

Institute of Public Works Engineering Australia
Queensland Division Inc



Submission to the Productivity Commission

on

Natural Disasters

The effectiveness and sustainability of
Queensland's Natural Disaster Funding Arrangements

IPWEA Queensland is making a submission to the Productivity Commission on Natural Disasters, relating to the terms of the Inquiry.

Background

IPWEA Queensland provides member services and advocacy for practitioners working in the local government and public works industries. Its members are from local government (60%), consulting engineers (35%), contracting (4%), with State Government agencies/utilities as a small percentage of members. Our membership is divested across Queensland and located within Branches (North Queensland, Central Queensland, South East Queensland, South-West Queensland). Organisations can also join IPWEA Queensland and there are 23 Corporate Partners and 12 Corporate Members.

IPWEA Queensland members operate primarily in the Civil Engineering – Public Works field, with IPWEA Queensland an Assessment Body for RPEQ.

IPWEA Queensland has for many years been involved in the provision of technical documents and provision of training for skills development of its members and other practitioners for the improvement of the local government industry both on a state and national basis.

IPWEAQ's Mission is to improve the quality of life of local communities by:

- promoting excellence in the delivery of ecologically sustainable public works and services
- facilitating the development and exchange of ideas, information and technology
- fostering the personal and professional growth of its members; and
- advancing public works engineering and services issues on the public agenda.

Over the past two decades (and even earlier) IPWEA Queensland has produced a number of significant manuals and documentation including Asset Design As Constructed (ADAC), Queensland Streets (now Complete Streets: Guidelines for Urban Street Design); Standard Drawings; Queensland Urban Drainage Manual; NDRRA Guidelines for Restoration Works; and numerous water and sewerage manuals and fact sheets. These documents are each developed through a peer-reviewed structure with working groups established and a regular ongoing review mechanism. They are each accepted by local government and public works practitioners across Australia.

IPWEA Queensland responds to the Productivity Commission Inquiry on Natural Disaster and advocates that better outcomes can be achieved by organisations which use a process of standard documentation, and commend this approach to the Productivity Commission on Natural Disasters.

Any queries relating to this submission should be addressed to

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Responding to the Inquiry

IPWEA Queensland is responding to the opportunity to provide a submission to the Productivity Commission on Natural Disasters.

IPWEA Queensland would like to make the Commission aware of how the Institute is placed in relation to 'natural disasters' and its rationale in making this submission.

Engineers in local government (IPWEA Queensland members) are on the front line when natural disasters occur, in their involvement:

- as council representatives (or volunteers) working alongside SES and other agencies during events
- managing council staff performing emergent works
- working with council and the community to establish levels of service
- managing the scope of works, tender processes, project management of contracted projects
- working with contractors in preparing submissions for grants
- of ongoing asset management and maintenance

IPWEA Queensland assists our members to achieve these challenges through the provision of standard documentation and skills and professional development. In July 2012 IPWEA Queensland's President, Vice President and CEO presented to the Federal Departments including Infrastructure, Finance, and Emergency Management and discussed our experience and examples of works undertaken following the 2011 flood event in South-East Queensland. Vice President Ged Brennan (current President) was the Project Engineer on the Lockyer Valley Grantham relocation project and could talk with first-hand experience on the advantages of undertaking works using local contractors and council works staff.

For IPWEA Queensland to provide advocacy on behalf of members we have strong strategic relations with the Local Government Association of Queensland (LGAQ), Engineers Australia and other industry bodies. We have established and maintain firm relationships with State Government Ministers and departments, working particularly with Transport and Main Roads (TMR), Department of Energy and Water Supply (DEWS) and Department of Local Government. The Institute is represented on both industry and State Government committees and working groups.

Terms of the Inquiry

The sustainability and effectiveness of current arrangements for funding natural disaster mitigation, resilience and recovery initiatives

Local Government has an important role to play as custodian of a massive asset base, with council rates revenues hardly covering their ongoing maintenance, let alone covering those occasions where significant damage to Council owned infrastructure is a result of natural disaster events.

Current funding arrangements are not necessarily optimal in improving resilience, as there is a tendency for the funding to drive local government back to reconstruct the previous solution, or 'like for like': this has proven not to be cost effective or necessarily provide the best outcomes. Numerous examples exist showing the failure of assets replaced following the 2011 flooding during the subsequent 2013 events.

IPWEA Queensland considers the focus on Value for Money as an important part of the current funding arrangements is appropriate and provides benchmarking and evidence that restoration works have been efficiently delivered. It should be acknowledged that any restoration work should also deliver resilience in order to truly achieve Value for Money. IPWEA Queensland also acknowledges that restoration work needs not to deliver improved service or flood immunity.

IPWEA Queensland has a strong view of 'fit for purpose' delivery of new works, particularly for assets falling within 'lower order networks'. It is important that practitioners meet appropriate standards when providing new assets, including restoration works but should not be encouraged to provide beyond what is necessary and acceptable to the industry regardless of the funding source. IPWEA Queensland has developed numerous products for industry to achieve the mechanisms for undertaking construction and restoration work at appropriate standard and continues to develop additional reference and guidance material.

It must be acknowledged that local government has both local presence and the capability to undertake restoration works, and IPWEA Queensland is strongly opposed to its exclusion as part of the reconstruction options, particularly during initial response, ie emergent works.

The benefit of the use of local government labour and its extensive and locally based and managed resources in restoration works should not be under-estimated. It should also be acknowledged that in order to meet community obligations whether funded or not, necessitates that other planned works are not delivered when scheduled, or delivered by contract during their own works. Funding local government labour does not equate to double-dipping: there is rarely a higher priority to a local government area than immediate response to the need to restore the infrastructure for the community. The expensive and drawn out process of obtaining contract resources should be understood and included in the discussion of funding local government labour.

IPWEA Queensland members, the professionals undertaking these works, firmly believe however that there is no single mechanism for appropriate response to the impact of natural disasters and public sector capability and contract resources should be both utilised: both have their roles to play.

The risk management measures available to and being taken by asset owners

From the asset owner perspective, IPWEA Queensland supports an industry accepted fit for purpose standard, which can be achieved by using appropriate asset management practices and industry standards and by considering other influences such as climate change. For example, a Design Guidelines is currently under development by IPWEA Qld for lower order assets that will support industry to identify the appropriate levels for construction of new assets, including reconstruction works. We are not supportive of the concept that a change of service level is a component of reconstructing more resilient infrastructure.

We are supportive of the LGAQ proposal to continue with the Natural Disaster Resilience Program for the development of community projects to provide resilience.

The interaction between natural disaster funding and federal financial arrangements

Interactions between Federal, State and Local Governments are generally complex and can always be made more efficient, however commonly we see the additional level of state governance in Federal programs to add another level of reporting that does not necessarily add value.

Options to achieve an effective and sustainable balance of expenditure on natural disaster mitigation and recovery

Professionals in local government and industry follow the guidance of peer-reviewed and approved guidelines that are comprehensible and easily managed. These industry standards lead asset management practices which are central to the maintenance of the large asset bases maintained by State and Local government.

These guidelines include those developed by our Australasian body, IPWEA, including the International Infrastructure Management Manual (in use in New Zealand, America, Canada and Malaysia), from which the National Asset Management System has been produced. Cascading from this system are a series of Practice Notes relating to specific assets. Reputation has followed with an invited involvement of IPWEA in the recently produced ISO 5500 Standard for Asset Management.

IPWEA Queensland has also produced significant industry products used widely by local government across Australia, and provides professional development training in legislation and engineering techniques and solutions.

Information on these are attached.

How stakeholders can most effectively fund natural disaster recovery and mitigation initiatives

IPWEA Queensland has a focus that is on 'delivery', however with this comes the understanding that funding mechanisms must include efficiencies and processes that do not constrain the efficient and timely response to damage caused to essential public assets by natural disasters.

IPWEA Queensland proposes that an alternative mechanism available to the Federal Government to significantly reduce administration and governance of funded programs could use the following process:

- undertake assessment, with the value of restoration meeting the funding guidelines being agreed
- Funding is allocated to the asset owner based on the agreed damage assessment
- The asset owner prioritises the work and delivers and maintains the reconstructed assets: efficiencies are gained through removal of the constraints of being over-governed while the owner sets standards and carries the risk in the delivery process.

How to ensure the right incentives are in place to support cost-effective decision making

IPWEA Queensland does not support the use of restoration funding of the incremental increase in service which can accompany restoration work: it does support identifying and maintaining the appropriate industry standard that applies. It is imperative to recognise that when the appropriate standards are met, the whole of life cost to the community of owning infrastructure represents the best value for money.

Mechanisms and models to prioritise and evaluate mitigation opportunities

IPWEA Queensland members are primarily responsible for infrastructure planning and delivery in Local government, including the identification of practical and affordable mitigation opportunities. Industry professionals continue to identify ways to improve the resilience of not only the infrastructure, but also the community itself. IPWEA Queensland is active in its role as a conduit to spread information across the industry ensuring new initiatives, such as new ways of providing flood information and appropriate response to the community, are used to the great extent possible.

The construction of flood mitigation and warning infrastructure, good catchment management and other strategies considering climate change, possibilities of storm surge and other threats, have an important part in disaster mitigation for communities. IPWEA Queensland also recognises that in extreme events, for example the 2011 flooding in the Lockyer Valley, it is the resilience of infrastructure and built assets, appropriate development and infrastructure planning and the preparedness of the community themselves that comes to the fore.

The benefit of conducting of cost benefit analysis in relation to mitigation opportunities, which in the longer term provide value for money in the mitigation of potential damage to community assets, cannot be over-estimated.

The role of urban planning, land-use policy and infrastructure investment in supporting cost-effective risk management

Local government carries primary responsibility to ensure they minimise risk to the Built Infrastructure, for example in preventing infrastructure developments in flood prone areas.

Our professionals support consideration options to fund identified natural disaster recovery and mitigation needs. We do not believe the majority of local governments have much capability to fund protection of their assets from the impacts of natural disaster, even by individual insurance.

We would pose the question: is it cost effective for the myriad of authorities across the nation to insure their own entire network and infrastructure, or would we be better placed continue at a national level to self-insure our own assets?

Suzanna Barnes-Gillard
Chief Executive Officer

Attachment 1

Background

Queensland local government currently spends many hundreds of thousands of dollars and uses many different forms of documentation in preparing drawings and documentation for their infrastructure activities. Those local governments who use standard documentation not only save thousands of dollars, they also assist consultants and contractors to work across different local governments without the need to learn new systems and processes for each one.

IPWEAQ has for many years been involved in the provision of technical documents and provision of training for skills development of its members for the improvement of the local government industry both on a state and national basis.

In 2003 IPWEAQ established the Queensland Water Directorate (QWD) to address the concerns of councils to provide assistance and consistency across Queensland. The QWD resides under the Constitution of the IPWEAQ with an Executive Committee including Local Government Association Queensland, Local Government Managers Australia and Australian Water Association. The QWD provides templates, guidelines and advice to member councils through its Technical Reference Group, with major projects including the SWIM Project, Blue Green Algae guidelines, Operations Manuals, Water Industry Worker Certificated Training, STP proposal and Greywater Reform Fact Sheets. IPWEAQ provides technical advice on water issues to LGAQ for input into policy.

Current IPWEAQ support materials and activities (as discussed in detail below) to the local government and public works industry including:

- Standard Drawings
- Queensland Streets (now Complete Streets)
- Queensland Urban Drainage Manual (with Department of Natural Resources and Mines)
- Asset Designed As Constructed project
- Design Standards Guidelines (under development)

IPWEA National Publications include:

- AUS-SPEC (Standard Specifications)
- International Infrastructure Management Manual (through NAMS Committee)
- Plant and Vehicle Management Manual

NAMS Australia is an initiative of the IPWEA National Asset Management Strategy (NAMS) Committee. NAMS.AU seeks to provide national leadership and advocacy in the sustainable management of public works infrastructure, community assets and services. The website provides resources to assist asset management practitioners.

These support materials and initiatives are all valuable and necessary to Local Government.

IPWEAQ has been providing technical advice to local government for 35 years and is well placed to continue and expand the services required.

Standard Drawings

Responding to the need by Civil Engineers for a set of Standard Drawings, in 1995 IPWEAQ compiled a set of over 100 drawings typically applicable for development works and local authority works. The Drawings were revised in 1997 and 2000 and are currently being reviewed once again. Each Drawing reflects the latest technology in modern and development needs. These Drawings include the most up-to-date specifications and standards for Roads and Streets, Drainage, Water Supply, Sewerage, Parks/Miscellaneous. Where a Department of Main Roads Drawing is applicable it has been called up in the Directory.

Queensland Streets

The purpose of these Guidelines is to provide the basis for a uniform standard of residential streetworks design, incorporating “state-of-the-art” principles and techniques, for use throughout Queensland. Queensland Streets evolved in parallel with AMCORD, based largely on the same sources of inspiration and research as AMCORD, as well as upon AMCORD itself. As a technical support to AMCORD, it provides the more detailed design criteria necessary for the design of streetworks for residential developments in accordance with AMCORD principles. Queensland Streets provides the necessary additional technical design criteria in the specific field of Street Design, and some related aspects, and is therefore considered as a supplement to AMCORD, not as a substitute for AMCORCD. There are no significant differences in philosophy in regard to basic principles between the two Codes, and hence the Performance Criteria are consistent between the two. However, Queensland Streets takes the Performance Criteria into more detail, due to its more specialized nature.

Queensland Urban Drainage Manual (QUDM)

QUDM provides assistance to engineers and designers engaged in the design of urban stormwater drainage works in Queensland. It includes details of technical and regulatory aspects to be considered during the planning of drainage works, to formalize the design processes, and to provide details of appropriate design methods and computational procedures. Both hydrologic and hydraulic procedures are considered as well as environmental and legal aspects. This Manual is a joint project between IPWEAQ and Department of Natural Resources and Mines.

ADAC – As Designed As Constructed

ADAC (As Design As Constructed), is a process that has been established to define the information required by local government at the time of plan sealing, when the works constructed by developers must be approved, and the assets taken into the local government asset systems. It also supports the internal (capital) works of local government, allowing the as constructed information from that process to be uploaded into asset management and GIS systems. This information is supplied electronically, allowing automated upload.