application for a development approval</i>	<b>Complete</b> As detailed in the Government response, the Department of Environment and Heritage Protection amended the information sheet in March 2012.

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	information (if any) about the risk of flooding at the site where the activity is proposed to occur.			<i>(DA) for an environmentally relevant activity (ERA) (EM2150) to include information regarding potential flooding risk. The amended information sheet is available on the Department of Environment and Heritage Protection website at <a href="http://www.derm.qld.gov.au">www.derm.qld.gov.au</a> by searching for EM2150.</i>	The information sheet was replaced as a result of the greentape amendments to the <i>Environmental Protection Act 1994</i> which commenced in March 2013. The guidelines <i>Application requirements for activities with impacts to water</i> and <i>Application requirements for activities with impacts to land</i> reference flooding potential.
7.8	The Department of Environment and Resource Management should amend the template assessment report used to assess applications for a material change of use for environmentally relevant activities so that it prompts departmental officers to give specific consideration, as part of the assessment process, to the risk of flooding at the site where the activity is proposed to occur.	State	DEHP	<b>Complete</b>  The Queensland Government has amended the template assessment report for applications for material change of use for environmentally relevant activities <i>Assessment Report, Environmental Protection Act 1994, Environmentally relevant activities assessed under IDAS (EM391)</i> to include criteria regarding potential flooding risk.	<b>Complete</b>  As detailed in the Government response, the assessment template report for applications for material change of use for environmentally relevant activities was amended in September 2011.  The template assessment report was replaced as a result of the greentape amendments to the <i>Environmental Protection Act 1994</i> which commenced in March 2013. The replacement template, <i>Assessment of a site specific application (EM1115)</i> , includes references to flooding potential.
7.9	The Department of Environment and Resource Management should ensure that, when applications for a material change of use for an environmentally relevant activity are approved by the department, the details of those activities, including their nature and location, are provided to the council within whose area the activity will be conducted.	State	DEHP	The Queensland Government will implement new procedures for approvals where the Department of Environment and Heritage Protection is the assessment manager for development applications for a material change of use for environmentally relevant activities. This procedure will ensure that the relevant local government will receive correspondence notifying it of a development approval and details of the activity.	<b>Complete</b>  In May 2012, the Department of Environment and Heritage Protection amended its processes to ensure that, when applications for a material change of use for environmentally relevant activities are approved by the department, the details of those activities, including their nature and location, are provided to the council within whose area the activity will be conducted.

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7.10	Councils should ensure that, when applications for environmentally relevant activities are approved by a council, the details of those activities, including their nature and location, are provided to the Department of Environment and Resource Management.	LG	Councils		
7.11	<p>The Queensland Government should draft assessment criteria to be included in the model flood planning controls that require that:</p> <p>a. the manufacture or storage of bulk hazardous materials (as defined in State Planning Policy 1/03) take place above a certain flood level, determined following an appropriate risk based assessment, or</p> <p>b. structures on land susceptible to flooding and used for the manufacture or storage of bulk hazardous materials (as defined in State Planning Policy 1/03) be designed to prevent the intrusion of floodwaters.</p>	State	DSDIP (QldRA)	<p>The Queensland Government has provided an initial model flood hazard overlay code through the Queensland Reconstruction Authority's <i>Planning for stronger, more resilient floodplains</i> guideline. Performance Outcome 4 (PO4 – <i>Development avoids the release of hazardous materials into floodwaters</i>) of the model flood hazard overlay code includes provision relating to hazardous materials.</p> <p>The Queensland Government will further develop model flood planning controls for use by councils in the finalisation of the Queensland Reconstruction Authority's Part 2 guideline: <i>Measures to support floodplain management in existing planning schemes</i> and in the review of SPP1/03. The review of SPP 1/03 will consider the most appropriate means for ensuring planning provisions sufficiently protect people and property from hazardous material contamination during a natural disaster event.</p> <p>If considered the most effective solution, new criteria will be included in the new state planning policy for natural hazards or via the most appropriate state planning instrument.</p>	Ongoing – refer to Appendix 2 (State Planning Policy for natural hazards)



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7.12	<p>If the Queensland Government does not include such assessment criteria in the model flood planning controls, councils should include assessment criteria in their planning schemes that require that:</p> <ul style="list-style-type: none"> <li>a. the manufacture or storage of bulk hazardous materials (as defined in State Planning Policy 1/03) take place above a certain flood level, determined following an appropriate risk based assessment, or</li> <li>b. structures on land susceptible to flooding and used for the manufacture or storage of bulk hazardous materials (as defined in State Planning Policy 1/03) be designed to prevent the intrusion of floodwaters.</li> </ul>	LG	Councils		
7.13	<p>When approving applications for development which involve the manufacture or storage of hazardous materials, councils should not restrict the conditions imposed to ones which are solely reliant on human intervention to remove the materials in the event of flood.</p>	LG	Councils		
7.14	<p>The Queensland Government should review the code for development applications for prescribed tidal work in the <i>Coastal Protection and Management Regulation 2003</i> to consider whether the design and construction standards should be made more stringent than the existing standards.</p>	State	DEHP	<p>The Queensland Government is reviewing the code for development applications for prescribed tidal work in the <i>Coastal Protection and Management Regulation 2003</i>. Relevant revisions to the design and construction standards in the code will be considered, and, if necessary, amendments to the <i>Coastal Protection and Management Regulation 2003</i></p>	<p>Ongoing – refer to Appendix 2 (Prescribed tidal works code)</p>

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				prepared for Governor in Council consideration.	
7.15	Councils (particularly Brisbane City Council) should consider including in their planning schemes more stringent standards for the design and construction of prescribed tidal work than those in the code for development applications for prescribed tidal work in the <i>Coastal Protection and Management Regulation 2003</i> .	LG	Councils		
7.16	<p>The Queensland Government should consider drafting assessment criteria to be included in the model flood planning controls which require that works in a floodplain:</p> <ul style="list-style-type: none"> <li>• do not reduce on-site flood storage capacity</li> <li>• counteract any changes the works will cause to flood behaviour of all floods up to and including the applicable defined flood event by measures taken within the subject site (for example, use of compensatory works, detention basins or other engineering mechanisms)</li> <li>• do not change the flood characteristics outside the subject site in ways that result in: <ul style="list-style-type: none"> <li>– loss of flood storage</li> <li>– loss of/changes to flow paths</li> <li>– acceleration or retardation of flows, or</li> <li>– any reduction in flood warning times elsewhere on the floodplain.</li> </ul> </li> </ul>	State	DSDIP (QldRA)	<p>The Queensland Government has provided an initial model flood hazard overlay code through the Queensland Reconstruction Authority's <i>Planning for stronger, more resilient floodplains</i> guideline. Performance Outcome 3 (PO3 – <i>Development directly, indirectly and cumulatively avoids any significant increase in water flow, velocity or flood level, and does not increase the potential for flood damage either on site or on other properties</i>) of the model flood hazard overlay code already includes provision relating to flood storage.</p> <p>The Queensland Government will further develop and review the model flood planning controls for use by councils in the finalisation of the Queensland Reconstruction Authority's Part 2 guideline: <i>Measures to support floodplain management in existing planning schemes</i> and in the review of SPP 1/03. The review of SPP 1/03 will consider the most appropriate means for addressing water storage and flow issues within the planning framework.</p>	Ongoing – refer to Appendix 2 (State Planning Policy for natural hazards)

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				If considered the most effective solution, new criteria may be included in the new state planning policy for natural hazards or via the most appropriate state planning instrument.	
7.17	<p>If the Queensland Government does not include such assessment criteria in the model flood planning controls, councils should consider including assessment criteria in their planning schemes which require that works in a floodplain:</p> <ul style="list-style-type: none"> <li>• do not reduce on-site flood storage capacity</li> <li>• counteract any changes the works will cause to flood behaviour of all floods up to and including the acceptable defined flood event by measures taken within the subject site (for example, use of compensatory works, detention basins or other engineering mechanisms), and</li> <li>• do not change the flood characteristics outside the subject site in ways that result in: <ul style="list-style-type: none"> <li>– loss of flood storage</li> <li>– loss of/changes to flow paths</li> <li>– acceleration or retardation of flows, or</li> <li>– any reduction in flood warning times elsewhere on the floodplain.</li> </ul> </li> </ul>	LG	Councils		
7.18	The Queensland Government should consider amending the <i>Sustainable Planning Regulation 2009</i> so that operational work or plumbing or	State	DSDIP	The Queensland Government will consider the most appropriate means for ensuring that plumbing and drainage work carried out by or on	Ongoing – refer to Appendix 2 (Delivery of flood provisions in the planning framework)

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	drainage work (including maintenance and repair work) carried out by or on behalf of a public sector entity authorised under a state law to carry out the work is not exempt development under the <i>Sustainable Planning Act 2009</i> if the development has the potential to reduce floodplain storage.			behalf of a public sector entity is appropriately assessed in the planning framework.  If considered necessary to implement the most effective solution, amendments will be made to the <i>Sustainable Planning Regulation 2009</i> .	
7.19	Levees should be regulated.	State / LG	DSDIP / DNRM (joint)	The Queensland Government, through a working group chaired by the Department of Natural Resources and Mines and comprising representatives of departments including the Department of State Development, Infrastructure and Planning, the Department of Local Government and the Department of the Premier and Cabinet, is currently considering options for the regulation of levee banks.  Consultation and collaboration with local government will be essential in determining the most effective means of regulating levees, taking into account the respective roles of both state and local government in development assessment and the necessary technical input required.	Ongoing – refer to Appendix 2 (Regulation of levees)
7.20	The Queensland Government should consult with councils to determine an effective method for the regulation of the construction of levees in Queensland. In particular, the Queensland Government should consider: <ul style="list-style-type: none"> <li>• requiring a development permit for</li> </ul>	State	DSDIP / DNRM (joint)	The Queensland Government will consider the most appropriate planning instrument for the regulation of levees in consultation with local government, in accordance with recommendation 7.19.	Ongoing – refer to Appendix 2 (Regulation of levees)

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	<p>the construction of a levee by designating levees as assessable development in the <i>Sustainable Planning Regulation 2009</i>, or</p> <ul style="list-style-type: none"> <li>requiring, by way of a state planning policy or mandatory provision in the Queensland Planning Provisions, that councils nominate the construction of a levee as assessable development in their planning schemes.</li> </ul>				
7.21	<p>The Queensland Government should consult with councils to formulate a definition of 'levee' to identify what should be regulated.</p>	State	DSDIP / DNRM (joint)	<p>The Queensland Government will consider the most appropriate definition of 'levee' in consultation with local government, in accordance with recommendation 7.19.</p>	Ongoing – refer to Appendix 2 (Regulation of levees)
7.22	<p>There should be a consistent process for the determination of applications to build levees. That process should include:</p> <ul style="list-style-type: none"> <li>consulting landholders who may be affected by the proposed levee</li> <li>obtaining or commissioning appropriate hydrological and hydraulic studies to assess the impacts of the proposed levee.</li> </ul>	State	DSDIP / DNRM (joint)	<p>The Queensland Government will develop a consistent process for applications to build levees in consultation with local government, in accordance with recommendation 7.19.</p>	Ongoing – refer to Appendix 2 (Regulation of levees)
7.23	<p>There should be a common set of considerations in the decision whether to approve an application to build a levee, including:</p> <ul style="list-style-type: none"> <li>the impacts of the proposed levee on the catchment as a whole</li> <li>the benefits of the proposed levee to the individual or entity applying to build the levee and to any nearby community as a whole</li> <li>any adverse impacts on other</li> </ul>	State	DSDIP / DNRM (joint)	<p>The Queensland Government will develop a set of factors to be considered in assessing applications to build levees for incorporation into the planning framework, in accordance with recommendation 7.19.</p>	Ongoing – refer to Appendix 2 (Regulation of levees)

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	<p>landholders, including the risk of levee failure</p> <ul style="list-style-type: none"> <li>the implications of the proposed levee for land planning and emergency management procedures</li> <li>whether any structural, land planning or emergency management measures can be taken to mitigate the adverse impacts of the proposed levee.</li> </ul>				
7.24	<p>The Queensland Government should draft assessment criteria to be included in the model flood planning controls that address:</p> <ul style="list-style-type: none"> <li>the prospect of isolation or hindered evacuation</li> <li>the impact of isolation or hindered evacuation.</li> </ul>	State	DSDIP	<p>The Queensland Government, as part of the review of SPP 1/03, will consider the most appropriate means for addressing isolation or hindered evacuation during a natural hazard event.</p> <p>If considered the most effective solution, new criteria will be included in the new state planning policy for natural hazards or via the most appropriate state planning instrument.</p>	Ongoing – refer to Appendix 2 (State Planning Policy for natural hazards)
7.25	<p>If the Queensland Government does not include such assessment criteria in the model flood planning controls, councils should consider including assessment criteria in their planning schemes that address:</p> <ul style="list-style-type: none"> <li>the prospect of isolation or hindered evacuation</li> <li>the impact of isolation or hindered evacuation.</li> </ul>	LG	Councils		
8.1	<p>Councils should, resources allowing, maintain flood maps and overland flow path maps for use in development assessment. For urban areas these maps should be based on hydraulic</p>	LG	Councils		

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	modelling; the model should be designed to allow it to be easily updated as new information (such as information about further development) becomes available.				
8.2	Councils should make their flood and overland flow maps and models available to applicants for development approvals, and to consultants engaged by applicants.	LG	Councils		
8.3	<p>The Queensland Government should draft a model planning scheme policy to be included in the model flood planning controls that sets out the information to be provided in development applications in relation to stormwater and flooding. The policy should specify:</p> <ul style="list-style-type: none"> <li>• the type of models and maps to be provided</li> <li>• the substantive information required to be shown in the development application</li> <li>• how the assumptions and methodologies used in preparing the models and maps should be presented</li> <li>• the form in which the information on stormwater and flooding is to be presented in the application.</li> </ul>	State	DSDIP	<p>The Queensland Government will consider the most appropriate means for ensuring that development application and assessment processes appropriately consider stormwater and flooding.</p> <p>If considered the most effective solution, new criteria will be included in the new state planning policy for natural hazards or via the most appropriate state planning instrument.</p>	Ongoing – refer to Appendix 2 (State Planning Policy for natural hazards)
8.4	If the Queensland Government does not include such a policy in the model flood planning controls, councils should include a planning scheme policy in their planning schemes that sets out the information to be provided in development applications in relation to	LG	Councils		

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	<p>stormwater and flooding. The policy should specify:</p> <ul style="list-style-type: none"> <li>• the type of models and maps to be provided</li> <li>• the substantive information required to be shown in the development application</li> <li>• how the assumptions and methodologies used in preparing the models and maps should be presented</li> <li>• the form in which the information on stormwater and flooding is to be presented in the application.</li> <li>•</li> </ul>				
8.5	<p>Councils should review their assessment processes to ensure that:</p> <ul style="list-style-type: none"> <li>• the person with primary responsibility for the assessment of the development application considers what expert input is required</li> <li>• where a development application is subject to comment by a number of professionals, the responsibilities and accountability of each contributor are clear</li> <li>• where flood-related information is referred to an expert for advice, the expert is required to comment on the extent of compliance by reference to each relevant assessment criteria and identify and explain any inability to comment.</li> </ul>	LG	Councils		



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8.6	Councils should take care when imposing conditions to ensure that each condition has purpose; standardised conditions should not be included where they have no application to the development in question.	LG	Councils		
8.7	Councils should not rely on a condition requiring an evacuation plan as the sole basis for approving a development susceptible to flooding.	LG	Councils		
8.8	Councils should consider providing advice to development applicants during pre-lodgement meetings, and at the time of receiving a development application, about the way in which the development will be assessed for flood risk and what flood information council will be relying on to make this assessment.	LG	Councils		
9.1	<p>The proposed new part of the Queensland Development Code, Mandatory Part 3.5 'Construction of buildings in flood hazard areas', should be amended so that the performance requirement relating to building design and construction (Performance Requirement P1) for building on a lot will only be triggered where the council has:</p> <ul style="list-style-type: none"> <li>• designated part of its area as a natural hazard management area (flood) under section 13 of the <i>Building Regulation 2006</i>, and</li> <li>• either: <ul style="list-style-type: none"> <li>– declared a height to be the expected flood level under</li> </ul> </li> </ul>	State	DHPW	<p>The Queensland Government delayed work to progress the new part of the Queensland Development Code dealing with construction of buildings in flood hazard areas, to allow the Commission's recommendations to be taken into consideration.</p> <p>The Queensland Development Code will be revised to reflect the Commission's recommendations, with a focus on providing applicants with practical flexibility in the application of the Code.</p> <p>The Government will undertake community and industry consultation</p>	<p><b>Complete</b></p> <p>The new part of the Queensland Development Code dealing with construction of buildings in flood hazard areas was revised to reflect the Commission's recommendations with a focus on providing practical flexibility in the application of the code. The revised code came into effect on 26 October 2012.</p>

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	<p>section 13 of the <i>Building Regulation 2006</i>, or</p> <ul style="list-style-type: none"> <li>– adopted a highest recorded flood level for the lot, and</li> <li>• either: <ul style="list-style-type: none"> <li>– declared a velocity to be the expected maximum velocity of flood water for the area in which the lot is located, or</li> <li>– designated the area in which the lot is located an inactive flow or backwater area.</li> </ul> </li> </ul>			<p>on the revised Queensland Development Code further to the targeted consultation which has already occurred with affected local governments and key building and plumbing industry stakeholders.</p> <p>Implementation training is being considered to support local governments and industry with the adoption of the new Queensland Development Code, which is anticipated to take effect from October 2012.</p> <p>Amendments to the <i>Building Regulation 2006</i> will be required to adopt the Queensland Development Code.</p>	
9.2	<p>The proposed new part of the Queensland Development Code, Mandatory Part 3.5 ‘Construction of buildings in flood hazard areas’, should be amended so that the performance requirements about utilities and sanitary drains (Performance Requirement P2 and P3) for building on a lot will only be triggered where the council has:</p> <ul style="list-style-type: none"> <li>• designated part of its area as a natural hazard management area (flood) under section 13 of the <i>Building Regulation 2006</i>, and</li> <li>• either: <ul style="list-style-type: none"> <li>– declared a height to be the expected flood level under section 13 of the <i>Building Regulation 2006</i>, or</li> <li>– adopted a highest recorded flood</li> </ul> </li> </ul>	State	DHPW	<p>The Queensland Development Code will be revised to reflect the Commission’s recommendations, with a focus on providing applicants with practical flexibility in the application of the Code.</p> <p>The amendments will be developed and implemented in conjunction with recommendation 9.1. Amendments to the Queensland Plumbing and Wastewater Code will be considered to support requirements to protect backflow of sanitary drains.</p>	<p><b>Complete</b></p> <p>The revised Queensland Development Code came into effect on 26 October 2012. This included amendments to the <i>Standard Plumbing and Drainage Regulation 2003</i> to support requirements to protect backflow of sanitary drains.</p>

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	level for the lot.				
9.3	<p>The Queensland Government should consider amending the 'Limitation' section of the proposed new part of the Queensland Development Code, Mandatory Part 3.5 'Construction of buildings in flood hazard areas', to allow for the possible application of 'acceptable solution A1' to a building located on a lot if:</p> <ul style="list-style-type: none"> <li>it is reasonable to expect the part of the lot on which the building work is proposed to be subjected to a maximum velocity of less than 1.5 metres per second, or</li> <li>the part of the lot on which the building work is proposed is located in an inactive flow or backwater area.</li> </ul>	State	DHPW	<p>The Queensland Government will revise the Queensland Development Code to reflect the Commission's recommendations.</p> <p>The amendments will be developed and implemented in conjunction with recommendation 9.1.</p>	<p><b>Complete</b></p> <p>The revised Queensland Development Code came into effect on 26 October 2012 with amendments to the 'Limitations' section to reflect the Commission's recommendation.</p>
10.1	The Queensland Government should consider including in the criteria in the Queensland Plumbing and Wastewater Code a requirement that the risk of leakage from private on-site sewerage systems during floods be minimised.	State	DHPW	<p>The Queensland Government, through Building Codes Queensland's Plumbing Industry Consultative Group, will consider possible amendments to the Queensland Plumbing and Wastewater Code and the <i>Plumbing and Drainage Act 2002</i> through the current review of the Act.</p> <p>Implementation of new requirements regarding private on-site sewerage systems will also require the development of detailed guidance materials for local governments.</p>	<p><b>Complete</b></p> <p>New requirements to minimise the risk of leakage from on-site sewerage systems during floods under the <i>Standard Plumbing and Drainage Regulation 2003</i> were included in amendments to the Queensland Development Code that commenced on 26 October 2012. This requires the installation of a reflux valve between a building and an on-site sewerage facility or the sewerage connection point.</p>
10.2	Authorities responsible for the construction of sewerage infrastructure should, when embarking on new works, undertake risk and cost/benefit	LG	Councils		

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	assessments to determine the level at which electrical infrastructure that may be vulnerable to inundation should be placed.				
10.3	Authorities responsible for the management of sewerage infrastructure should conduct a review of their existing infrastructure to identify electrical infrastructure that may be vulnerable to inundation and perform risk and cost/benefit assessments to determine if it should be relocated to a higher level.	LG	Councils		
10.4	Queensland Urban Utilities should make the results of its trials on the use of caps for overflow relief gully grates available to other authorities responsible for sewerage infrastructure. Consideration should be given by those authorities as to how the results can be used to improve the flood resilience of their sewerage networks.	LG	Queensland Urban Utilities		
10.5	If the Queensland Development Code is amended to include provisions requiring homeowners to install sewage reflux valves, the Queensland Government should develop and make available to homeowners appropriate guidance material to assist them in meeting their responsibilities to maintain reflux valves.	State	DHPW	The Queensland Government will develop appropriate guidance material regarding the installation of sewage reflux valves, in conjunction with amendments to the Queensland Development Code to be implemented in accordance with recommendation 9.1.	<b>Complete</b> Guidance material for homeowners maintaining sewerage reflux valves has been published on the Department of Housing and Public Works website. This guidance material supports the amendments to the <i>Standard Plumbing and Drainage Regulation 2003</i> made in October 2012 in conjunction with the adoption of the new part of the Queensland Development Code dealing with building in flood hazard areas.
10.6	Queensland Urban Utilities, and other distributor-retailers and councils, that have identified a practice of stormwater	LG	Councils		

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	drains being connected to sewerage infrastructure, should conduct a program of education to raise public awareness that this practice is illegal and impedes the operation of the sewerage infrastructure.				
10.7	Councils and distributor-retailers should agree to protocols for the exchange of information about suspected illegal connections, the steps being taken to investigate them or the basis for concluding that no investigation is required, and the results of any investigations or enforcement actions.	LG	Councils		
10.8	The Department of Environment and Resource Management should review the Queensland Urban Drainage Manual to determine whether it requires updating or improvement, in particular, to reflect the current law and to take into account insights gained from the 2010/2011 floods.	State	DEWS	<p>The Queensland Government will undertake a review of the Queensland Urban Drainage Manual to determine the necessity for amendments to reflect the impact of the 2010/11 floods and other relevant developments.</p> <p>This review will involve consultation with relevant stakeholders, including local government.</p>	<p><b>Complete</b></p> <p>The review of the Queensland Urban Drainage Manual has been completed, with the manual updated taking into account the insights gained from the 2010/11 floods. A provisional version of the manual has been published on the Department of Energy and Water Supply website.</p> <p>Public comments on the provisional version of the manual will be accepted until the end of October 2013. The Brisbane City Council and the Institute of Public Works Engineering Australia (Queensland) will also provide further feedback prior to finalisation of the next version of the manual.</p>
10.9	All councils should, resources allowing, map the overland flow paths of their urban areas.	LG	Councils		
10.10	Councils should consider amending their planning schemes to include	LG	Councils		

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	provisions directed to consideration of the flood resilience of basements as a factor in determining the appropriateness of a material change of use.				
10.11	In assessing and determining development applications for material change of use in areas susceptible to flood, councils should consider whether the new developments locate essential services infrastructure above basement level, or, alternatively, whether essential services infrastructure located at basement level can be constructed so that it can continue to function during a flood.	LG	Councils		
10.12	SunWater and the Central Highlands Regional Council should determine the issues of ownership and responsibility for maintenance of the LN1 drain system in Emerald.	State / LG	DEWS (SunWater)	<p>SunWater has held meetings with the Central Highlands Regional Council to discuss relative responsibilities in relation to the LN1 drain. These discussions are ongoing and will ensure the future management of the LN1 drain delivers services to the whole Emerald community.</p> <p>It is expected that an agreement will be reached between the Central Highlands Regional Council and SunWater prior to the 2012/13 wet season.</p>	Ongoing – refer to Appendix 2 (LN1 drain)
10.13	The Bundaberg Regional Council should investigate the adequacy of the drain and take reasonable steps to ensure the Moore Park area is effectively served.	LG	Bundaberg Regional Council		

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10.14	All councils should periodically conduct risk assessments to identify areas at risk of backflow flooding. In respect of such areas, councils should consider how such risks can be lessened, including in that process consideration of the installation of backflow prevention devices. Backflow devices should not, however, be installed unless and until a full risk based assessment has been undertaken.	LG	Councils		
10.15	Councils should conduct education campaigns directed to ensuring that all residents and property owners in areas identified as being at risk of backflow flooding are aware of the circumstances in which backflow flooding can occur, the hazard it presents and what should be done if it occurs.	LG	Councils		
10.16	The Queensland Government should draft assessment criteria to be included in the model flood planning controls that require critical infrastructure in assessable substation developments is built to remain operational during and immediately after a flood of a particular magnitude. That magnitude should be determined by an appropriate risk assessment.	State	DSDIP	The Queensland Government will consider the most appropriate means to regulate both the design and location of critical infrastructure.	Ongoing – refer to Appendix 2 (State Planning Policy for natural hazards)
10.17	If the Queensland Government does not include such assessment criteria in the model flood planning controls, councils should include assessment criteria in their planning schemes that require critical infrastructure in assessable substation developments is	LG	Councils		

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	built to remain operational during and immediately after a flood of a particular magnitude. That magnitude should be determined by an appropriate risk assessment.				
10.18	The Queensland Government should consider measures to ensure that requirements are included in the designation of land for community infrastructure under the <i>Sustainable Planning Act 2009</i> to ensure that critical infrastructure for operating works under the <i>Electricity Act</i> is built to remain operational during and immediately after a flood of a particular magnitude. That magnitude should be determined by an appropriate risk assessment.	State	DSDIP / DEWS (joint)	<p>The Queensland Government is considering a number of options to address this recommendation, including possible amendments to the <i>Sustainable Planning Act 2009</i>, the <i>Electricity Act 1994</i> or the Queensland Development Code and <i>Building Regulation 2006</i>.</p> <p>Further consideration of the preferred method to address this recommendation will be undertaken in conjunction with implementation of recommendations 5.1 and 9.1.</p>	<p><b>Complete</b></p> <p>The location and design of critical infrastructure for operating works is currently considered by electricity entities under SPP 1/03. Further requirements are not considered necessary, however, issues related to the location and design of community infrastructure will be considered further as part of the development of the single State Planning Policy. New guidance material on assessment of community infrastructure applications is being developed to implement recommendation 10.16.</p>
10.19	Electricity distributors should consider installing connection points for generators to provide electricity supply to non-flooded areas that have had their supply cut during floods.	State	DEWS (ENERGEX and Ergon Energy)	<p>The Queensland Government has consulted distribution entities regarding the most effective mechanism to address this recommendation.</p> <p>ENERGEX has led a review of this issue and is currently updating its flood plan to include details of dry connection points, so that generators can be used in event of a flood.</p> <p>Ergon Energy's emergency plans already consider the pre-emptive deployment of generators in areas known to become isolated where it is reasonably practical and appropriate. Ergon is undertaking a further review of its assets in flood-prone areas and developing new procedures and systems to facilitate deployment of generators during flood events.</p>	<p><b>Complete</b></p> <p>ENERGEX and Ergon Energy have made improvements to its practices to address this recommendation.</p> <p>Both distributors have obligations under the Electricity Industry Code to produce and publish annual plans to manage the network and prepare for the summer storm season. These plans will include arrangements, where practicable, for pre-emptive deployment of generators to areas known to become isolated by flood.</p>



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10.20	The Queensland Government should consider whether there should be a legislative requirement that customer dedicated assets be built at or above the applicable defined flood level and if so, the Queensland Government should consider which legislation should contain such a requirement.	State	DHPW / DEWS (joint)	<p>The Queensland Government will undertake consultation to consider the Commission's recommendation and determine the most effective mechanism for any further action in conjunction with recommendation 10.21.</p> <p>Amendments to the <i>Building Regulation 2006</i>, the <i>Electricity Act 1994</i> and/or the <i>Electricity Regulation 2006</i> may be required to introduce any new requirements.</p> <p>Any legislative amendments would require public consultation to be undertaken in order to evaluate possible impacts, including on building owners, resulting from any new requirements for electricity infrastructure to be located above the applicable defined flood level.</p>	<p><b>Complete</b></p> <p>The new part of the Queensland Development Code which commenced on 26 October 2012 contained requirements regarding raising customer dedicated substations above the defined flood level.</p>
10.21	The Queensland Government should consider implementing mandatory requirements to ensure that all conduits for the purpose of providing electrical supply below the applicable defined flood level are sealed to prevent floodwaters from entering them or flowing into them.	State	DHPW / DEWS (joint)	<p>The Queensland Government will undertake consultation to appropriately consider the Commission's recommendation and determine the most effective mechanism for any further action in conjunction with recommendation 10.20.</p> <p>Amendments to the <i>Building Regulation 2006</i>, the <i>Electricity Act 1994</i> and/or the <i>Electricity Regulation 2006</i> may be required to introduce any new requirements.</p>	<p><b>Complete</b></p> <p>The Department of Energy and Water Supply consulted ENERGEX and Ergon Energy and released a discussion paper for consultation regarding possible new mandatory requirements to seal electrical conduits. In addition, research was conducted into existing technologies from Australia and overseas which indicated there were no suitable building products for this purpose.</p> <p>Research concluded there are no suitable products available to effectively flood proof conduits. For this reason, it is not proposed to impose obligations on electricity distributors or building owners in response to this</p>

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					recommendation. The feedback from the community and industry consultation supported this view.
10.22	Carriers, councils and the Australian Communications and Media Authority should take into account the risk of flooding when considering the placement of telecommunications facilities.	Cth / LG			
10.23	Queensland Rail and QR National should continue to investigate opportunities for increasing the flood resilience of their networks, including raising the height of critical equipment.	State entity	DTMR (Queensland Rail and QR National)	Queensland Rail and QR National will consider opportunities to increase flood resilience and raising of critical infrastructure through its network maintenance and infrastructure upgrade programs.	<b>Complete</b> QR and QR National (Aurizon) have implemented a range of flood resilience measures since the 2010/11 floods. The Department of Transport and Main Roads will continue to monitor the issue and work to ensure that flood immunity issues are addressed as required.
11.1	Councils should consider implementing a property buy-back program in areas that are particularly vulnerable to regular flooding, as part of a broader floodplain management strategy, where possible obtaining funding from the Natural Disaster Resilience Program for this purpose.	LG	Councils		
12.1	When a policy-holder makes a claim, the insurer should ascertain the policy-holder's preferred method of contact and ensure that it is used (with other modes of communication if necessary) to keep the policyholder informed about the progress of the claim. However, important decisions regarding the claim – for example, determinations about the outcome of the claim and	Cth / Private			

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	settlement sums – should always be confirmed in writing.				
12.2	Insurers should review their existing systems and processes and implement any improvements necessary to ensure that accurate and complete records of conversations with policy-holders are made.	Cth / Private			
12.3	Letters notifying policy-holders that their claims have been denied should, at a minimum, state the information upon which the insurer has relied in making the decision. These letters should also advise policy-holders that copies of the information will be made available upon request (in accordance with clause 3.4.3 of the General Insurance Code of Practice) and indicate how policy-holders can make a request.	Cth / Private			
12.4	The Insurance Council of Australia should consider an amendment to Part 3 of the code which requires insurers to notify policy-holders of the information on which they relied in assessing claims.	Cth / Private			
12.5	The Insurance Council of Australia should amend clause 3.4.3 of the General Insurance Code of Practice so that it requires insurers to inform policy-holders of their right to request a review of an insurer's decision to refuse to provide access to information on which it relied in assessing claims.	Cth / Private			

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13.1	Mine operators should obtain all public seasonal forecasts issued by the Bureau of Meteorology relevant to the regions in which their operations are located.	Private			
13.2	Any mine operator of a site at high risk of flood should obtain the best forecast information available (seasonal and short term) for the region in which the mine is located.	Private			
13.3	The Department of Environment and Resource Management should prepare a list of relevant considerations to be taken into account in performing a risk assessment to decide which sites to inspect. Bureau of Meteorology forecasts should be one consideration.	State	DEHP	The Queensland Government, through the Department of Environment and Heritage Protection, will develop new administrative procedures and checklists to standardise and consolidate mine risk assessment processes across the state.	<b>Complete</b>  The Department of Environment and Heritage Protection has developed new administrative procedures and checklists to standardise and consolidate mine risk assessment processes across the State. This includes the development of an Environmentally Relevant Activity (ERA) / Non-ERA risk assessment tool and procedure guide.
13.4	The Department of Environment and Resource Management should conduct risk assessments in time for site inspections, and the implementation of solutions to problems identified at inspections, to take place before 1 November of each year.	State	DEHP	The Queensland Government will develop new administrative procedures to guide compliance inspection activities throughout the year, in accordance with recommendation 13.3. These procedures will be aimed at ensuring mine operators meet their obligations to have adequate water storage and water management systems in place on or by the commencement of the wet season.  The program of inspections will include targeted visits to identified sites on or at the commencement of the wet season to ensure compliance with performance conditions.	<b>Complete</b>  Risk assessment inspections of the 20 highest risk mine sites were completed by the end of October 2012. High risk sites were identified in accordance with the licensed sites risk assessment guideline which was updated in accordance with recommendation 13.3.

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13.5	<p>The Queensland Government should work collaboratively with the Commonwealth Government and mine operators to ensure co-ordinated and effective monitoring of salts, metals and other contaminants in marine environments that may be affected by mine discharges.</p>	State / Cth	DEHP	<p>The Queensland Government will continue to work collaboratively with mine operators and the Commonwealth Government to ensure coordinated and effective monitoring of metals and other contaminants from mine discharges.</p> <p>In accordance with recommendation 13.6, the Queensland Government will review the results of extensive water quality monitoring undertaken during the 2010/11 floods to determine, as far as possible, the impacts of mine discharges on freshwater and marine water quality and fauna and flora.</p> <p>The results of that review will assist in identifying any potential gaps in existing programs that monitor salts, metals and other contaminants in marine environments that may be affected by mining discharge.</p> <p>The newly established Fitzroy Partnership for River Health, which consists of industry, community and all levels of government, has been established to effectively coordinate water quality monitoring for waterways within the Fitzroy Basin. The Commonwealth Government's Great Barrier Reef Marine Park Authority is an associate member and the Department of Environment and Heritage Protection is the co-chair. The Partnership will deliver comprehensive and ongoing reports into the health of the waters associated with the Fitzroy Basin through annual report cards, with</p>	<p><b>Complete</b></p> <p>The Department of Science, Information Technology, Innovation and the Arts is establishing the Wastewater Tracking and Electronic Reporting System (WaTERS) database which will allow mining companies to submit monitoring data over the internet. This will enable more rapid compliance checks, better sharing of data and assessment of cumulative impacts of mine discharges on the marine environment.</p> <p>Data have been obtained from all Level 1 coal mines, including those in the Fitzroy Basin, and will continue to expand and incorporate mines throughout Queensland as part of a planned roll-out over a three to five year period. Raw monitoring data obtained from mines for 2010 to 2012 were provided to the Fitzroy Basin Association for use in a report card to be released this year.</p> <p>More broadly, the Queensland Government will continue to work collaboratively with the Commonwealth Government and mine operators through the Fitzroy Partnership for River Health. The Partnership consists of industry, community and all levels of government, including the Commonwealth Government's Great Barrier Reef Marine Park Authority as an associate member. Monitoring data collected by the Queensland Government and collated as part of WaTERS program will be made available to the Partnership on an ongoing basis to assist with delivery of an annual report card and other reports on the health of the waters in the Fitzroy Basin.</p>

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				the first due in mid-2013.	
13.6	The Queensland Government should determine, as far as possible, the impact of mine discharges during the 2010/2011 wet season on freshwater and marine water quality and fauna and flora.	State	DEHP	<p>The Queensland Government, through the Department of Environment and Heritage Protection, will review the results of extensive water quality monitoring undertaken during the 2010/11 floods to determine, as far as possible, the impacts of mine discharges during the 2010/11 wet season on freshwater and marine water quality and fauna and flora.</p> <p>The results of that review will assist in identifying requirements for better event water quality monitoring, including any potential gaps in existing monitoring programs and options for more coordinated and effective monitoring of salts, metals and other contaminants in accordance with recommendation 13.5.</p>	<p><b>Complete</b></p> <p>The Department of Environment and Heritage Protection has reviewed extensive data and literature to determine the impacts of mine discharges during the 2010/11 wet season on freshwater and marine water quality, and fauna and flora.</p> <p>The study found that, due to the relatively small volume of water discharged by mines compared to the total water flows, the impacts of mine-affected water releases were negligible, and did not significantly contribute to the environmental impacts identified during the 2010/11 wet season.</p> <p>This analysis also provided insights into potential impacts of mine waters and identified priorities for the Department of Environment and Heritage Protection to ensure the release of accumulated legacy water from 2010/11 does not impact the aquatic environment.</p> <p>The report is available on the Department of Environment and Heritage Protection website.</p>
13.7	The Department of Environment and Resource Management should assist mine operators in their applications for amended environmental authorities to ensure, as far as possible, that each environmental authority contains a tailored version of Table 4 of the model conditions. The Department of Environment and Resource Management should provide to mining companies its monitoring data and its	State	DEHP	The Queensland Government, through the Department of Environment and Heritage Protection, has commenced a process to assist mine operators in their applications for amended environmental authorities to ensure, as far as possible, that each environmental authority contains a tailored version of Table 4 of the model conditions, which takes into account the cumulative effect of different	<p><b>Complete</b></p> <p>The Department of Environment and Heritage Protection has designed a process to assist mine operators in their applications for amended environmental authorities to ensure, as far as possible, that each environmental authority contains a tailored version of the model conditions. Monitoring data were used to inform the development of generic rules for flow triggers for releases, and spatial information, flow</p>

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	<p>suggested values for Table 4 on the basis of an assessment of the catchment which takes into account the cumulative effect of different operators' releases.</p>			<p>operators' releases.</p> <p>This includes providing industry training and producing support material in addition to holding pre-lodgement meetings between departmental experts and the mine operators and their consultants.</p> <p>As at 25 May 2012, the department had finalised all 23 properly made amendment applications received from mine operators.</p> <p>The Queensland Government and the Queensland Resources Council have also agreed to assess the feasibility of applying the model water conditions that were developed for the Fitzroy Basin coal mines to other mines across the remainder of the state, as part of a broader review of all model mining conditions.</p>	<p>analysis and water quality monitoring data were used to identify potential cumulative impacts.</p> <p>Industry training and support material has been produced and a guideline for officers assessing amendments to environmental authorities has been developed in consultation with the Queensland Resources Council.</p>
13.8	<p>Unless the Department of Environment and Resource Management has decided not to permit discharges, it should assist each mine operator in its application for an environmental authority to ensure, as far as possible, that each authority includes provisions for discharges during times of heavy rainfall and flood.</p>	State	DEHP	<p>The Department of Environment and Heritage Protection is assisting mine operators with applications for environmental authorities through a streamlined assessment process, in accordance with recommendation 13.7. Table 4 of the model conditions includes provisions setting out how much mine operators can discharge during times of heavy rainfall and flood, without reliance on transitional environmental programs or other 'emergency' mechanisms.</p>	<p><b>Complete</b></p> <p>The Department of Environment and Heritage Protection is assisting mine operators with applications for environmental authorities which takes into account the cumulative effect of different operators' releases. A template and guidelines for amendment of environmental authorities has been developed in consultation with the Queensland Resources Council.</p> <p>In addition, temporary amendments to environmental authorities will be considered to allow discharges above those provided for in model conditions. These temporary amendments focus on providing additional release authority</p>

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					during periods of high to very high flow in watercourses across the Fitzroy Basin. This will allow mine operators the opportunity to release larger volumes of mine-affected water, while managing cumulative impacts and ensuring drinking water supplies are protected.
13.9	The Queensland Government should legislate to clarify the purposes for which a transitional environmental program can be granted. In particular, if the government considers the transitional environmental program the appropriate regulatory mechanism to deal with the discharge of water from mines during flood, section 330 of the <i>Environmental Protection Act 1994</i> should be clarified to make it clear that it extends to that use.	State	DEHP	The Queensland Government, through the Department of Environment and Heritage Protection, will clarify the use of transitional environmental programs and consult with industry on the most appropriate regulatory mechanism to deal with the discharge of water from mines during flood. Options could include developing a new statutory tool to regulate the discharge of water from mines during floods, which would replace the current use of transitional environmental programs for this purpose.	<p><b>Complete</b></p> <p>A new statutory tool has been implemented which allow for the discharge of water from mines in response to an emergency event. Amendments to the <i>Environmental Protection Act 1994</i> to provide for the creation of a new temporary emissions licence (TEL) were passed by the Parliament on 28 November 2012 and commenced on 11 December 2012.</p> <p>TELs now allow for a fast response to emergent events. For mine water releases, TELs allow a quick response to flow events that can allow for releases during the appropriate flow volumes so that the releases have very low risk of impact. TELs can also be used to reduce risks to mine water being released uncontrollably during big flow events. In 2013, 15 TELs were issued to a range of industries and businesses including mines, sewage and water treatment plants and landfills. In the Fitzroy Basin, three TELs were issued to coal mines to allow the release of 5,231 ML of mine affected water.</p>
13.10	The Queensland Government should refine the criteria which must be considered in assessment of applications for relaxation of environmental authority conditions, by transitional environmental program or otherwise, in response to flood.	State	DEHP	The Queensland Government will implement reduced and refined assessment criteria to deal with disaster response scenarios as part of its implementation of recommendation 13.9.	<p><b>Complete</b></p> <p>Amendments to the <i>Environmental Protection Act 1994</i> to provide for a temporary emissions licence allowing for the discharge of water in response to an emergency event were passed by the Parliament on 28 November 2012 and commenced on 11 December 2012.</p>



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					<p>In June 2013, a guideline and application form for temporary emission licences was published and includes details on how applications are assessed. The <i>Guideline: Temporary Emissions Licence and Application for a temporary emissions licence (EM763)</i> are available on the Department of Environment and Heritage Protection website.</p>
13.11	<p>The Queensland Government should consider amending the <i>Environmental Protection Act 1994</i> so that it allows for the relaxation of environmental authority conditions, by transitional environmental program or otherwise, as to discharge of water:</p> <ul style="list-style-type: none"> <li>• pre-emptively, in advance of rainfall or flooding events, or</li> <li>• for all mines in a catchment that is flooding.</li> </ul>	State	DEHP	<p>The 2011 model conditions provide an adaptive framework for changing flow conditions that provide a pre-emptive framework for taking advantage of opportunities for mines to release water during floods.</p> <p>As part of its implementation of recommendation 13.9, the Queensland Government will consider what additional mechanisms may be required to licence a pre-emptive release in advance of rainfall or flooding events, and the ability to licence discharges by all mines in a catchment that is flooding.</p>	<p><b>Complete</b></p> <p>Amendments to the <i>Environmental Protection Act 1994</i> to provide for a temporary emissions licence allowing for the discharge of water in response to an emergency event were passed by the Parliament on 28 November 2012 and commenced on 11 December 2012.</p> <p>A recent pilot program completed at the end of the 2012/13 wet season, allowed for a net decrease in legacy water across four mines. It was determined that the pilot represented the most cost effective solution for both legacy and long-term mine water management and release. Pilot conditions will be extended to other mines under a set of prerequisites in 2013/14.</p>
13.12	<p>The Queensland Government should prepare a procedural guide for officers deciding whether to grant a relaxation of environmental authority conditions, by transitional environmental program or otherwise, with guidance as to:</p> <ul style="list-style-type: none"> <li>• the meaning of each criterion</li> <li>• examples of the types of things that may be relevant to each criterion</li> <li>• the priority, if any, to be afforded to different criteria.</li> </ul>	State	DEHP	<p>The Queensland Government is amending its existing procedural guide for transitional environmental programs to support decisions on granting relaxation of environmental authority conditions.</p> <p>The procedural guide will be updated to reflect any amendments to the <i>Environmental Protection Act 1994</i> resulting from implementation of recommendations 13.9, 13.10 and</p>	<p><b>Complete</b></p> <p>The procedural guide for transitional environmental programs was amended and published on the Department of Environment and Heritage Protection website on 4 October 2012.</p> <p>A guideline for temporary emission licences was developed and published in June 2013. This guideline assists regional officers in granting temporary amendments to environmental authorities to allow higher discharges that may</p>

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				13.11.	temporarily exceed local water quality objectives, whilst maintaining water quality and avoiding cumulative impacts.
13.13	The Queensland Government should make public the procedural guide used by Department of Environment and Resource Management officers to decide whether to grant a transitional environmental program.	State	DEHP	<p>The existing procedural guide for transitional environmental programs, <i>Guideline: Transitional Environmental Programs (EM287)</i> was published in July 2011 and is available on the Department of Environment and Heritage Protection website at <a href="http://www.derm.qld.gov.au">www.derm.qld.gov.au</a> by searching for EM287.</p> <p>The amended transitional environmental program procedural guide will be published on the Department of Environment and Heritage Protection website following its current review, anticipated to be completed by June 2012.</p>	<p><b>Complete</b></p> <p>The Department of Environment and Heritage Protection has amended its procedural guide for transitional environmental programs <i>Guideline: Transitional Environmental Programs (EM287)</i> to provide guidance on standard criteria. The amended guide is available on the Department of Environment and Heritage Protection website.</p>
13.14	The Queensland Government should consider amending the <i>Environmental Protection Act 1994</i> to provide a definition of the term 'emergency' for the purposes of section 468 of that Act.	State	DEHP	The Queensland Government will consult with stakeholders to develop an appropriate definition of 'emergency' for inclusion in the <i>Environmental Protection Act 1994</i> .	<p><b>Complete</b></p> <p>Amendments to the <i>Environmental Protection Act 1994</i> including a definition of 'emergency' were passed by the Parliament on 28 November 2012 and commenced on 11 December 2012.</p>
13.15	The Queensland Government should make public the procedural guide used by Department of Environment and Resource Management officers to decide whether to grant an emergency direction.	State	DEHP	<p>The Queensland Government is currently amending its existing procedural guide on when to issue an emergency direction. It will be available on the Department of Environment and Heritage Protection website by the end of May 2012.</p> <p>The guide will be updated and re-published to reflect any amendments to the <i>Environmental Protection Act</i></p>	<p><b>Complete</b></p> <p>The procedural guide on issuing emergency directions was updated following amendments to the <i>Environmental Protection Act 1994</i> which were passed by the Parliament on 28 November 2012 and commenced on 11 December 2012. The <i>Guideline: Emergency Powers (EM1063)</i> is available on the Department of Environment and Heritage Protection website.</p>

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				1994 dealing with the definition of an emergency and the processes for issuing an emergency direction in accordance with recommendations 13.14 and 13.16.	
13.16	The Queensland Government should amend the <i>Environmental Protection Act 1994</i> so as to permit an emergency direction to be given orally where it is not practicable to provide the direction in writing, with provision for its subsequent confirmation in writing.	State	DEHP	The Queensland Government will develop amendments to the <i>Environmental Protection Act 1994</i> to allow an emergency direction to be given orally in suitable circumstances.	<b>Complete</b> Amendments to the <i>Environmental Protection Act 1994</i> to allow an emergency direction to be given orally were passed by the Parliament on 28 November 2012 and commenced on 11 December 2012.
13.17	The Queensland Government should determine which of its agencies should take responsibility for the management of all existing and new abandoned mine sites in Queensland.	State	DNRM	<p>The Queensland Government has determined that the Department of Natural Resources and Mines is the agency with responsibility for management of abandoned mine sites in Queensland.</p> <p>The Queensland Government, through its Abandoned Mines Land Program currently manages abandoned mines on state land, and takes management action in respect to abandoned mines on private land on a community risk assessment basis.</p> <p>There are approximately 15,000 abandoned mines in Queensland (including 3,000 on state land), and detailed inspections and rehabilitation of all abandoned mine sites would have significant financial implications for the Government.</p> <p>The Government is currently considering options for the management of abandoned mines,</p>	<b>Complete</b> As detailed in the Government response, the Department of Natural Resources and Mines is responsible for managing abandoned mines through its Abandoned Mines Land Program.  The Department of Natural Resources and Mines is developing an abandoned mines database to be populated with information to be gathered from landholders in accordance with recommendations 13.18 and 13.19.

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				including audits of abandoned mine sites and a risk assessment framework to guide decisions on remediation, recognising potential different approaches for private versus public land.	
13.18	The Department of Employment, Economic Development and Innovation should assemble all information currently available to the abandoned mine land program into a single database. The Queensland Government should ensure, using whatever information is available, that the list of abandoned mines is as complete as possible. This should at least include a review of all information held by the Department of Environment and Resource Management and the Department of Employment, Economic Development and Innovation.	State	DNRM	The Queensland Government has commenced work on developing a new database to consolidate existing data on abandoned mines.	Ongoing – refer to Appendix 2 (Abandoned mines)
13.19	The Queensland Government should seek information about the size, features and condition of abandoned mines, including whether the mine or its surrounding environment were adversely affected by flood, from private landholders who have abandoned mines on their properties.	State	DNRM	The Queensland Government is considering options for gathering information about abandoned mines, such as through voluntary landholder reporting regimes or a public awareness and information campaign.  These options will be considered in the context of the broader issues associated with the management of abandoned mines being undertaken to address recommendation 13.17.	Ongoing – refer to Appendix 2 (Abandoned mines)
14	<b>No recommendations for this chapter</b>				
15.1	Councils should support and encourage business owners to develop private flood evacuation plans by	LG	Councils		

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	<p>providing the following to business owners in areas known to be affected by flood:</p> <ul style="list-style-type: none"> <li>• information about the benefits of evacuation plans</li> <li>• contact details of relevant council and emergency service personnel for inclusion in evacuation plans.</li> </ul>				
15.2	<p>Councils should consider making available to business owners locality specific information that would assist them to develop evacuation plans for commercial premises, for example, any evacuation sub-plan created under Emergency Management Queensland's disaster evacuation guidelines.</p>	LG	Councils		
15.3	<p>The fire service should ensure that station officers are familiar with the procedure for contacting management when requesting the calling in of additional staff; and, in particular, that they have available to them the names and current telephone numbers of the officers to be contacted in the first instance, with alternative contact details in the event that those officers prove unavailable.</p>	State	DCS	<p><b>Complete</b></p> <p>The Queensland Fire and Rescue Service has reinforced its administrative practices for contacting management with staff in all regions. In addition, all regional offices have been issued with directions to maintain accurate and up-to-date contact lists for senior officers.</p>	<p><b>Complete</b></p> <p>As detailed in the Government response, the Queensland Fire and Rescue Service has reinforced its administrative practices for contacting management with staff in all regions.</p>
15.4	<p>The Queensland Fire and Rescue Service should require that each region records in writing the results of its risk assessment undertaken as part of its annual review of its special operations functional plan.</p>	State	DCS	<p>The Queensland Fire and Rescue Service has developed a written risk analysis section for incorporation into each region's special operations functional plan. This analysis will be implemented from the next planning cycle commencing in July 2012, and will provide a written basis for determining the number of swiftwater technicians required for each region.</p>	<p><b>Complete</b></p> <p>Swiftwater functional plans have been updated to include a risk analysis process, requiring each region to record the results of risk assessment undertaken as part of the annual review of the special operations functional plan.</p>

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15.5	<p>The <i>Disaster Management Act 2003</i> should be amended to give the chief executive of the department administering the Act (or his or her delegate) the authority to appoint an officer of Emergency Management Queensland to direct SES operations in extraordinary circumstances.</p>	State	DCS	<p>The Queensland Government will prepare amendments to the <i>Disaster Management Act 2003</i> which will allow the appointment of an appropriately qualified officer of Emergency Management Queensland to direct State Emergency Service operations in extraordinary circumstances.</p> <p>These amendments, including trigger points for the appointment of the officer and other reforms to the operation of the State Emergency Service, will be developed in consultation with local government, in view of the current principles of shared responsibility between state and local governments under which the State Emergency Service currently operates.</p>	<p><b>Complete</b></p> <p>Amendments to the <i>Disaster Management Act 2003</i> to allow for the appointment of an SES coordinator in extraordinary circumstances were passed by the Parliament on 28 November 2012 and commenced on 11 December 2012.</p>
15.6	<p>Emergency Management Queensland, in consultation with councils, should develop a directive that makes clear the authority of an officer of that agency to command a major SES operation. This could be expected to occur when a deployment of additional SES members is made to a region because the response needed is beyond the capacity of its local units. The directive should make clear the powers of the officer and his or her reporting responsibilities to disaster managers in these circumstances. Emergency Management Queensland must also ensure that any officer who assumes such a role has adequate training and skills in the conduct of disaster operations.</p>	State	DCS	<p>The Queensland Government, through Emergency Management Queensland, has developed a draft doctrine for the deployment of State Emergency Service between regions. Emergency Management Queensland will undertake consultation with local governments on this draft doctrine prior to its implementation.</p>	<p><b>Complete</b></p> <p>The operational directive for deployment of the SES between regions, <i>Coordination of Operations</i>, took effect from 31 March 2013. This directive sets out requirements for coordination of SES local and major operations, including the authority of an officer of Emergency Management Queensland to command a major SES operation.</p>

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15.7	Emergency Management Queensland should ensure its staff, SES members and disaster managers are familiar with the directive when it is developed.	State	DCS	The Queensland Government will develop a comprehensive program of training for relevant staff of Emergency Management Queensland, other agencies, councils and State Emergency Service members to support the implementation of the new State Emergency Service deployment doctrine. The new doctrine and associated training will be implemented prior to November 2012, for the commencement of the next wet season.	<p><b>Complete</b></p> <p>Training of relevant Emergency Management Queensland and SES staff was completed with a presentation to the SES Local Controllers conference in May 2013. Ongoing awareness and training will be conducted as part of normal business operations.</p>
15.8	<p>Emergency Management Queensland, in consultation with councils, should develop clear directives about:</p> <ul style="list-style-type: none"> <li>• the communication and reporting that should take place between the SES and disaster managers, including in relation to task allocation and completion, once disaster management groups have been activated</li> <li>• the communication and reporting that should take place between the SES and disaster managers, including in relation to task allocation and completion, once disaster management groups have been activated</li> <li>• the process for dealing with requests for assistance that exceed an SES unit's capacity to respond them</li> <li>• the process for seeking extra support for an SES unit that has been overwhelmed by a disaster (whether by way of Emergency Management Queensland or the disaster management arrangements</li> </ul>	State	DCS	<p>The Queensland Government is developing new or amended doctrines to provide clear direction regarding:</p> <ul style="list-style-type: none"> <li>• arrangements to deliver clear communication and liaison between the State Emergency Service and disaster management groups</li> <li>• the process for identifying and progressing assistance when a local group is overwhelmed, and</li> <li>• detailed arrangements and procedures for the establishment and conduct of an incident management team, including scalability.</li> </ul> <p>These new doctrines will be developed in consultation with local government in accordance with the implementation of recommendation 15.6.</p>	<p><b>Complete</b></p> <p>The operational directive <i>Coordination of Operations</i> took effect from 31 March 2013. This directive includes arrangements for communication between SES and disaster management groups.</p>

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	<p>or both)</p> <ul style="list-style-type: none"> <li>the role of SES liaison officers in communications with disaster managers about SES disaster operations</li> <li>the role of incident controllers, and their teams, relative to those SES (or Emergency Management Queensland) personnel charged with the command of SES operations.</li> </ul>				
15.9	Emergency Management Queensland should ensure its staff, SES members and disaster managers are familiar with the directives it develops in relation to these matters.	State	DCS	<p>The Queensland Government will develop a comprehensive program of training for relevant staff of Emergency Management Queensland, other agencies, councils and State Emergency Service members to support the implementation of the new State Emergency Service doctrines.</p> <p>This training program will be developed in accordance with implementation of recommendation 15.7.</p>	<p><b>Complete</b></p> <p>Training of relevant Emergency Management Queensland and SES staff was completed with a presentation to the SES Local Controllers conference in May 2013. Ongoing awareness and training will be conducted as part of normal business operations.</p>
15.10	Emergency Management Queensland should develop and implement a new formula for the distribution of its recurrent SES subsidy, which takes into account relevant factors including the size of a local SES contingent and the population, area and natural hazard risk profile of the local government area concerned.	State	DCS	<p>The Queensland Government will revise the formula for distribution of the State Emergency Service subsidy to councils, with a view to implementing the new formula by the end of 2012.</p> <p>This new formula will require careful consideration and consultation with local governments to ensure the most equitable overall outcome is achieved for councils in funding the ongoing operation of the State Emergency Service.</p>	<p><b>Complete</b></p> <p>The new formula for distribution of the recurrent SES subsidy was approved by the Minister for Police Community Safety in January 2013. In developing the new formula, consultation was undertaken with the Local Government Association of Queensland and local governments.</p>
15.11	Emergency Management Queensland should pursue the execution of the 'Local Arrangements' with councils	State	DCS	The Queensland Government is actively negotiating with local governments to encourage the	<p><b>Complete</b></p> <p>Emergency Management Queensland has</p>



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	where a Memorandum of Agreement is in place. The contents of the arrangements should be reviewed and updated regularly.			<p>execution of Memoranda of Agreement, which councils may enter into voluntarily. This includes agreement on the 'Local Arrangements' specific to individual councils.</p> <p>As at 14 May 2012, 16 agreements had been executed with between Emergency Management Queensland and individual councils, with a further 30 agreements currently in progress. Emergency Management Queensland will continue to liaise with the remaining councils to encourage finalisation of their agreements.</p>	<p>established a program of work to continue to pursue negotiations with local governments to finalise Memorandums of Agreement and Local Arrangements.</p> <p>As at 8 August 2013, 27 agreements had been executed between Emergency Management Queensland and individual councils. Ten councils have signed on to Local Arrangements. Negotiations on a further 45 agreements are in progress. Emergency Management Queensland will continue to work locally with councils to reach agreement on the content of the Local Arrangements specific to each local government.</p>
15.12	Emergency Management Queensland should simplify the process by which SES members gain recognition for prior qualifications so that unnecessary duplication of training can be avoided.	State	DCS	<p><b>Complete</b></p> <p>The Queensland Government, through Emergency Management Queensland has implemented a range of actions to simplify the process of recognition of prior learning for State Emergency Service members.</p> <p>Emergency Management Queensland has:</p> <ul style="list-style-type: none"> <li>• streamlined the process of recognising industry experience of some State Emergency Service volunteers</li> <li>• undertaken an extensive review of the Emergency Management Queensland Training Policy and Procedures Manual to remove organisational impediment to volunteer trainers</li> <li>• established a web portal to centrally process all applications</li> </ul>	<p><b>Complete</b></p> <p>As detailed in the Government response, Emergency Management Queensland has implemented a range of actions to centralise and simplify the process of recognition of prior learning for SES members. A copy of any certificate is also sent to the regional office where the qualification is recorded in the Volunteer Information Management System. Group executives have been educated in identifying existing skills of new members and the expedient conversion to SES qualifications.</p>

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				<ul style="list-style-type: none"> <li>• for recognition of prior learning educated volunteers on the recognition of prior learning and challenge assessment processes through the volunteer portal, regional training and State Emergency Service roadshows, and</li> <li>• sponsored national State Emergency Service competency mapping through the National State Emergency Service Learning Development Committee to expedite the process of recognising qualifications of members transferring from interstate State Emergency Service.</li> </ul>	
16.1	<p>The Crime and Misconduct Commission should investigate whether the conduct of Mr Tibaldi, Mr Ayre and Mr Malone relating to:</p> <ul style="list-style-type: none"> <li>• preparation of documents surrounding the January 2011 flood event, including the 17 January 2011 brief to the Minister, the 2 March 2011 flood event report, and statements provided to the Commission</li> <li>• oral testimony given to the Commission evidences offence/s against the Criminal Code, and/or official misconduct under the <i>Crime and Misconduct Act 2001</i> committed by any, or all, of them.</li> </ul>	State entity	CMC	<p>On 16 March 2012, this matter was referred to the Crime and Misconduct Commission for investigation, in accordance with the recommendation. The Crime and Misconduct Commission has advised that its investigation has commenced.</p>	<p><b>Complete</b></p> <p>The Crime and Misconduct Commission engaged retired Justice of the Queensland Court of Appeal, John Jerrard QC, to complete a full examination of this matter. Following receipt of Mr Jerrard's advice, the CMC determined that it was satisfied that there was no evidence of offences against the Criminal Code or official misconduct and accepted Mr Jerrard's conclusion that it would be an unjustifiable use of resources to take any further action.</p> <p>Mr Jerrard's comments regarding contradictions within the flood mitigation manual have been addressed in the current revision of the manual.</p>
16.2	Seqwater should ensure that proper support and oversight mechanisms are put in place around both the	State entity	DEWS (Seqwater)	Seqwater is currently implementing a range of improvements to its processes for the drafting of flood	<p><b>Complete</b></p> <p>Seqwater has undertaken an initial independent</p>

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	<p>substantive and procedural aspects of drafting flood event reports. Seqwater should consider engaging consultants with expertise in the production of reports following significant events to advise on these mechanisms. Measures to be considered should include:</p> <ul style="list-style-type: none"> <li>• ensuring appropriate systems are in place to ensure the recollections of flood engineers and other parties are recorded immediately after the event, perhaps by engaging an external party to interview the flood engineers and other parties</li> <li>• ensuring that a methodology for writing the report is set out clearly in advance, in writing, and that the final report includes a statement of that methodology</li> <li>• putting in place systems to ensure that members of senior management have sufficient understanding of both the methodology and process by which the report is prepared to allow themselves to be satisfied that these are appropriate.</li> </ul>			<p>event reports in accordance with the Commission's recommendations.</p> <p>Seqwater will implement this recommendation prior to the 2012/13 wet season.</p> <p>The Queensland Government will ensure that all recommendations for which Seqwater has primary responsibility are incorporated into a work program, to be developed by Seqwater in consultation with the Department of Energy and Water Supply and Queensland Treasury and Trade, to be submitted for approval by the responsible Ministers.</p>	<p>review of governance processes around the preparation of flood event reports. The recommendations of this review were further reviewed and refined as part of the development of governance processes around the independent peer review of future flood event reports. The new flood event report methodology has been included in the Flood Operations Centre procedures manual and was found to be adequate in the production of flood event reports for the January 2013 flood events.</p>
16.3	<p>The Department of Environment and Resource Management should ensure that an independent and appropriately qualified person immediately starts the task of reviewing the March flood event report to ensure that the review is completed before the start of the 2012/2013 wet season.</p>	State	DEWS	<p>The Queensland Government, through the Department of Energy and Water Supply, has initiated the process of identifying a suitably qualified person to conduct an independent review of Seqwater's March 2011 flood event report for the 2010/11 floods.</p> <p>The department will update standards and guidelines to address any issues raised by the independent review.</p>	<p><b>Complete</b></p> <p>The independent review of Seqwater's flood event report for the January 2011 flood event at Somerset and Wivenhoe dams was received from the US Bureau of Reclamation and the US Army Corps of Engineers on 22 September 2012.</p> <p>The independent review found that operational decisions were prudent and made with appropriate engineering judgment and made 120 findings and recommendations for the</p>

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				The independent review will be a priority for completion to ensure that any dam safety matters arising from the review can be identified prior to the 2012/13 wet season.	consideration of Seqwater and the Department of Energy and Water Supply. Implementation of the recommendations from the independent review is ongoing and will be incorporated into subsequent versions of the flood mitigation manuals for Wivenhoe and Somerset dams.
16.4	<p>Seqwater should ensure that any future peer review process:</p> <ul style="list-style-type: none"> <li>• is co-ordinated by someone independent of those who wrote the report</li> <li>• entails the provision of all relevant information to the peer reviewers</li> <li>• permits sufficient time for the review</li> <li>• documents all contact between those whose actions are under review and the reviewers.</li> </ul>	State entity	DEWS (Seqwater)	<p>Seqwater is currently implementing a range of improvements to its processes for the drafting of flood event reports in accordance with the Commission's recommendations.</p> <p>Seqwater will implement this recommendation prior to the 2012/13 wet season.</p> <p>The Queensland Government will ensure that all recommendations for which Seqwater has primary responsibility are incorporated into a work program, to be developed by Seqwater in consultation with the Department of Energy and Water Supply and Queensland Treasury and Trade, to be submitted for approval by the responsible Ministers.</p>	<p><b>Complete</b></p> <p>Seqwater has engaged an independent consultancy to develop corporate governance processes around the peer review of future flood event reports. An internal review has also been conducted of the recommended methodology for engaging peer reviewers. The peer review methodology has been included in the Flood Operations Centre procedures manual and was found to be adequate in the production of flood event reports for the January 2013 flood events.</p>
16.5	The Queensland Government should resolve the discrepancy in recorded peak river height for the January 2011 flood of the Brisbane River between the Brisbane City and Port Office gauges.	State	DTMR	<p>The Queensland Government, through Maritime Safety Queensland working with Seqwater, has installed a new tide gauge at the Seqwater site and will compare data from the new Seqwater gauge with the Maritime Safety Queensland gauge to check for any natural tidal differences.</p> <p>Maritime Safety Queensland will also consider council survey information, such as high water mark mapping in</p>	<p><b>Complete</b></p> <p>Maritime Safety Queensland and Seqwater have resolved the discrepancy between Maritime Safety Queensland's Port Office tidal gauge and Seqwater's Brisbane City ALERT (Automated Local Evaluation in Real Time) gauge. The discrepancy was a result of recalibration of the Seqwater flood gauge during the flood event. As the Maritime Safety Queensland tidal gauge is not a flood gauge this recalibration was not applied.</p>

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				<p>order to analyse and draw conclusions from the gauge data. This analysis will be undertaken in consultation with Seqwater and the Bureau of Meteorology.</p>	<p>The recalibration of the ALERT gauge is standard industry practice to ensure the most accurate information is being captured by automated systems.</p> <p>All relevant authorities are being notified that the Seqwater ALERT gauge should be recognised as the primary reference gauge for flood level information as it has been specifically installed to monitor river levels related to flooding.</p>
17.1	<p>The steering committees of the Wivenhoe Dam and Somerset Dam Optimisation Study and the North Pine Dam Optimisation Study should consider removing the water supply security investigation from each study.</p>	State	DEWS (Seqwater)	<p><b>Complete</b></p> <p>The Queensland Government has considered this recommendation and decided that it would be more effective to remove water supply security investigations from the WSDOS and the North Pine Dam Optimisation Study (NPDOS).</p> <p>The Queensland Water Commission will lead and coordinate the water supply security investigations for both the WSDOS and NPDOS.</p> <p>This work will occur in parallel with the flood management and dam operations investigation being led by Seqwater.</p> <p>The floodplain management investigations for WSDOS are being led by the Departments of Natural Resources and Mines and State Development, Infrastructure and Planning. The Moreton Bay Regional Council will continue leading the floodplain management investigation for the NPDOS.</p>	<p><b>Complete</b></p> <p>As detailed in the Government response, the floodplain management investigation has been removed from the Wivenhoe and Somerset Dam Optimisation Study and the North Pine Dam Optimisation Study.</p>

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				The Department of Energy and Water Supply will chair the WSDOS, assuming the role from Seqwater.	
17.2	The steering committee of the North Pine Dam Optimisation Study should consider whether it would be beneficial for the floodplain management investigation to be removed from the North Pine Dam Optimisation Study.	State	DEWS (Seqwater)	<p><b>Complete</b></p> <p>The Queensland Government has considered this recommendation and decided that it would be more effective to remove floodplain management investigations from the NPDOS. The floodplain management investigation will continue to be led by the Moreton Bay Regional Council.</p>	<p><b>Complete</b></p> <p>As detailed in the Government response, the floodplain management investigation has been removed from the North Pine Dam Optimisation Study.</p>
17.3	<p>The Queensland Government should ensure that, when it considers options for the operational strategies to be employed at Wivenhoe and Somerset dams, and North Pine Dam, it is presented with a wide range of options which prioritise differing objectives. The Queensland Government should determine the operational strategies by considering the implications of each option over a range of flood events for at least:</p> <ul style="list-style-type: none"> <li>• inundation of urban and rural areas</li> <li>• water supply security</li> <li>• dam safety</li> <li>• submerging of bridges</li> <li>• bank slumping and erosion</li> <li>• riparian fauna and flora.</li> </ul>	State	DEWS	<p>The Queensland Government will carefully consider the outcomes of the WSDOS and NPDOS in determining appropriate operational strategies for the Wivenhoe, Somerset and North Pine dams.</p> <p>Implementation of outcomes from the WSDOS and NPDOS will likely result in amendments to a range of plans and strategies such as the South East Queensland Water Strategy, flood mitigation manuals, water resource plans, resource operations plans, state planning policies and local government planning schemes.</p>	Ongoing – refer to Appendix 2 (Wivenhoe, Somerset and North Pine dam operations)
17.4	<p>Seqwater should, in creating the new Wivenhoe and North Pine flood mitigation manuals, comprehensively consider:</p> <ul style="list-style-type: none"> <li>• the amount of discretion that is able</li> </ul>	State entity	DEWS (Seqwater)	Seqwater is currently reviewing the Wivenhoe and Somerset dams and North Pine Dam flood mitigation manuals which will include consideration of all issues identified in	Ongoing – refer to Appendix 2 (Wivenhoe, Somerset and North Pine dam operations)

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	<p>to be exercised by the flood engineers and the senior flood engineers, and the description of the circumstances in which such discretion may be exercised</p> <ul style="list-style-type: none"> <li>• the circumstances in which it might be appropriate to release water in advance of an impending flood on the basis of forecasts from the Bureau of Meteorology</li> <li>• if strategies of the form of strategy W2 and W3 in Revision 7 are included in the revised manual, or any strategy defined as a 'transition strategy', when and how those strategies should be implemented</li> <li>• if the concept of 'urban inundation' is relevant to the operation of the dam, how it should be defined, and if the definition involves diverse concepts, how those concepts can be related back to the strategies, so that flood engineers can reach a clear understanding of their objectives and primary considerations</li> <li>• if the concept of 'natural peak flow' is relevant, how it should be defined.</li> </ul>			<p>the recommendation.</p> <p>The Queensland Government will consider the revisions proposed by Seqwater as part of its assessment of the flood mitigation manuals when they are submitted for approval.</p> <p>Revised manuals adopting high priority components of this recommendation will be submitted for approval prior to the 2012/13 wet season. To implement this recommendation in full, the outcomes of the completed WSDOS and NPDOS will need to be considered.</p>	
17.5	<p>The conditions for the use of a particular strategy in all flood mitigation manuals should reflect objective standards.</p>	State entity	DEWS (Seqwater)	<p>Seqwater will consider the expression of objective standards for adoption of operating strategies as part of the current reviews of the Wivenhoe and Somerset dams and North Pine Dam flood mitigation manuals being undertaken in accordance with recommendation 17.4.</p>	Ongoing – refer to Appendix 2 (Wivenhoe, Somerset and North Pine dam operations)
17.6	<p>The Queensland Government should ensure that all flood mitigation manuals include the requirement that those</p>	State	DEWS	<p>Seqwater will consider the issue of engineer registration requirements as part of the current review of the</p>	<p><b>Complete</b></p> <p>Standards for the content of flood mitigation</p>

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	operating the dam during flood events hold current registrations as professional engineers.			<p>Wivenhoe and Somerset dams and North Pine Dam flood mitigation manuals being undertaken in accordance with recommendation 17.4.</p> <p>The Queensland Government will update the procedures and guidelines against which flood mitigation manuals are assessed and approved, to ensure they include requirements for flood engineers to hold registrations as professional engineers.</p>	manuals have been made statutory requirements under amendments to the <i>Water Supply (Safety and Reliability) Act 2008</i> which commenced on 8 November 2012. The requirement for registration as a professional engineer for those operating the dams during floods is included in the current revisions of the flood mitigation manuals for Wivenhoe, Somerset and North Pine dams. The Department of Energy and Water Supply will work with Seqwater to ensure all future revisions of the manual include the registration requirement.
17.7	Seqwater should consider engaging a technical writer to develop completely new manuals after the operational strategies for Wivenhoe, Somerset and North Pine dams are set by the Queensland Government.	State entity	DEWS (Seqwater)	<p>Seqwater will engage a technical writer to develop completely new flood mitigation manuals after the operational strategies for Wivenhoe, Somerset and North Pine dams are set by the Queensland Government, following the completion of the WSDOS and NPDOS.</p> <p>Revised manuals addressing urgent matters raised by the independent review of the flood event report will be submitted for approval in October 2012 and will require detailed review by the Department of Energy and Water Supply prior to approval. Seqwater will consider engaging a technical writer to assist in revising the current manuals.</p> <p>The Queensland Government will update the procedures and guidelines against which flood mitigation manuals are assessed and approved, to ensure they include a requirement for technical writers to be engaged to develop new manuals.</p>	Ongoing – refer to Appendix 2 (Wivenhoe, Somerset and North Pine dam operations)



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17.8	Seqwater should ensure a legal review of the Wivenhoe manual and the North Pine manual is completed before the manual is submitted for approval.	State entity	DEWS (Seqwater)	The Queensland Government will update procedures and guidelines against which flood mitigation manuals are assessed and approved, to ensure they include a requirement that legal reviews of manuals are undertaken.	Ongoing – refer to Appendix 2 (Wivenhoe, Somerset and North Pine dam operations)
17.9	The Queensland Government should consider whether North Pine Dam should be operated as a flood mitigation dam when it considers possible operating strategies and full supply levels as part of the longer term review of the Manual of Operational Procedures for Flood Mitigation at North Pine Dam.	State	DEWS	The Queensland Government will consider the outcomes of the NPDOS in determining whether the North Pine Dam should be operated as a flood mitigation dam.	Ongoing – refer to Appendix 2 (Wivenhoe, Somerset and North Pine dam operations)
17.10	The Queensland Government should amend the <i>Water Supply (Safety and Reliability) Act 2008</i> to designate the Minister as the person who must approve a flood mitigation manual.	State	DEWS	The Queensland Government will prepare amendments to the <i>Water Supply (Safety and Reliability) Act 2008</i> to provide that the responsible Minister, rather than the chief executive, must approve flood mitigation manuals.  This legislation is expected to be introduced to Parliament prior to the 2012/13 wet season.	<b>Complete</b>  Amendments have been made to the <i>Water Supply (Safety and Reliability) Act 2008</i> to designate the Minister (rather than the chief executive) as the person who must approve a flood mitigation manual. These amendments commenced on 8 November 2012.
17.11	The assessment of flood mitigation manuals should be completed by a person with appropriate expertise who has had no involvement in its development, at any stage, and who can be seen to be independent of all individuals who were so involved.	State	DEWS	The Queensland Government will ensure that an independently and appropriately qualified person is engaged to conduct the assessment of the revised Wivenhoe and Somerset dams and North Pine Dam flood mitigation manuals.	<b>Complete</b>  An advisory council has been established to assess flood mitigation manuals and provide advice to the Minister prior to approval of the manuals. The advisory council was appointed on 29 April 2013, and comprises an independent chair, engineering and scientific experts and local government representatives. The inaugural meeting of the advisory council occurred on 2 May 2013.

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17.12	The Queensland Government should continue to assess and review the adequacy of work procedures DS 5.1 and 5.3, having regard to the need for flood mitigation manuals to reflect the will of the executive.	State	DEWS	<p>The Queensland Government, through the Department of Energy and Water Supply, has conducted an initial review of the work procedures applying to the assessment of new or revised flood mitigation manuals.</p> <p>The department will undertake a further review of these procedures to ensure they reflect all changes being adopted to implement the Commission's recommendations and in accordance with the government's policy on the purposes of the flood mitigation manuals.</p>	<p><b>Complete</b></p> <p>Standards for the content of flood mitigation manuals have been made statutory requirements under amendments to the <i>Water Supply (Safety and Reliability) Act 2008</i> which commenced on 8 November 2012. These amendments have removed the requirement for work procedures DS 5.1 and 5.3 to exist in any detailed format.</p> <p>Assessment and review by the Dam Safety Regulator will ensure compliance with the statutory requirements, as set out in the Act, which contain sufficient detail to not require a separate procedure or guide to be developed.</p> <p>The Ministerial Advisory Council for Flood Mitigation Manuals, established in April 2013, will also provide advice to the Minister about flood mitigation manuals.</p>
17.13	Prior to approving a flood mitigation manual, the Queensland Government should be satisfied that its terms are expressed in a manner that allows a determination of compliance with it to be made by reference to objective standards.	State	DEWS	<p>The Queensland Government will update the procedures and guidelines against which flood mitigation manuals are assessed and approved, to ensure they include assessment of whether compliance may be determined by reference to objective standards.</p> <p>These procedures will be applied in the assessment of the revised Wivenhoe and Somerset dams and North Pine Dam flood mitigation manuals.</p>	Ongoing – refer to Appendix 2 (Wivenhoe, Somerset and North Pine dam operations)
17.14	The Department of Environment and Resource Management should prepare formal work procedures for the review of flood event reports created under emergency action plans and flood mitigation manuals. These should	State	DEWS	The Queensland Government will develop new work procedure and guidelines against which flood event reports, prepared under both emergency action plans and flood mitigation manuals are assessed.	Ongoing – refer to Appendix 2 (Referable dams)

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	<p>include procedures for:</p> <ul style="list-style-type: none"> <li>• making enquiries with the owners of referable dams that have catchments that have been subject to heavy rainfall (or where there is other reason to believe the emergency action plan has been triggered) as to whether the emergency action plans have been triggered</li> <li>• reminding owners of referable dams that have had emergency action plans triggered of their obligation to submit a flood event report</li> <li>• upon receipt of a flood event report, reviewing it, identifying any dam safety or other issues or areas where insufficient detail has been provided, raising those matters with the dam owner or other affected party and identifying appropriate remedial steps</li> <li>• raising any issues identified in the report that are beyond the expertise of the Department of Environment and Resource Management, or are likely to be of particular interest to another body, with the appropriate body</li> <li>• keeping a record of the process and results of the review of the flood event report</li> <li>• fixing an appropriate timeline for the completion of each of the above steps: the time required may depend on specific circumstances, but must allow for any potential safety issues to be identified and remedied efficiently.</li> </ul>			<p>These new work procedures and guidelines will address the specific matters identified in the recommendation.</p>	

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17.15	As part of the longer term review of the Manual of Operational Procedures for Flood Mitigation at Wivenhoe Dam and Somerset Dam the Queensland Government should consider whether the dam operators should be able to extend the drawdown of the lake beyond seven days in order to reduce downstream bank slumping.	State entity	DEWS (Seqwater)	Seqwater will consider the issue of extended drawdowns to reduce downstream bank slumping as part of the current review of the Wivenhoe and Somerset dams flood mitigation manual as outlined in the response to recommendation 17.4.	Ongoing – refer to Appendix 2 (Wivenhoe, Somerset and North Pine dam operations)
17.16	CS Energy should supplement physical monitoring of Splityard Creek Dam with visual monitoring by installing surveillance cameras or similar devices.	State entity	DEWS (CS Energy)	CS Energy is currently assessing the technical options available for the visual monitoring of Splityard Creek Dam, including investigating the types of surveillance cameras available and the most effective placement of the equipment. At the same time, CS Energy is investigating potential alternatives to surveillance cameras which would enhance the monitoring of Splityard Creek Dam and therefore fulfil the requirements of the recommendation.	<b>Complete</b>  Additional measures for monitoring of Splityard Creek Dam have been implemented, including the use of existing security cameras focused on the gauge bar at the intake works, and a procedure to locate a technical staff member in close proximity to the dam during periods of severe weather.
17.17	CS Energy and Seqwater should agree upon and adhere to a formal communication protocol that requires CS Energy personnel to advise Seqwater, through the Flood Operations Centre, of water movements between Splityard Creek Dam and Wivenhoe Dam or Pryde Creek once a flood event is declared under the Manual of Operational Procedures for Flood Mitigation at Wivenhoe Dam and Somerset Dam. The protocol should ensure that a direct line of communication is established between CS Energy personnel physically located at the	State entity	DEWS (CS Energy / Seqwater)	CS Energy and Seqwater have agreed to a formal communication protocol in relation to water movements between Splityard Creek Dam and Wivenhoe Dam or Pryde Creek.  CS Energy has updated its procedures to reflect the agreed communication protocol.  CS Energy's trigger to advise Seqwater of water movements between Splityard Creek Dam and Wivenhoe Dam or Pryde Creek commences when the Wivenhoe Dam reaches full supply level or EL64m.	<b>Complete</b>  CS Energy and Seqwater have agreed to a formal communication protocol in relation to water movements between Splityard Creek Dam and Wivenhoe Dam that initiates when the Wivenhoe Dam reaches full supply level or EL64m. A direct line of communication has been established between CS Energy personnel physically located at Wivenhoe Power Station and the Seqwater Flood Operations Centre via the service desk or the flood engineers' email.  <i>The Wivenhoe High Rainfall High Dam Water Levels Procedure</i> refers to the internal and external communications for power station

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	power station and the Flood Operations Centre.			This is more conservative than the Commission's recommendation of triggering communications once a flood event is declared.	personnel. Contact details for the relevant internal and external personnel are included in the appendices to the procedure.
17.18	The protocol should make provision for the use of telephone and/or radio where communication by email is not possible. Where necessary, CS Energy and Seqwater should make additional radio equipment available to relevant personnel.	State entity	DEWS (CS Energy / Seqwater)	<p>The agreed communication protocol will make provision for communication by telephone and/or radio where communication by email is not possible. CS Energy has purchased additional radios to be placed in Seqwater's Wivenhoe Dam offices.</p> <p>In addition, CS Energy is working to ensure satellite telephones at the site are able to be used to communicate with Seqwater's flood operations centre.</p>	<p><b>Complete</b></p> <p>New arrangements put in place by CS Energy include: purchase of a new two-way radio for dedicated communication between Wivenhoe Power Station and Wivenhoe Dam; reconnection of a telephone line for communications separate from the computer network telephone system; and installation of an additional satellite telephone at Wivenhoe Power Station. The new contingency communications arrangements will be incorporated into the formalised communication protocol being implemented in accordance with recommendation 17.22.</p>
17.19	CS Energy should put in place contingency measures to ensure email and telephone communications at Wivenhoe Power Station are not entirely dependent on a network located off-site.	State entity	DEWS (CS Energy)	Tarong Energy Corporation's Brisbane office which provided network support during the 2010/11 floods is no longer the corporate head office for Wivenhoe Power Station. CS Energy, the new owner of Wivenhoe Power Station, has established alternative disaster recovery facilities in accordance with the recommendation.	<p><b>Complete</b></p> <p>Wivenhoe Power Station's telephone and email systems are able to operate in isolation to CS Energy's corporate data centre. An additional back up wide area network which utilises Telstra's 3G mobile service is in place for the Wivenhoe Power Station.</p> <p>CS Energy has two data centres which are configured for disaster recovery scenarios. The data centres are located at two different sites in the Brisbane area. Neither data centre is located within CS Energy's Brisbane Office building.</p>
17.20	CS Energy should review its emergency action plan and business procedures to ensure they are wholly consistent and give appropriate consideration to flooding as a possible	State entity	DEWS (CS Energy)	<p><b>Complete</b></p> <p>CS Energy has updated and re-issued the Splityard Creek Dam emergency action plan in accordance with this</p>	<p><b>Complete</b></p> <p>As detailed in the Government response, CS Energy has updated and re-issued the Splityard Creek Dam emergency action plan and</p>

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	emergency event.			recommendation to ensure appropriate consideration is given to flooding as a possible emergency event.	<p>Wivenhoe High Rainfall High Dam Water Levels Procedure.</p> <p>The Wivenhoe High Rainfall High Dam Water Levels Procedure now gives appropriate consideration to flooding as a possible emergency event (Chapter 5: Information on Precincts and Effects of Rainfall; and Appendix 6: Brisbane River Submergence Flows for Bridges) and extreme rainfall events are referenced in the Splityard Creek Dam emergency action plan (Chapter 4: Events and Actions).</p>
17.21	CS Energy should amend its business procedure to remove any ambiguity as to the establishment of communications with Seqwater and to acknowledge the formal communications protocol regarding releases.	State entity	DEWS (CS Energy)	CS Energy has reviewed its business procedure, and will install a new control system by July 2012. This new control system will provide an automatic alert which is activated when Wivenhoe Dam reaches flood level. This alerts both the personnel physically located at the power station as well as the trading and operations staff based at CS Energy's Brisbane office, and triggers the emergency protocols established with Seqwater.	<p><b>Complete</b></p> <p>The Wivenhoe Power Station emergency response procedure has been revised and updated, and filed within the corporate electronic filing system.</p>
17.22	The Queensland Government should consider whether to empower Seqwater, through the flood operations centre, to direct CS Energy to stop or delay releases from Splityard Creek Dam where a flood event is declared under the Manual of Operational Procedures for Flood Mitigation at Wivenhoe Dam and Somerset Dam.	State	DEWS	<p>The Queensland Government is considering possible legislative and non-legislative mechanisms by which Seqwater may be empowered to give direction in relation to releases from Splityard Creek Dam in emergency situations.</p> <p>However, consideration of possible legislative amendments will need to include evaluation of possible commercial impacts on CS Energy and the expected impacts of releases from Splityard Creek Dam on the overall</p>	<p><b>Complete</b></p> <p>The Communications Protocol between CS Energy and Seqwater has been further developed to include a progressive consultation and decision-making process for the operation of Wivenhoe Power Station and associated releases of water from Splityard Creek Dam to Wivenhoe Dam when Wivenhoe Dam is at high levels during a flood event. The protocol incorporates a mechanism for any concerns or objections from Seqwater with regard to water releases to be addressed. This expanded Communications Protocol provides an effective</p>

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				level of Wivenhoe Dam and broader electricity emergency powers in the National Electricity Market.	<p>mechanism for management of water releases from Splityard Creek Dam to Wivenhoe Dam during flood events and negates any need for a legislative process.</p> <p>The expanded Communications Protocol has undergone both technical and legal review and has been endorsed by the Chief Executive Officers of both CS Energy and Seqwater. The protocol will be reviewed annually by each organisation prior to each wet season.</p>
17.23	Seqwater should consider commissioning an investigation into the extent of cracking below the level of the upper gallery of Somerset Dam and the impact of any such cracking on the dam's stability and, in turn, its operation.	State entity	DEWS (Seqwater)	The Queensland Government will ensure that all recommendations for which Seqwater has primary responsibility are incorporated into a work program, to be developed by Seqwater in consultation with Department of Energy and Water Supply and Queensland Treasury and Trade, to be submitted for approval by the responsible Ministers.	<p><b>Complete</b></p> <p>Seqwater is continually monitoring the extent of cracking in Somerset Dam. Monitoring and analysis indicate that the identified cracking does not materially impact on the structural integrity of the dam wall. Seqwater has included the Somerset cracking issue in the Portfolio Risk Assessment project currently underway. As this matter will be examined as part of the Portfolio Risk Assessment project, a separate investigation will not be commissioned at this time.</p>
17.24	Seqwater should ensure that the Somerset Dam gallery is not susceptible to flooding during overtopping events.	State entity	DEWS (Seqwater)	The Queensland Government will ensure that all recommendations for which Seqwater has primary responsibility are incorporated into a work program, to be developed by Seqwater in consultation with Department of Energy and Water Supply and Queensland Treasury and Trade, to be submitted for approval by the responsible Ministers.	<p><b>Complete</b></p> <p>Seqwater will monitor this issue as part of the Portfolio Risk Assessment project currently underway and in conjunction with ongoing monitoring of the extent of cracking in Somerset Dam.</p>
17.25	The Department of Transport and Main Roads, in conjunction with Brisbane City Council and Somerset Regional	State / LG	DTMR	The Queensland Government, through the Department of Transport and Main Roads, will consider the feasibility of	Ongoing – refer to Appendix 2 (Wivenhoe, Somerset and North Pine dam operations)

Rec No.	Recommendation	Primary responsibility	Lead Queensland Government agency	Government response	Implementation update as at August 2013
	Council, should investigate options for the upgrade of Brisbane River crossings between Wivenhoe Dam and Colleges Crossing and undertake a cost-benefit analysis of these to determine the outcome which best serves the public interest.			<p>upgrading bridges and crossings on the section of the Brisbane River between the weir upstream of Colleges Crossing and the Moggill Ferry.</p> <p>The options to be considered will need to balance possible significant financial implications with regional and local needs. The department will work with the Brisbane City Council and Somerset Regional Council to ensure these implications and needs are taken into account.</p>	
17.26	As part of the longer term review of the Manual of Operational Procedures for Flood Mitigation at Wivenhoe Dam and Somerset Dam, the Queensland Government should consider the impact of possible upgrades of bridges downstream of Wivenhoe Dam on different operating strategies for the dam.	State entity	DEWS (Seqwater)	The Queensland Government will consider the impact of possible upgrades of bridges downstream of Wivenhoe Dam as part of the WSDOS. The arrangements for this study are currently being revised to take account of the Commission's recommendations. Any relevant findings from the study will be reflected in the Wivenhoe and Somerset dams flood mitigation manual.	Ongoing – refer to Appendix 2 (Wivenhoe, Somerset and North Pine dam operations)
17.27	<p>Wide Bay Water should, in addition to its usual wet season preparations and maintenance, undertake the following activities in advance of each wet season:</p> <ul style="list-style-type: none"> <li>• conduct training for personnel on dam operation, including contingency plans for the situation in which one or more of the gates is inoperable</li> <li>• hold meetings of key personnel of Wide Bay Water involved in the operation of the dam during floods, which:</li> </ul>	LG	Wide Bay Water		



Rec No.	Recommendation	Primary responsibility	Lead Queensland Government agency	Government response	Implementation update as at August 2013
	<ul style="list-style-type: none"> <li>– in addition to any other matters, inform staff about the current status of the gates, dam operation strategies and contingency plans for the situation in which one or more of the gates is inoperable</li> <li>– are recorded in minutes which document the information provided and are made available to all operational staff.</li> </ul>				
17.28	The Department of Environment and Resource Management should require Wide Bay Water, in advance of every wet season, to provide details of its expectation as to the operability of the crest gates if a flood occurs, until such time as all gates have been demonstrated to work as designed.	State	DEWS	The Queensland Government will introduce a formal requirement for Wide Bay Water to provide details of operability of crest gates at Lenthalls Dam as a dam safety condition under the <i>Water Supply (Safety and Reliability) Act 2008</i> .	<p><b>Complete</b></p> <p>The Dam Safety Regulator has imposed a new dam safety condition on Lenthalls Dam. This dam safety condition requires Wide Bay Water, as the owner of Lenthalls Dam, to provide details of its expectation as to the operability of the crest gates if a flood occurs.</p>
17.29	Toowoomba Regional Council should engage external consultants to carry out failure impact assessments on the detention basins along East Creek.	LG	Toowoomba Regional Council		
17.30	Toowoomba Regional Council and the Department of Environment and Resource Management should continue to co-operate to assess the referable dam status of existing detention basins and any future detention basins constructed in the West Creek and East Creek catchment areas.	LG / State	Toowoomba Regional Council / DEWS	The Queensland Government, through the Department of Energy and Water Supply, will continue to work with the Toowoomba Regional Council to assess the referable dam status of detention basins in the West Creek and East Creek catchment areas.	Ongoing – refer to Appendix 2 (Referable dams)
17.31	The Queensland Government should legislate to oblige each owner of a referable dam to have an emergency	State	DEWS	The Queensland Government will prepare amendments to the <i>Water Supply (Safety and Reliability) Act</i>	<p><b>Complete</b></p> <p>Amendments to the <i>Water Supply (Safety and</i></p>

Rec No.	Recommendation	Primary responsibility	Lead Queensland Government agency	Government response	Implementation update as at August 2013
	action plan approved by the appropriate Queensland Government agency. Such plans should be reviewed periodically.			<p>2008 to implement legislative requirements for emergency action plans to be submitted and approved.</p> <p>The implementation of these new requirements will involve development of new regulatory guidelines and work procedures, as well as consultation with the owners of referable dams and disaster management groups.</p> <p>Relevant legislative amendments are expected to be introduced to Parliament prior to the 2012/13 wet season.</p>	<p><i>Reliability) Act 2008</i> to oblige each owner of a referable dam to have an emergency action plan approved by the appropriate Queensland Government agency commenced on 8 November 2012. Existing owners of a dam are required to give their emergency action plan to the chief executive for approval before 1 October 2013.</p>
17.32	The Queensland Government should, in consultation with the Department of Environment and Resource Management and Emergency Management Queensland, determine which agency is appropriate to review and approve emergency action plans for referable dams.	State	DEWS	<p>The Queensland Government has determined that the Department of Energy and Water Supply is the appropriate agency to review and approve emergency action plans for referable dams.</p> <p>However, this process will involve review of the plans by Emergency Management Queensland and local disaster management groups to ensure that emergency processes are integrated in disaster management arrangements at a local level.</p> <p>The Department of Energy and Water Supply, in consultation with Emergency Management Queensland, will develop regulatory guidelines and work procedures to support the new process for review and approval of emergency action plans.</p>	<p><b>Complete</b></p> <p>Amendments to the <i>Water Supply (Safety and Reliability) Act 2008</i>, which commenced on 8 November 2012, provide the chief executive of the Department of Energy and Water Supply with the power to approve and review emergency action plans. Standards for the content of emergency action plans have also been made statutory requirements under the <i>Water Supply (Safety and Reliability) Act 2008</i>. Assessment and review of the plans will be undertaken prior to approval to ensure they comply with statutory requirements.</p>
17.33	Prior to each wet season, the Department of Environment and	State	DEWS	The Queensland Government, through the Department of Energy and Water	Ongoing – refer to Appendix 2 (Referable dams)

Rec No.	Recommendation	Primary responsibility	Lead Queensland Government agency	Government response	Implementation update as at August 2013
	Resource Management should audit the compliance of each owner of a referable dam with the obligation to have an emergency action plan approved by the Queensland Government.			<p>Supply, will establish an annual audit program for assessing, prior to each wet season, compliance with the proposed new emergency action plan requirements following the initial review and approval of plans.</p> <p>The Department of Energy and Water Supply currently regulates 106 referable dams in Queensland, of which 62 are owned by the Queensland Government. The department will prioritise the approval of emergency action plans for Queensland Government-owned dams prior to the next wet season as these dams have the greatest risk to local residents if the dams were to fail.</p>	
17.34	<p>The Department of Environment and Resource Management should prioritise dam safety audits according to risk. The risk assessment should be informed by criteria including:</p> <ul style="list-style-type: none"> <li>• structure and materials used in construction</li> <li>• age of the dam</li> <li>• time since last inspection</li> <li>• occurrence of a flood event since last audit and the size of that flood event</li> <li>• population at risk if the dam were to fail</li> <li>• experience and capability of dam owner</li> <li>• dam owner compliance history</li> <li>• time since last audit.</li> </ul>	State	DEWS	The Queensland Government, through the Department of Energy and Water Supply, will review its existing program for dam safety audits to ensure it addresses all factors identified by the Commission.	<p><b>Complete</b></p> <p>A prioritisation process for dam safety site audits has been developed. All dams are ranked in order of priority for site audits, with site visits and discussions with dam operators conducted for the highest priority dams. These site audits will be in addition to the desktop audits undertaken on an ongoing basis through reviews of the timeliness and adequacy of documentation submitted to the Dam Safety Regulator.</p> <p>The prioritisation process will be reviewed in five years to ensure it is still meeting requirements and producing results. The data on which the prioritisation process is based will be progressively updated to ensure that the annual site audit program is based on current data.</p>
17.35	The Department of Environment and Resource Management and	State	DEWS	The Queensland Government, through the Department of Energy and Water	Ongoing – refer to Appendix 2 (Referable dams)

Rec No.	Recommendation	Primary responsibility	Lead Queensland Government agency	Government response	Implementation update as at August 2013
	Emergency Management Queensland should ensure that each has copies of current emergency action plans for all dams in Queensland.			<p>Supply, will ensure that copies of all current emergency action plans for referable dams are provided to Emergency Management Queensland.</p> <p>The new regulatory guidelines and work procedures to be developed to support the process of review and approval of emergency action plans will incorporate requirements for copies of plans to be provided to Emergency Management Queensland as a matter of practice.</p>	
17.36	The Department of Environment and Resource Management should conduct periodic dam safety information and education sessions with emergency management personnel including those from Emergency Management Queensland, local and district disaster management groups and local councils. Priority should be given to sessions if the Bureau of Meteorology forecasts a wet season with a greater than 50 per cent chance of above median rainfall.	State	DEWS	<p>The Queensland Government, through the Department of Energy and Water Supply in conjunction with the Department of Community Safety and relevant dam owners, will design and implement an educational program on dam safety.</p> <p>This program will be implemented prior to the next wet season.</p>	Ongoing – refer to Appendix 2 (Referable dams)

LG = Local government

Cth = Commonwealth

Private = private entities

DSDIP = Department of State Development, Infrastructure and Planning

DNRM = Department of Natural Resources and Mines

DEWS = Department of Energy and Water Supply

QldRA = Queensland Reconstruction Authority

DHPW = Department of Housing and Public Works

DEHP = Department of Environment and Heritage Protection

DCS = Department of Community Safety

DJAG = Department of Justice and Attorney-General

DTMR = Department of Transport and Main Roads

**GOVERNANCE ARRANGEMENTS FOR COMPLETION OF ONGOING  
RECOMMENDATIONS**

PROJECT	RECOMMENDATION NUMBER/S	RESPONSIBLE DEPARTMENT	PROGRESS TO DATE
State Planning Policy for natural hazards	4.1a, 4.4, 4.5, 5.1, 5.2, 5.4, 5.6, 7.1, 7.2, 7.4, 7.11, 7.16, 7.24, 8.3, 10.16	DSDIP	<p>The review of State Planning Policy (SPP) 1/03: <i>Mitigating the Adverse Impacts of Flood, Bushfire and Landslide</i> and development of model flood planning controls are being addressed through the adoption of the new single SPP. The draft single SPP includes a chapter on natural hazards management, and will be supported by mandatory requirements and guidance materials. Consultation on the draft SPP was undertaken between 15 April 2013 and 12 June 2013.</p> <p>Expected completion date: end of 2013</p>
Regulation of levees	7.19, 7.20, 7.21, 7.22, 7.23	DNRM	<p>The legislative framework for the regulation of levees has been established with the passage of amendments to the <i>Water Act 2000</i> in May 2013. Work is continuing on development of the statutory tools to assess applications to construct levees, with the new regulatory framework scheduled to commence in the first half of 2014.</p> <p>Expected completion date: mid-2014</p>
National best practice for floodplain management	2.20, 2.21, 2.22	DSDIP	<p>Queensland is participating in the review of the national manual: <i>Managing the Floodplain: Best Practice in Floodplain Management in Australia</i> through the National Flood Risk Advisory Group. Queensland has provided feedback during the review of the manual to ensure that Queensland's policy interests are reflected in the new manual. Subject to finalisation of the content of the manual, it is expected that the manual will adequately account for Queensland conditions. It is currently expected that the manual will be adopted by the end of 2013.</p> <p>The manual will provide high level policy guidance on management of flood risk in Australia. In the Queensland context, the manual is anticipated to be supported by an administrative guideline and the</p>

			<p>proposed new single State Planning Policy and associated mandatory requirements and guidance material, which will express the State's interests in relation to local planning decisions including floodplain management.</p> <p>Expected completion date: end of 2013</p>
Prescribed tidal works code	7.14	DEHP	<p>A review of the design and construction elements in the prescribed tidal works code has been completed. Amendments are proposed to address the concerns raised by the Commission in regard to the prescribed tidal works code. The regulatory impacts of the proposed amendments are currently being assessed prior to amendments being made to the code.</p> <p>Expected completion date: end of 2013</p>
Delivery of flood provisions in the planning framework	4.1b, 5.8, 7.18	DSDIP	<p>Amendments to the <i>Sustainable Planning Act 2009</i> and <i>Sustainable Planning Regulation 2009</i> are currently being considered. Consultation was undertaken on proposed amendments to the compensation provisions in the <i>Sustainable Planning Act 2009</i> during the first half of 2013. Possible legislative amendments regarding the compensation provisions, as well as the remake or extension of temporary local planning instruments and plumbing and drainage work undertaken for public sector entities will be considered within the context of the Government's legislative priorities.</p> <p>Expected completion date: end of 2014</p>
Brisbane River Catchment Flood Study	2.2	DNRM / DSDIP	<p>The conduct of the Brisbane River catchment flood studies is progressing in partnership with local governments. Following completion of the flood study, it is anticipated that further work will continue on a floodplain management study (including an integrated assessment framework) and floodplain management plan will continue until at least 2019.</p> <p>While the studies are being completed, a disaster management modelling tool is being produced in collaboration with the councils. Inundation maps will be available to each council by early November 2013. These maps will be used by councils as part of their</p>

			<p>disaster management strategies, including to inform the community should a flooding event occur over the coming wet season.</p> <p>Expected completion date: end of 2015</p>
Abandoned mines	13.18, 13.19	DNRM	<p>A web-based form has been published on the Department of Natural Resources and Mines website in June 2013, to allow the public to submit information about abandoned mines on private land. This information will be entered into an abandoned mines database currently under development, which will centralise existing sources of information regarding abandoned mines in Queensland.</p> <p>Expected completion date: September 2013</p>
Referable dams	17.14, 17.33, 17.35, 17.30, 17.36	DEWS	<p>Amendments to the <i>Water Supply (Safety and Reliability) Act 2008</i> which commenced on 8 November 2012 created new legislative requirements for referable dam owners to submit emergency action plans for approval by 1 October 2013. Draft Emergency Action Plan Guidelines have been developed to support this process, and education and information sessions were delivered for referable dam owners during July 2013. An annual audit program for emergency action plans will be established to support the new legislative requirements.</p> <p>Expected completion date: June 2014</p>

LN1 drain	10.12	DEWS	The Department of Energy and Water Supply has been liaising with SunWater and the Central Highlands Regional Council to assist in reaching agreement about maintenance responsibility for the LN1 drain. Maintenance work on the drain was conducted prior to the 2012/13 wet season.
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Expected completion date: October 2013

Wivenhoe, Somerset and North Pine dam operations	17.3, 17.4, 17.5, 17.7, 17.8, 17.9, 17.13, 17.15, 17.25, 17.26	DEWS	Stage one of the Wivenhoe and Somerset Dam Optimisation Study and the North Pine Dam Optimisation Study has focused on optimising dam operations to provide flood mitigation benefits while balancing water supply security, social and environmental impacts.
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Stage one of the North Pine Dam Optimisation Study is due to be delivered for government consideration in late 2013/early 2014 and stage one of the Wivenhoe and Somerset Dam Optimisation Study is due to be delivered for government consideration in early 2014.

Subject to consideration of the outcomes of stage one of the studies, the investigation of potential new or upgraded infrastructure will be considered.

Expected completion date: February 2014