



Australian Government
Department of Finance and Deregulation

Review of the Insurance Arrangements of State and Territory Governments under the Natural Disaster Relief and Recovery Arrangements Determination 2011

NDRRA PHASE 2 REPORT | SEPTEMBER 2012

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Australian Government
Department of Finance and Deregulation

David Tune PSM
Secretary

The Hon Nicola Roxon MP
Attorney-General
Minister for Emergency Management
Parliament House
CANBERRA ACT 2600

Dear Attorney-General

I present to you the Department of Finance and Deregulation's (Finance) Phase 2 report on the appropriateness of the insurance arrangements of states and territories (States), in accordance with Guideline 5/2011 of the Natural Disaster Relief and Recovery Arrangements (NDRRA) Determination 2011.

This is a further report that builds upon Finance's *Review of Insurance Arrangements of State and Territory Governments under the Natural Disaster Relief and Recovery Arrangements Determination 2011 Phase 1 Report - March 2012*.

This consolidated report considers the appropriateness of State insurance arrangements and provides recommendations concerning suitable insurance benchmarks and threshold structures for the NDRRA. I hope it is of assistance to you and your Department.

In preparing this report, we consulted various stakeholders including officials from your Department. I would like to acknowledge the valuable contributions from Commonwealth, State and local government officials and representatives as well as industry participants who assisted Finance in producing this report.

Yours sincerely

A handwritten signature in black ink, appearing to read 'David Tune'.

David Tune
28 August 2012

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1. Executive Summary

The increase in the severity and frequency of natural disasters in recent years has resulted in large-scale expenditure by state and territory (State) governments in the form of disaster relief and recovery. The Australian Government provides financial assistance to the States through the Natural Disaster Relief and Recovery Arrangements (NDRRA) to aid, among other things, in the cost of restoration of public infrastructure. Commonwealth assistance is not intended to remove incentives for States to plan, mitigate or allocate resources for natural disasters or otherwise discourage governments purchasing insurance to protect their assets.

To reflect this objective, in March 2011, the then Attorney-General released an updated Determination of Terms and Conditions for the NDRRA (the Determination). The Determination requires States to have an independent assessment of their insurance arrangements undertaken by an appropriate specialist at regular intervals no greater than three years apart, and to submit those assessments to the Commonwealth for review.

In accordance with Guideline 5/2011 of the Determination, the Department of Finance and Deregulation (Finance) has undertaken a review of the independent assessments submitted by the States in order to:

- a. establish benchmarks for the appropriateness of each States' insurance arrangements;
- b. assess the appropriateness of States' insurance arrangements, including the adequacy of States' responses to recommendations; and
- c. make recommendations as to differential thresholds or differential rates of assistance that should apply under the Determination depending on the appropriateness of individual States' insurance arrangements.

Finance has completed its review in two phases. The initial findings were published in the *Review of Insurance Arrangements of State and Territory Governments under the Natural Disaster Relief and Recovery Arrangements Determination 2011 Phase 1 Report - March 2012* (Phase 1 report – Appendix A). This consolidated report incorporates information on local government assets that was not available at the time the Phase 1 report was published.

Finance's review has been informed by advice from various insurance market participants, both in Australia and the United Kingdom. A list of the parties consulted is at Appendix B. Finance also engaged KPMG Actuarial Pty Ltd (KPMG) and the Australian Government Actuary (AGA) to provide specialist technical advice which supports the findings and recommendations in this report. The KPMG and AGA reports raise several issues that address the NDRRA policy. Finance has only incorporated those views and recommendations that it considers to be within the scope of the NDRRA Determination and this review.

Risk and Insurance

As part of a risk management strategy, insurance is an effective tool for transferring risk. It is not, and should not be viewed as, the only strategy available to governments to manage the risk of natural disaster and the potential damage to critical infrastructure. Ultimately though, a risk is only insurable if there is sufficient appetite for it in the market, and sufficient capital to support the potential losses.

Benchmarks

In order to assess the appropriateness of the insurance arrangements of States under the Determination, Finance firstly had to establish benchmarks for what is meant by 'appropriate'. As the first NDRRA review of this type, a benchmark that could provide clear direction to States on the Commonwealth's expectations for their insurance arrangements was considered preferable to a strict financial threshold.

KPMG provided advice on the approach taken by the Australian Prudential Regulation Authority in setting prudential standards for commercial insurers. While the model is relatively straightforward, it requires significant analysis of the risk exposures held by an insurer. Application of such an approach to the States in order to define a minimum level of capital would require a similar level of risk analysis. Retention and development of risk data in the States has not yet reached this level of completeness, particularly in relation to financial modelling of the potential cost of natural disasters. Development of such a quantitative benchmark could not be confidently achieved at this time. This may be possible in the future subject to appropriate action to improve the collection and provision of data.

A qualitative benchmark based on a best practice approach to the establishment of insurance arrangements was pursued. This model reflects the obligation on States to identify their risk exposures and make fully informed decisions with respect to financing potential losses. The decision to insure, or not, must be evidence-based and supported by market quotations and cost-benefit analysis. It should also be consistent with achieving outcomes that are equitable for the States and the Commonwealth.

The AGA commented that the qualitative benchmark approach is also consistent with both the requirements of the Determination for States to explore a range of insurance options in the marketplace and assess available options on a cost-benefit basis, and a reasonable expectation that States adopt and implement sound risk management practices.

The qualitative benchmark process is illustrated in Figure 1 below.

Figure 1: Qualitative Benchmark



To facilitate the use of a quantitative benchmark in future reviews of this type, KPMG has recommended a best practice approach to future submissions that standardises the presentation of asset and risk data, and mandates the inclusion of

financial modelling of risk exposures. This level of data analysis is more comprehensive than that currently undertaken by States and local governments as part of arranging their insurance purchase. At the commencement of this review process, Finance issued the Guide to Submission Requirements - clause 4.6 of Natural Disaster Relief and Recovery Arrangements (NDRRA) Determination 2011 (the Guidelines - Appendix A to the Phase 1 report) to States to assist in the development of submissions. As foreshadowed in the Phase 1 report, Finance has, with the assistance of the AGA, updated these Guidelines to incorporate KPMG's recommendations on the best practice approach. The updated Guidelines are at Appendix C. Incorporation of the updated Guidelines into the Determination would assist with the necessary level of asset and risk information being provided for future assessments.

Recommendation 1: That the Commonwealth considers revising the NDRRA Determination to include compliance with the updated Finance Guidelines as a condition of Commonwealth assistance.

Insurance Arrangements

The appropriateness of the insurance arrangements of States has been assessed by KPMG against the qualitative benchmark. As noted by the AGA in their review of the KPMG reports, KPMG was unable to strongly endorse any State submission. This is due to the number of deficiencies in the submissions, and most States not insuring their road assets.

Finance has made recommendations that it considers will achieve an improvement in the insurance arrangements of States, and are intended to:

- improve the quality of future submissions with respect to the provision of data; and
- achieve consistency of approach between all States utilising evidence-based decision making.

Finance has not made recommendations where it considers there is only marginal improvement to be achieved, such as small numbers of local governments addressing gaps in cover due to sublimits or exclusions. Observations on these matters have been included, and it is expected that these will be addressed in the next round of submissions.

Submission Process

KPMG identified several common areas of deficiency in the provision of data and general information by States. This resulted in a general lack of consistency between the submissions and inadequate levels of data to enable a quantitative assessment. Recommendation 1 of this report addresses these issues with the inclusion of the Finance Guidelines in the Determination as a condition of Commonwealth assistance.

It was noted in the Phase 1 report that a clear deficiency in most States' submissions was the failure to clearly define or quantify essential public assets (EPA). Most States assumed, explicitly or implicitly, that all of their assets are included as EPA. This deficiency was again evident in the local government submissions.

Failure to apply the definition¹ of EPA as intended may produce inconsistency between States and broader than intended application of the NDRRA. In addition, neither the Commonwealth nor the States have a readily available inventory of assets to understand the full exposure. The central message of both the KPMG and AGA reports is that in order to effectively manage risk it is first necessary to understand it. This position could be improved by the Commonwealth providing guidance to States on the interpretation and application of the definition of EPA.

Recommendation 2: That the Commonwealth considers providing guidance to the States on the interpretation and application of the definition of essential public assets, consistent with meeting all of the principles of the definition.

Road Assets

Finance's recommendations on the overall appropriateness of the insurance arrangements of States do not address the insurance of road assets. Roads, most of which are uninsured², constitute 31% (or \$310b) of all declared assets. The Phase 1 report foreshadowed that Finance intended to further explore alternative risk transfer solutions that could be pursued with respect to road assets. Options for funding road asset damage are therefore considered separately.

State Findings and Recommendations

KPMG found that insurance arrangements are in place for all non-road assets (excluding the Northern Territory and Tasmania), with some exceptions for local governments. KPMG has drawn conclusions regarding the cost-benefit of the States' insurance but has been unable to reach a definitive position. Nevertheless KPMG states that the submissions evidence that insurance arrangements have mitigated NDRRA exposures.

The insurance arrangements for State owned corporations are not addressed in this review as they are generally out of scope of the NDRRA unless, in light of special circumstances presented by a State, the Attorney-General has agreed to treat them as eligible for assistance³.

Australian Capital Territory (ACT)

The Phase 1 report found that the ACT's insurance arrangements are appropriate, cost-effective for both the State and the Commonwealth, and meet the obligations under the Determination to minimise the financial exposure of taxpayers at both levels of government. This remains the case.

New South Wales (NSW)

Overall, when assessed against the qualitative benchmark, NSW was found to have insurance arrangements for non-road assets that are appropriate, cost-effective for both the State and the Commonwealth, and meet the obligations under the Determination to minimise the financial exposure of taxpayers at both levels of government.

¹ Clause 3.6.1 of the Determination

² Roads in the Australian Capital Territory and state owned roads in Victoria are currently insured.

³ Clause 3.6.3 of the Determination

However, the Statewide mutual pool does not provide flood cover for the non-road assets of its local government members, and no evidence of market testing has been provided. This information should be provided in future submissions in order to demonstrate compliance with the qualitative benchmark.

Northern Territory (NT)

Overall, when assessed against the qualitative benchmark, the NT's insurance arrangements for State owned non-road assets are not considered to be appropriate in accordance with the obligations under the Determination.

KPMG recommends, and Finance agrees, that the NT should adopt the qualitative benchmark process for its State owned non-road assets by testing the market and completing cost-benefit analysis in order to make a fully informed decision on the purchase of cover.

Recommendation 3: The Northern Territory should adopt the qualitative benchmark process for State owned non-road assets, and submit a further independent assessment to the Commonwealth for review. This requires the Northern Territory to analyse its risk exposures, and make fully informed decisions with respect to insurance that are supported by market quotations and cost-benefit analysis.

In addition, ten NT local governments do not have flood cover for their non-road assets, and no evidence of market testing has been provided. This information should be provided in future submissions in order to demonstrate compliance with the qualitative benchmark.

Queensland (QLD)

Overall, when assessed against the qualitative benchmark, QLD was found to have insurance arrangements for non-road assets that are appropriate, cost-effective for both the State and the Commonwealth, and meet the obligations under the Determination to minimise the financial exposure of taxpayers at both levels of government⁴.

However, four local governments do not have flood cover for their non-road assets, and no evidence of market testing has been provided. This information should be provided in future submissions in order to demonstrate compliance with the qualitative benchmark.

South Australia (SA)

Overall, when assessed against the qualitative benchmark, SA was found to have insurance arrangements for non-road assets that are appropriate, cost-effective for both the State and the Commonwealth, and meet the obligations under the Determination to minimise the financial exposure of taxpayers at both levels of government.

Tasmania (TAS)

Overall, when assessed against the qualitative benchmark, TAS's insurance arrangements for State owned non-road assets are not considered to be appropriate in accordance with the obligations under the Determination.

⁴ QLD's policy for the insurance of its state owned non-road assets commenced on 1 November 2011.

KPMG recommends, and Finance agrees, that TAS should adopt the qualitative benchmark process for its State owned non-road assets by testing the market and completing cost-benefit analysis in order to make a fully informed decision on the purchase of cover.

Recommendation 4: Tasmania should adopt the qualitative benchmark process for State owned non-road assets, and submit a further independent assessment to the Commonwealth for review. This requires Tasmania to analyse its risk exposures, and make fully informed decisions with respect to insurance that are supported by market quotations and cost-benefit analysis.

Victoria (VIC)

Overall, when assessed against the qualitative benchmark, VIC was found to have insurance arrangements that are appropriate, cost-effective for both the State and the Commonwealth, and meet the obligations under the Determination to minimise the financial exposure of taxpayers at both levels of government.

Western Australia (WA)

Overall, when assessed against the qualitative benchmark, WA was found to have insurance arrangements that are appropriate, cost-effective for both the State and the Commonwealth, and meet the obligations under the Determination to minimise the financial exposure of taxpayers at both levels of government.

Road Assets

The Phase 1 review identified that despite the existence of generally well-developed commercial insurance arrangements to protect the non-road assets of States, there remains a significant gap with respect to the insurance of road assets. Detailed investigation by Finance into the availability of commercial insurance for road assets and non-traditional insurance options for the transfer of risk identified the following:

1. the appetite and capacity of traditional insurance arrangements for road assets in Australia is insufficient;
2. non-traditional insurance options are limited in their availability and, even if available, may not be cost-effective; and
3. risk transfer options for road infrastructure may not present a viable solution for all jurisdictions in Australia.

In the absence of effective risk transfer options for road assets, Finance has briefly considered alternative options for funding the significant costs of repair that follow natural disaster events.

The AGA provided advice on a national pool approach to the insurance of road assets. The AGA's report *Managing the Cost of Damage to Road Infrastructure Caused by Natural Disaster - National Pool Approach* (Road Pool Report - Appendix D) provides a high level assessment of one of the alternative approaches to traditional risk transfer arrangements for road assets. Other options for concessional loan and insurance-type arrangements have also been considered in this report.

Finance has not made any recommendations on the preferred approach to funding road asset damage as the options are only preliminary and conceptual in nature. Rather, the need to explore the options further is identified.

***Finding 1:** Given State obligations under the Determination to have access to adequate capital to fund infrastructure losses, alternative funding options to meet the cost of road asset damage should be further explored.*

Thresholds

Finance has not made any recommendations in respect to the thresholds for any individual State at this time. The insurance arrangements for the State owned non-road assets of the NT and TAS were not considered to be appropriate in accordance with the obligations under the Determination. This report recommends that the NT and TAS adopt the qualitative benchmark process and submit a further independent assessment to the Commonwealth. Finance will further consider recommendations as to differential thresholds or differential rates of assistance for these States depending on the adequacy of the States' responses, subject to recommendations 3 and 4 being accepted.

Accordingly, Finance has adopted a high-level approach, and explored issues related to the current threshold structure that have the potential to impact on risk management behaviour or do not correlate well with the structuring of State insurance arrangements.

Categories of Assistance

The combination of the costs of infrastructure repair with other community relief expenditure under category B of the Determination complicates the analysis of the effectiveness of the current threshold levels. It also distorts calculations on the level of support provided for infrastructure repair which is an important component in the assessment of the appropriateness of insurance arrangements.

Separating the eligibility criteria for assistance for infrastructure repair from that for individual and community relief would allow for better analysis of the support provided in individual categories of assistance, more comprehensive review of threshold levels and targeted reimbursement rates to be established.

The Determination employs a single threshold model as the basis for the calculation of assistance to States. While there is a first and second threshold that determines the level of assistance provided, the same threshold applies to all categories of expenditure on a cumulative basis. Establishing separate thresholds for infrastructure repair and individual and community relief would increase the Commonwealth's opportunity to set better targeted thresholds.

***Finding 2:** Changes to the current NDRRA threshold structure and eligibility criteria for Commonwealth assistance may improve risk management behaviour and encourage investment in mitigation. In particular:*

- *Assistance for the restoration or replacement of essential public assets could be separate from that related to individual and community relief.*
- *Separate threshold structures could be established for the restoration or replacement of essential public assets as well as individual and community relief.*

Payment Basis

The Determination provides for Commonwealth assistance to be provided on the basis of total expenditure by a State on eligible disasters during a financial year. The expenditure incurred in the year may relate to events that occurred up to 24 months prior. Insurance and reinsurance policies are typically available on a per-event basis. This has the potential to create added complexity for States in the design of insurance arrangements that are cost-effective in reducing exposure under NDRRA. It also complicates the assessment of the appropriateness of those insurance arrangements by the Commonwealth.

There are sound reasons for the current financial year payment basis. The primary purpose of the NDRRA is to provide financial support to the States when they are unable to meet the cost of essential disaster recovery themselves. However, an expenditure year payment basis is considered inappropriate for EPA by both KPMG and the AGA.

Alternative Payment Basis Options

KPMG has proposed a per-event payment basis. This involves nominating a threshold for expenditure to apply to each and every eligible disaster. This is similar to the way insurance operates with excesses or deductibles. AGA's preference is for an occurrence-year basis. This involves the aggregation of natural disaster losses incurred within a financial year. Each option has benefits. The best option is likely to depend on the structure of the NDRRA and the assets for which assistance is provided.

The per-event or occurrence-year payment bases would not need to apply to individual and community relief expenditure. Establishment of a separate threshold for individual and community relief expenditure (finding 2) could allow assistance to be maintained on a financial year basis.

Per-event basis

A per-event basis could operate effectively if it was applicable to insurable assets only and could be tied to the insurance arrangements of States. State thresholds for assistance could be set by giving consideration to the levels of retention held by each State under their respective insurance programs, in conjunction with their annual revenue and risk profile.

Concerns regarding the accumulation of expenditure by States (for example from multiple events in the one financial year) could be addressed through the use of an annual cap. This would limit the State's financial exposure by providing for the Commonwealth to increase its contribution once the cap is exceeded.

A per-event basis has the benefit of increasing the transparency of the costs related to particular disasters. This would assist the understanding of where risk mitigation investment would be of the greatest benefit.

Occurrence-year basis

The occurrence-year payment basis could be beneficial if the NDRRA continued to provide assistance for both insurable and non-insurable assets. This approach would increase the transparency of the costs related to particular disasters and reduce complexity, while limiting the financial exposure of the States.

***Finding 3:** Subject to the consideration of finding 2, Commonwealth assistance for the restoration or replacement of essential public assets could be provided on either a per-event or an occurrence-year basis.*

Threshold Structures

KPMG has made further recommendations with respect to thresholds, namely:

- implementing separate thresholds for insured and uninsured assets; and
- reviewing the determination of thresholds such that they are relevant to the underlying risk exposures.

In the event that road assets remain subject to Commonwealth assistance under NDRRA, a separate (and most likely higher) threshold for uninsured assets may encourage States to seek ways to reduce their retained losses. This could include investment in research and development to improve the resilience of assets to natural disasters. The AGA notes that this approach to the adjustment of thresholds could provide States with a ‘meaningful incentive to carefully consider the benefits of insurance, where available’.

The AGA also observes that models that differentiate between insurable and uninsurable assets have the potential for improved efficiency as there could be less need for jurisdictions to demonstrate, and for the Commonwealth to test, compliance with the requirements around cost-effectiveness and financial exposure minimisation. The AGA strongly encourages the examination of differential thresholds for insured and uninsured assets.

***Finding 4:** Subject to the consideration of finding 2, separate thresholds for insured and uninsured assets that are relevant to the underlying risk exposures could be considered in order to provide a meaningful incentive to States to consider the benefits of insurance, where available.*

Small Disaster Criterion

The small disaster criterion (SDC), which acts as the initial trigger for NDRRA assistance, is defined as \$240,000 in 2006/07 values. Finance considers that the SDC, in respect to infrastructure assets, could be increased. This would mean that only larger disaster events with greater State expenditure on infrastructure would meet the criteria for an eligible disaster⁵. The cost of restoration or replacement of infrastructure must be related to an eligible disaster for it to contribute to a State’s threshold and therefore become eligible for Commonwealth assistance. Such assistance would then be limited to more significant disaster events. The appropriate level for the SDC would depend on the quantum of financial losses related to recent eligible disasters and the financial strength of the State budgets.

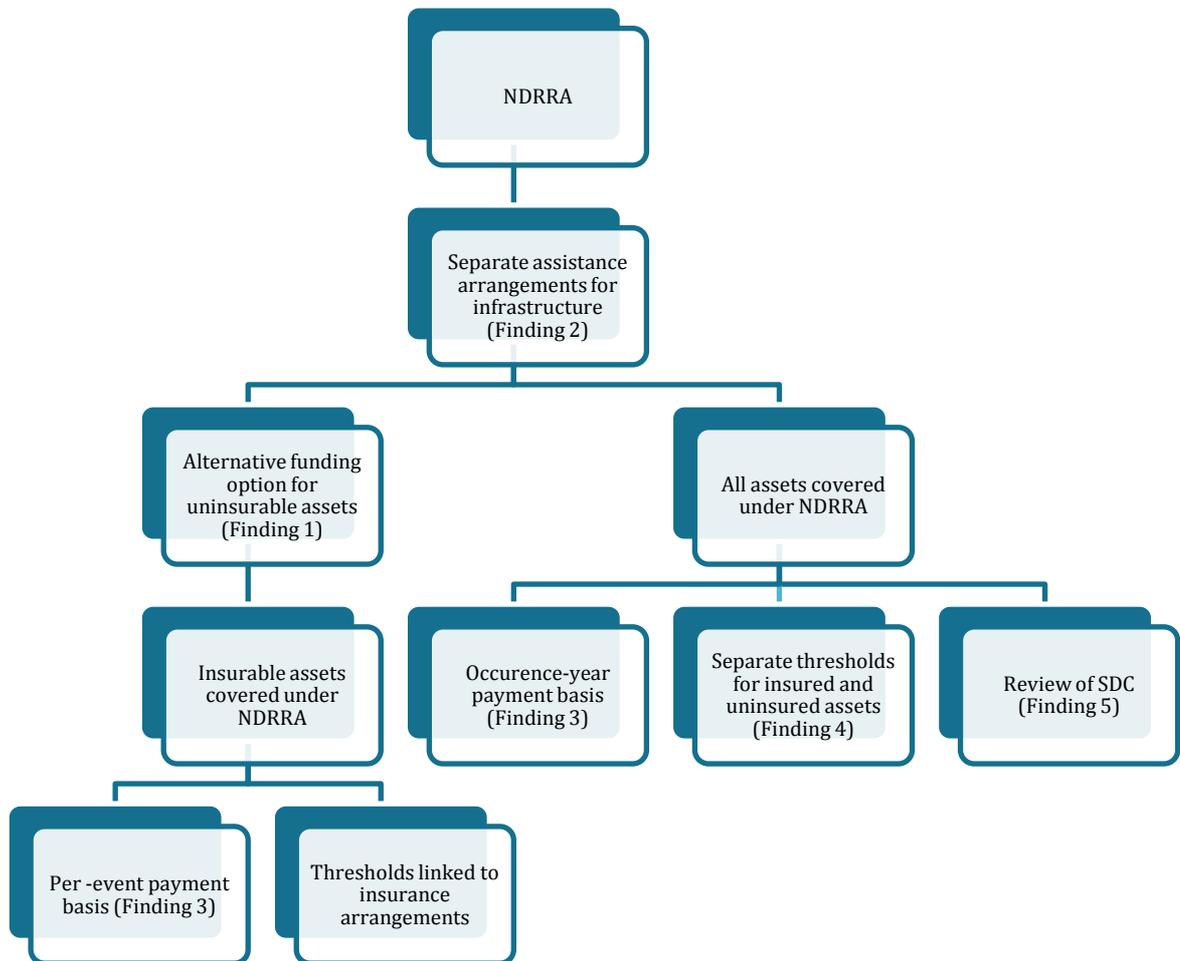
***Finding 5:** The Small Disaster Criterion could be reviewed to ensure that eligibility for Commonwealth assistance in respect to infrastructure assets is limited to more significant disaster events.*

⁵ As defined in clause 5.4 of the Determination

Threshold Summary

The differential thresholds findings are summarised in Figure 2 below.

Figure 2: Differential Threshold Findings



The AGA has commented that “since the NDRRA ... does not differentiate between insurable and uninsurable assets, it does not provide a strong natural incentive to jurisdictions to seek to obtain insurance cover for their insurable EPA”. The revisions to the Determination with respect to cost-effective insurance requirements sought to address this deficiency. The AGA has recognised that “the submission process has highlighted the very significant challenges involved in giving effect to, and monitoring compliance with that requirement”. Finance’s findings with respect to differential thresholds attempt to address these challenges.

2. Introduction

The NDRRA provides financial assistance to State governments to aid, among other things, in the cost of restoration of public infrastructure. In March 2011, following an increase in the number and extent of natural disasters across Australia in 2010 and early 2011, the NDRRA Determination of Terms and Conditions was updated to require States to have reasonably adequate capital or access to capital to fund liabilities or infrastructure losses before being granted access to NDRRA assistance. The Determination identifies insurance as one of the means to provide this capital. It further requires States to submit an independent assessment of their insurance arrangements at intervals no greater than three years apart (including the insurance arrangements of local governments in the State).

Finance has conducted a review of the independent assessments in accordance with Guideline 5/2011 of the Determination in order to:

- establish benchmarks for the appropriateness of each States' insurance arrangements;
- assess the appropriateness of States' insurance arrangements; and
- make recommendations as to differential thresholds or differential rates of assistance that should apply under the Determination depending on the appropriateness of individual State's insurance arrangements.

In preparing this review, recommendations and findings are expressed in reference to the current Determination.

This report is a further report to Finance's Phase 1 report. This consolidated report incorporates information on local government insurance arrangements that was unavailable at the time the Phase 1 report was published. This report may be read independently as it includes the findings and conclusions from the Phase 1 report.

3. Approach

Finance commenced its review of the appropriateness of State insurance arrangements in October 2011, following receipt of independent assessments from all States on the insurance arrangements for State owned assets. As the Government had agreed to provide the States with an additional six months (to 31 March 2012) in which to complete submissions for local government assets, the Phase 1 report was completed and published as an interim report on 8 March 2012.

The Phase 1 report was substantially informed by the KPMG report *Natural Disaster Relief and Recovery Arrangements (NDRRA) Review of States' Submissions - 6 March 2012* (Appendix C to the Phase 1 report) and a high level review by the AGA (Appendix D to the Phase 1 report). The Phase 1 report established several findings relating to the insurance arrangements of States, in particular highlighting the significant gap in respect to the insurance of road assets. That report also noted the varying approaches by States to the provision of data and general information and the resulting limitations on the subsequent analysis.

Following the publication of the Phase 1 report, Finance sought further information from the States to inform the Phase 2 report. States were requested to:

- make submissions on the insurance arrangements for local government assets by 31 March 2012; and
- provide details on the availability and cost-benefit analysis of insurance cover for currently uninsured assets by 31 May 2012.

The final local government submission was received on 15 May 2012. The States advised (with the exception of South Australia) that detailed information on the availability and cost-benefit of cover for currently uninsured assets was not likely to be provided until at least the end of September 2012. Given this, Finance decided to publish the report using the existing information, rather than delay finalising until at least December 2012. This approach was assessed by Finance as not affecting the findings or recommendations of the report and not posing any disadvantage to the States or the Commonwealth. States will have the opportunity to respond to any recommendations relating to the insurance of currently uninsured assets in accordance with the timeframe outlined in the Determination.

Expert Advisers

Consistent with the approach to the Phase 1 report, Finance engaged KPMG and the AGA to review the States' independent assessments and provide advice to support Finance's report on the appropriateness of States' insurance arrangements.

KPMG was engaged to provide detailed analysis of the information provided by the States, in order to form conclusions on the appropriateness of the insurance arrangements of each State. The KPMG report raises several issues that address the NDRRA policy. Finance has only incorporated those views and recommendations that it considers to be within the scope of the NDRRA Determination and this

review. KPMG was also requested to address options for the establishment of benchmarks for States' insurance arrangements, with particular reference to the reinsurance standards for commercial insurers required by the Australian Prudential Regulation Authority (APRA).

KPMG has produced three reports as part of the Phase 2 review:

- *Natural Disaster Relief and Recovery Arrangements (NDRRA) Addendum to the Review of States' Submissions - 16 July 2012* (KPMG Addendum report – Appendix E)
- *Natural Disaster Relief and Recovery Arrangements (NDRRA) Review of Local Governments' Submissions – 3 August 2012* (KPMG Local Government report - Appendix F)
- *Natural Disaster Relief and Recovery Arrangements (NDRRA) Review of States' (including Local Governments') Submissions – 1 August 2012* (KPMG Consolidated report - Appendix G)

The KPMG Addendum report considers additional information provided by the States after the publication of the Phase 1 report in relation to the insurance of State owned assets. Where appropriate, KPMG have revised the findings and recommendations for some States in response to this additional information.

The KPMG Local Government report provides an overview of the insurance arrangements of local governments in each State, and includes detailed findings and recommendations where appropriate. Individual State reports are included.

The KPMG Consolidated report addresses the establishment of benchmarks for insurance arrangements, overall conclusions on the appropriateness of the insurance arrangements for each State (including the arrangements for local governments), and recommendations on differential thresholds which could apply under the Determination.

The AGA conducted an assessment of the KPMG reports and provided a high-level review of KPMG's analysis and conclusions (AGA Review - Appendix H). As previously noted, the AGA also provided advice on a national pool approach to the insurance of road assets (Road Pool Report - Appendix D).

This report is informed by the KPMG and AGA reports.

Industry Consultation

To further inform Finance's assessment of the appropriateness of the insurance arrangements of the States, consultation with various insurance market participants was undertaken, both in Australia and the United Kingdom. This consultation was primarily aimed at understanding the market appetite and capacity for the insurance of public assets. Road infrastructure was of particular interest given the level of uninsured assets identified in the Phase 1 report. As previously noted, a list of the parties consulted as part of this process is at Appendix B.

4. Traditional Risk Transfer Arrangements

Risk Management

Risk management principles seek to identify, assess and prioritise risks⁶ and apply resources to minimise, monitor, and control the impact of a loss. By adopting a risk management approach governments can make informed decisions through the systematic processes of determining the likelihood and consequence of a future event occurring and the impact this may have.

The integration of risk management into strategic and operational frameworks can lead to more robust strategic planning, improved decision making, better resource allocation and reduced financial and operational volatility.

Once risks have been analysed, evaluated and prioritised it is important to determine the most appropriate mitigation strategy. This includes deciding whether to best manage the risk by:

- **Avoiding or reducing** the level of risk, by adopting alternative approaches to achieving an objective.
- **Transferring** the risk to another party which has greater control over the risk situation, or is less susceptible to the impact of the risk. While often this is achieved through contractual or insurance arrangements it is important to remember the responsibility for oversight of the risk cannot be transferred as ultimate responsibility and accountability for the management of the risk rests with the entity transferring the risk.
- **Accepting** some or all of the risk and developing contingency plans to manage the risk that minimise the impact should the risk eventuate.

As part of a risk management strategy, insurance is an effective tool for transferring risk. It is not, and should not be viewed as, the only strategy available to governments to manage the risk of natural disaster and the potential damage to critical infrastructure.

Insurance

At its simplest, insurance is a term for products that mitigate risk and provide financial compensation in the event of adverse unforeseen circumstances⁷. Insurance is a pre-event financing tool. It is one of many options available to the owners of property to manage the cost associated with natural disasters, among other risks.

⁶ Defined in ISO 31000 as the effect of uncertainty on objectives, whether positive or negative.

⁷ [Insurance Council of Australia](#)

Historically, most governments, in Australia and overseas, have financed the costs associated with natural disasters only after a catastrophic event has taken place. Measures such as reallocating existing funds, increasing taxes, accessing domestic and international credit markets, borrowing from multilateral financial institutions or applying for international aid have been used. All of these have drawbacks. An effective risk management portfolio should consist of both post-event and pre-event financing tools.

Pre-event financing tools have a distinct advantage over post-financing instruments in that they build up financial reserves or provide contingent financing. Insurance or reinsurance solutions can reduce the financial burden on the government after a disaster. They can lower the volatility of the State budget and improve planning certainty for the public sector.

Private Sector Insurability

Insurance products tend to cater for certain types of risk; generally for uncertain events which have a low probability of occurrence. Risks covered by insurance are usually capable of measurement based on modelling. Insurance is based on a 'spread of risk' principle which aims to distribute potential risks over a large geographic area or as large a number of policyholders as possible. This ensures the premium paid by any one policyholder is relatively small compared to the financial impact which that party might suffer in the event of loss. Insurers use extremely complicated and data intensive financial and statistical models to manage risks associated with their insurance products.

Not all risks are amenable to private insurance. For the insurance of public sector assets, and in particular for natural disaster risk, the following issues are critical in understanding the market appetite and capacity:

- It is often difficult to insure risks which have a high probability of occurring, particularly when coupled with large expected losses. In many respects, the prevalence of natural disasters in some locations could result in very high premium levels or cause insurers to limit severely their exposure or decline cover altogether.
- Sufficient statistical information must be available to enable a reasonably accurate prediction of the extent of loss. This is often achieved through the history of claims held by the insurer. In the case of public assets however, the insurance history is somewhat limited (on a domestic as well as global basis). As a result, insurers may be more hesitant to offer cover, or may incorporate a loading into the premium to address the level of uncertainty.
- Insurers need to maintain minimum levels of capital to support the potential claims that may arise from the risks that they cover. Put simply, the level of cover that insurers are able to provide is limited. Global reinsurers have a defined, tangible amount of aggregate capacity for each territory to cover natural hazard risks. Even where insurance is available, the level of cover offered may not be sufficient to fully fund the value of expected losses.
- Insurers have differing risk appetites, expertise, financial capacity and business mixes. A risk that one insurer considers unattractive may be appealing to another.

Ultimately, a risk is only insurable if there is sufficient appetite for the risk in the market, and sufficient capital to support the potential losses.

Insurance Process

In exchange for the payment of a premium, an insurer will issue a policy that provides cover for loss resulting from defined circumstances. The policy details the assets and events that are covered, the limit of liability and any excesses or deductible to be retained by the insured party. The terms and conditions of the policy will usually include exclusions which restrict the events to which the policy will respond.

When a policyholder is affected by an event covered by their policy, they must contact their insurer and lodge a claim. The insurer will assess the claim against the terms and conditions of the policy and determine the settlement to be offered. Often this will include the application of claims specific conditions that may reduce the expected payment. For natural disasters, these may include time related conditions and disputes over the pre-existing condition of the damaged asset. Time related conditions require damage to occur within a specified period of time following the commencement of a weather related event. Damage that occurs over an extended period (generally more than 72 hours) may result in multiple claims and therefore the application of multiple deductibles. This can be financially significant depending on the level of the deductible.

As stated earlier, insurance is an effective tool for transferring risk. However, it should not be assumed that the existence of an insurance arrangement transfers the risk completely. Insurance policies are limited in the scope of cover provided, and restrictions enforced by the policy terms and conditions mean they cannot be relied upon to respond fully in all circumstances.

5. Key Findings – Benchmarks

In order to assess the appropriateness of the insurance arrangements of States under the Determination, as required by Guideline 5/2011⁸, Finance had to firstly establish what is meant by 'appropriate'. KPMG considered various options in their approach to defining a benchmark; including both quantitative and qualitative models that utilise standards common in the insurance industry. The benchmark needed to serve two different, but complementary, purposes:

- providing a clear standard for the insurance arrangements of States against which States could, at least in part, design their insurance programs; and
- a model for the Commonwealth to measure the equity of funding levels under the Determination (and thereby assess the appropriateness of insurance arrangements).

As the first NDRRA review of this type, it was considered necessary to focus on a benchmark that could provide clear direction to States on the Commonwealth's expectations for their insurance arrangements.

Australian Prudential Regulation Authority (APRA) Prudential Standards

In the commercial insurance context, APRA sets prudential standards requiring insurers to maintain adequate capital to act as a buffer against the risks associated with their activities. Insurers are required to maintain minimum levels of capital having regard to a range of risk factors that may threaten their ability to meet policyholder obligations. Of particular relevance to establishing a benchmark for State insurance arrangements, insurers must carry enough reinsurance or access to capital to cover the:

- expected claims costs arising from known and potential events in the upcoming financial year; and
- expected loss from a one-in-250 year event (based on modelling of their insured risks; commonly referred to as maximum event retention or MER).

While this is a relatively straightforward approach to defining a level of capital, application of the formula requires significant analysis of the risk exposures held by the insurer.

⁸ Clause 6a

Application of an APRA-type Model to Government Assets

KPMG considered whether an APRA-type model could be applied to the States in order to define a minimum level of capital that would meet the requirements of the Determination. As is the case for insurers, this approach requires significant analysis of the risk exposures of the States in order to fully assess the potential financial impact of a major natural disaster.

Theoretically, if the appropriate level of consolidated State and local government asset information and detailed financial modelling of potential losses were available, then an APRA-type model could be applied to the States in order to determine the level of financial exposure they would face in the event of natural disasters. However, the quality and quantity of data provided by States in the submissions was insufficient to allow KPMG to undertake the necessary analysis. This is particularly relevant to financial modelling of the potential costs of natural disasters.

Historically, there has been little incentive for States to collect and retain this level of data. Apart from the Australian Capital Territory, which has no local government level, there is no single repository of asset or risk information for a State as a whole. Similarly, any analysis of exposure to natural disaster risk is restricted to those assets that are insured. KPMG has noted that this results in an incomplete picture of the real exposure of the States to loss, and the subsequent potential for claims against NDRRA.

Subject to appropriate action in respect of findings related to improving the provision of data, a quantitative approach based on an APRA-type or another model may be possible in future.

Qualitative Benchmarks

As a quantitative benchmark could not be confidently developed, a qualitative model was pursued. This model considers a best practice approach to the establishment of insurance arrangements, consistent with the objectives of the Determination. This type of benchmark reflects the obligation on States to identify their risk exposures and make fully informed decisions with respect to financing potential losses.

This benchmark relies on the comprehensiveness of the insurance decision process. States are required to demonstrate that a robust, comprehensive and transparent process has been followed. The decision to insure, or not, must be evidence-based and supported by market quotations and cost-benefit analysis. This ensures that States identify their risk exposures, assess the market availability of insurance and make fully informed decisions on the transfer of risk that takes into account the State and Commonwealth interests alike. It would be both more consistent and more comparable. The AGA has commented that the qualitative benchmark approach is also consistent with both the requirements of the Determination for States to explore a range of insurance options in the marketplace and assess available options on a cost-benefit basis, and a reasonable expectation that States adopt and implement sound risk management practices.

The qualitative benchmark process is illustrated in Figure 3 below.

Figure 3: Qualitative Benchmark



Future Submissions

To facilitate the use of a quantitative benchmark in future reviews of this type, KPMG has recommended a best practice approach to future submissions that standardises the presentation of asset and risk data, and mandates the inclusion of financial modelling of risk exposures. This level of data analysis is more comprehensive than that currently undertaken by States and local governments as part of arranging their insurance purchase.

At the commencement of this review process, Finance issued the *Guide to Submission Requirements - clause 4.6 of Natural Disaster Relief and Recovery Arrangements (NDRRA) Determination 2011* (the Guidelines - Appendix A to the Phase 1 report) to States. The purpose of this was to assist in the development of submissions that would enable a comparative assessment of insurance arrangements across jurisdictions.

As foreshadowed in the Phase 1 report, Finance has, with the assistance of the AGA, updated these Guidelines to incorporate KPMG's recommendations on the best practice approach. As previously noted, the updated Guidelines are at Appendix C. Incorporation of the updated Guidelines into the Determination would assist with the necessary level of asset and risk information being provided for future assessments.

Recommendation 1: That the Commonwealth considers revising the NDRRA Determination to include compliance with the updated Finance Guidelines as a condition of Commonwealth assistance.

6. Key Findings and Recommendations - Insurance Arrangements

Finance is required by Guideline 5/2011⁹ to assess the appropriateness of States' insurance arrangements. States have been assessed by KPMG against the qualitative benchmark discussed in chapter 5. As noted by the AGA in its review of the KPMG reports, KPMG was unable to strongly endorse any State submission. This is due to the number of deficiencies in the submissions, and most States not insuring their road assets.

Finance has not made recommendations on all matters considered by KPMG. Finance has made recommendations that it considers will achieve an improvement in the insurance arrangements of States, consistent with the principles of the review as set out in the Determination¹⁰:

- a State has a responsibility to put in place insurance arrangements which are cost effective for both the State and the Commonwealth;
- the financial exposure borne by taxpayers (at both levels of Government) under the Determination should be minimised; and
- the onus is on a State to explore a range of insurance options in the marketplace and assess available options on a cost-benefit basis.

In general, the recommendations in respect to State insurance arrangements are intended to:

- improve the quality of future submissions with respect to the provision of data; and
- achieve consistency of approach between all States utilising evidence-based decision making.

Finance has not made recommendations where it considers there is only marginal improvement to be achieved, such as small numbers of local governments addressing gaps in cover due to sublimits or exclusions. Observations on these matters have been included, and it is expected that these will be addressed in the next round of submissions.

⁹ Clause 6b

¹⁰ Clause 4.6.4

Submission Process

As noted in the Phase 1 report, and also evident in the local government submissions, the States and local governments took varying approaches to the provision of data and general information. KPMG identified several common areas of deficiency including the analysis of the efficacy of past insurance arrangements, the articulation of the definition of cost-effectiveness, the inclusion of a firm view on the appropriateness of a State's insurance arrangements by the independent specialist, and provision of a consolidated State and local government asset register. This resulted in a general lack of consistency between the submissions and inadequate levels of data to enable a quantitative assessment.

Recommendation 1 of this report addresses these issues with the inclusion of the Finance Guidelines in the Determination as a condition of Commonwealth assistance.

Essential Public Assets

It was also noted in the Phase 1 report that a clear deficiency in most submissions was the failure to clearly define or quantify essential public assets (EPA). Most States assumed, explicitly or implicitly, that all of their assets are included as EPA. This deficiency was again evident in the local government submissions.

Clause 3.6.1 of the Determination defines EPA as an asset that, in the judgement of the State concerned:

1. is an integral and necessary part of the State's infrastructure; and
2. would, if lost or damaged, severely disrupt the normal functioning of a community; and
3. would, if lost or damaged, be restored or replaced as a matter of urgency.

Inclusion of the definition in the Determination indicates that the Commonwealth intended assistance to be available only for assets that meet all the specified criteria. Therefore, it is reasonable to expect the States to have a clear understanding of how to interpret and apply the definition to their assets. Failure to apply the definition as intended may produce inconsistencies between States and broader than intended application of the NDRRA.

In addition, neither the Commonwealth nor the States have a readily available inventory of assets to understand the full NDRRA risk exposure. This position could be improved by the Commonwealth providing guidance to States on the interpretation and application of the definition of EPA.

Recommendation 2: That the Commonwealth considers providing guidance to the States on the interpretation and application of the definition of essential public assets, consistent with meeting all of the principles of the definition.

Road Assets

Roads, most of which are uninsured¹¹, constitute 31% (or \$310b) of all declared assets. KPMG has noted that there is a common assertion by the State and local governments that insurance for road assets is not cost effective and/or there is no appetite in the commercial insurance market to underwrite such risks. In such instances, there is typically limited or no factual evidence presented that an approach has been made to the commercial market, competitive quotes obtained, alternative insurance options explored, and/or any cost-benefit analysis to arrive at this conclusion.

KPMG's recommendations in regard to the appropriateness of insurance arrangements for road assets focus on States satisfying the qualitative benchmark process. That is, making a fully informed decision on insurance following cost-benefit analysis of market quotations. KPMG acknowledges that insurance arrangements for roads are complex, however considers that targeted solutions to reduce uninsured exposures could be explored. This could include limiting cover to key roads consistent with the EPA principles.

Recent approaches to the market by South Australia and Queensland demonstrate that there is limited appetite and capacity in the market to cover Australian road assets. Neither State was successful in securing cover. Insurers declined to provide quotations for Queensland. The Phase 1 report foreshadowed that Finance intended to further explore alternative risk transfer solutions that could be pursued with respect to road assets. The result of these enquiries, and options for a way forward for road assets, are discussed at chapter 7.

State Findings and Recommendations

The findings from the KPMG review of the independent assessments of the State insurance arrangements are summarised below. More details on the insurance arrangements for individual States are available in the KPMG report *Natural Disaster Relief and Recovery Arrangements (NDRRA) Review of States' Submissions - 6 March 2012* (Appendix C to the Phase 1 report), the KPMG Addendum report and the KPMG Local Government report.

Finance's recommendations do not address the insurance of road assets as this is addressed separately in chapter 7 (as noted above). KPMG found that insurance arrangements are in place for all non-road assets (excluding the Northern Territory and Tasmania), with some exceptions for local governments. KPMG has drawn conclusions regarding the cost-benefit of the States' insurance but has been unable to reach a definitive position. Nevertheless KPMG states that the submissions evidence that insurance arrangements have mitigated NDRRA exposures.

The insurance arrangements for State owned corporations are not addressed in this review as they are generally out of scope of the NDRRA unless, in light of special circumstances presented by a State, the Attorney-General has agreed to treat them as eligible for assistance¹². Nevertheless, in any broader consideration of reform of insurance and capital adequacy requirements, these assets should be considered.

¹¹ Roads in the Australian Capital Territory and state owned roads in Victoria are currently insured.

¹² Clause 3.6.3 of the Determination

Australian Capital Territory (ACT)

A summary of the ACT's insurance arrangements is provided in Table 6.1 below:

Table 6.1: ACT Insurance Arrangements

	State Assets	Local Government Assets
Captive / Mutual Pool	Australian Capital Territory Insurance Authority	N/A - No local government
Non-road Assets	Yes (\$100m flood and \$50m stormwater asset sublimit applies)	N/A
Road Assets	Yes (\$100m sublimit applies)	N/A
Retention	\$250k of any loss up to an annual aggregate of \$5m	N/A
Excluded Perils	Terrorism	N/A

The Phase 1 report found that the ACT's insurance arrangements are appropriate, cost-effective for both the State and the Commonwealth, and meet the obligations under the Determination to minimise the financial exposure of taxpayers at both levels of government. This remains the case.

New South Wales (NSW)

A summary of NSW's insurance arrangements is provided in Table 6.2 below:

Table 6.2: NSW Insurance Arrangements

	State Assets	Local Government Assets
Captive / Mutual Pool	Treasury Managed Fund	Statewide and United Independent Pool (UIP) ⁱ
Non-road Assets	Yes	Yes (\$10m flood sublimit applies - UIP)
Road Assets	No	No
Retention	\$30m any one event (terrorism \$100m)	\$5,000 - \$20,000 (council) ⁱⁱ \$0.9m - \$2m (pool)
Excluded Perils	Nil	Flood - Statewide

ⁱ 163 of 166 local governments participate in one of the mutual pools. The remaining three local governments arrange their own insurance through the commercial market.

ⁱⁱ Retentions for the three local governments with commercial insurance arrangements are up to \$100,000 and there are no limits or excluded perils.

Overall, when assessed against the qualitative benchmark, NSW was found to have insurance arrangements for non-road assets that are appropriate, cost-effective for both the State and the Commonwealth, and meet the obligations under the Determination to minimise the financial exposure of taxpayers at both levels of government.

However, the Statewide mutual pool does not provide flood cover for the non-road assets of its local government members, and no evidence of market testing has been provided. This information should be provided in future submissions in order to demonstrate compliance with the qualitative benchmark.

Northern Territory (NT)

A summary of the NT's insurance arrangements is provided in Table 6.3 below:

Table 6.3: NT Insurance Arrangements

	State Assets	Local Government Assets
Captive / Mutual Pool	No ⁱ	No ⁱⁱ
Non-road Assets	No	Yes ⁱⁱⁱ (flood cover optional with lower sublimit ^{iv})
Road Assets	No	No
Retention	N/A	Varies - generally up to \$50,000 or 1% of declared values whichever is greater
Excluded Perils	N/A	Nil

ⁱ Self-insured.

ⁱⁱ Local governments organise their own commercial insurance arrangements.

ⁱⁱⁱ Territory Insurance Office (TIO) insures 14 of 16 local councils. While ultimately TIO is guaranteed by the NT government, it operates on a commercial basis and is fully committed to complying with prudential standards¹³.

^{iv} Only 6 local governments have elected flood cover.

Overall, when assessed against the qualitative benchmark, the NT's insurance arrangements for State owned non-road assets are not considered to be appropriate in accordance with the obligations under the Determination.

KPMG recommends, and Finance agrees, that the NT should adopt the qualitative benchmark process for its State owned non-road assets by testing the market and completing cost-benefit analysis in order to make a fully informed decision on the purchase of cover. As noted earlier, options for the funding of road assets are addressed separately in chapter 7.

Recommendation 3: The Northern Territory should adopt the qualitative benchmark process for State owned non-road assets, and submit a further independent assessment to the Commonwealth for review. This requires the Northern Territory to analyse its risk exposures, and make fully informed decisions with respect to insurance that are supported by market quotations and cost-benefit analysis.

In addition, ten NT local governments do not have flood cover for their non-road assets, and no evidence of market testing has been provided. This information should be provided in future submissions in order to demonstrate compliance with the qualitative benchmark.

¹³ TIO [website](#)

Queensland (QLD)

A summary of QLD's insurance arrangements is provided in Table 6.4 below:

Table 6.4: QLD Insurance Arrangements

	State Assets	Local Government Assets
Captive / Mutual Pool	Queensland Government Insurance Fund	No ⁱ
Non-road Assets	Yes	Yes (sublimit for flood ⁱⁱ)
Road Assets	No (bridges and tunnels are covered)	No (major Brisbane bridges are covered)
Retention	\$20m per risk and \$50m per event	\$10,000 - \$1m
Excluded Perils	Nil	Nil

ⁱ Gold Coast Council arrange insurance via a captive.

ⁱⁱ Flood cover is generally included with a lower sublimit or higher deductible. Four local governments do not have flood cover.

Overall, when assessed against the qualitative benchmark, QLD was found to have insurance arrangements for non-road assets that are appropriate, cost-effective for both the State and the Commonwealth, and meet the obligations under the Determination to minimise the financial exposure of taxpayers at both levels of government¹⁴.

However, four local governments do not have flood cover for their non-road assets, and no evidence of market testing has been provided. This information should be provided in future submissions in order to demonstrate compliance with the qualitative benchmark.

¹⁴ QLD's policy for the insurance of its state owned non-road assets commenced on 1 November 2011.

South Australia (SA)

A summary of SA's insurance arrangements is provided in Table 6.5 below:

Table 6.5: SA Insurance Arrangements

	State Assets	Local Government Assets
Captive / Mutual	South Australian Government Financing Authority (SAICORP)	LGA Asset Mutual Fund
Non-road Assets	Yes	Yes (including flood)
Road Assets	No	No (some bridges are covered)
Retention	\$1m of any event up to an annual aggregate of \$15m	\$500 - \$5,000 (council) \$1.55m annual aggregate (fund)
Excluded Perils	Terrorism	Nil

Overall, when assessed against the qualitative benchmark, SA was found to have insurance arrangements for non-road assets that are appropriate, cost-effective for both the State and the Commonwealth, and meet the obligations under the Determination to minimise the financial exposure of taxpayers at both levels of government.

Tasmania (TAS)

A summary of TAS's insurance arrangements is provided in Table 6.6 below:

Table 6.6: TAS Insurance Arrangements

	State Assets	Local Government Assets
Captive / Mutual	Tasmania Risk Management Fund	No
Non-road Assets	No	Yes (sublimit may apply to some perils)
Road Assets	No	No
Retention	N/A	From \$1,000 - varies between councils
Excluded Perils	N/A	Nil

State owned assets are insured through an insurance captive, Tasmania Risk Management Fund (TRMF). While TRMF provides cover for insurable risks to State government agencies, it does not purchase any external reinsurance in the commercial market.

Overall, when assessed against the qualitative benchmark, TAS's insurance arrangements for State owned non-road assets are not considered to be appropriate in accordance with the obligations under the Determination.

KPMG recommends, and Finance agrees, that TAS should adopt the qualitative benchmark process for its State owned non-road assets by testing the market and completing cost-benefit analysis in order to make a fully informed decision on the purchase of cover. As noted earlier, options for the funding of road assets are addressed separately in chapter 7.

Recommendation 4: Tasmania should adopt the qualitative benchmark process for State owned non-road assets, and submit a further independent assessment to the Commonwealth for review. This requires Tasmania to analyse its risk exposures, and make fully informed decisions with respect to insurance that are supported by market quotations and cost-benefit analysis.

Victoria (VIC)

A summary of VIC's insurance arrangements is provided in Table 6.7 below:

Table 6.7: VIC Insurance Arrangements

	State Assets	Local Government Assets
Captive / Mutual	Victorian Managed Insurance Authority	JLT Municipal Asset Protection Plan ⁱ
Non-road Assets	Yes	Yes (sublimit for flood ⁱⁱ)
Road Assets	Yes	No
Retention	\$50m any one event up to an annual aggregate of \$100m	\$1000 - \$100,000 (council) ⁱⁱⁱ \$1m per claim and up to an annual aggregate of \$7m (pool)
Excluded Perils	Terrorism	nil

ⁱ 72 of 79 local governments participate. The remaining seven local governments arrange their own insurance through the commercial market.

ⁱⁱ \$2m any one council, \$10m in the aggregate any one event, \$25m in the aggregate any one year.

ⁱⁱⁱ Retentions for the seven local governments with commercial insurance arrangements were not disclosed.

Overall, when assessed against the qualitative benchmark, VIC was found to have insurance arrangements that are appropriate, cost-effective for both the State and the Commonwealth, and meet the obligations under the Determination to minimise the financial exposure of taxpayers at both levels of government.

Western Australia (WA)

A summary of WA's insurance arrangements is provided in Table 6.8 below:

Table 6.8: WA Insurance Arrangements

	State Assets	Local Government Assets
Captive / Mutual	Riskcover	Local Government Insurance Services
Non-road Assets	Yes	Yes (sublimit for flood)
Road Assets	No	No (some bridges covered)
Retention	\$20m any one event (terrorism \$10m)	\$1,000 - \$10,000 (council) \$12m annual aggregate (pool)
Excluded Perils	Nil	Terrorism

Overall, when assessed against the qualitative benchmark, WA was found to have insurance arrangements for non-road assets that are appropriate, cost-effective for both the State and the Commonwealth, and meet the obligations under the Determination to minimise the financial exposure of taxpayers at both levels of government.

7. Key Findings – Road Assets

The Determination requires States to have reasonably adequate capital or access to capital to fund liabilities or infrastructure losses before being granted access to funds under the NDRRA¹⁵. Given the limited potential for States to transfer risk to the commercial insurance market, and the material size of potential losses, Finance considers it essential that alternative options to fund the repair of road asset damage are carefully explored.

The Phase 1 review identified that despite the existence of generally well-developed commercial insurance arrangements to protect the non-road assets of States, there remains a significant gap with respect to the insurance of road assets.

Notwithstanding that the ACT and VIC have secured road insurance as part of their overall reinsurance program, such assets tend to be uninsured. This is due to a variety of reasons, not the least of which is the quality and level of data available about these assets.

In order to establish and provide pricing for a traditional insurance program the market will require, at least, the following detailed information:

- The roads, bridges and tunnels to be insured need to be clearly identified (in general, major arterial roads are more easily insured than local roads).
- The value of road assets needs to be accurately estimated.
- Full claims experience and loss history needs to be available.

The risk profile is critical to the availability and value for money of traditional insurance for road assets. As indicated by the level of NDRRA funding that supports road repair and rectification, roads are particularly susceptible to damage in natural disasters. Insurance for losses that are *expected* to occur (sometimes termed ‘working losses’) is in general very expensive as premiums will reflect the expected loss payment stream over the longer term.

Insurance for roads is also complicated by the claims settlement and loss adjustment process. Policies are generally subject to an ‘hours clause’ which limits claims to damage that occurs within a specified period of time following a natural disaster. For some disasters (particularly floods), this can necessitate the making of multiple claims for one disaster and the consequent application of multiple deductibles, in order to achieve full cover for the damage sustained. The damage assessment process can also be difficult and time consuming, due to the need to separate insurable damage from pre-existing damage.

The information provided by States in their submissions as well as Finance’s discussions with the insurance industry indicates it is probable that most States

¹⁵ Clause 4.5.1

would currently have difficulty in providing the level of data required for a traditional insurance program, particularly with respect to claims history.

Even assuming that the necessary level of data is available and the risk profile is considered acceptable, insurability can still be limited by industry capacity. KPMG considered¹⁶ the recent experience of SA in its attempt to source traditional insurance for roads assets. This is a good example of the challenges faced by States in the transfer of risk for road assets. SA was unable to secure enough capacity in the market to fully place its roads program, and the cover offered was subject to significant levels of risk retention and high premiums. This may reflect the risk appetite of the market or the limited capacity available generally for natural disaster risks in Australia. While the insurance cover already held by the ACT and VIC is evidence that road assets are an insurable risk, it is clear that this is not a viable option for all jurisdictions. It is also subject to changes in the insurance market.

In the absence of traditional insurance arrangements for road assets, alternative options for funding such assets merits further examination.

Non-Traditional Risk Transfer Options - Parametric Insurance

A parametric insurance product can be defined as an insurance contract where the ultimate payment or contract settlement is determined by a trigger such as weather or geological observation or index. This could include temperature or rainfall above a certain level, the intensity of an earthquake or wind storm, or a combination with economic indices like the Consumer Price Index or commodity prices.

Parametric insurance is binary in nature in that either the triggering event happens and the contract pays, or it does not and there is no payment. Unlike traditional insurance/reinsurance, there is no need to evidence actual losses; payouts are determined according to the level of cover purchased. Therefore, the potential for a mismatch between the settlement amount and the actual losses exists. This is generally referred to as basis risk.

The choice of trigger or index must consider the following criteria:

- objectivity - independent, verifiable data;
- reliability - data source required to provide consistent and timely measurement;
- availability - historical statistical records to allow modelling; and
- correlation with economic loss – basis risk (difference between payout and actual loss sustained).

If the parametric trigger is poorly defined, there is a high risk that the policy will not respond when it is needed. For example, if the trigger is related to wind speed, a cyclone may fall short of the specified level but still cause significant damage. Triggers related to rising water levels are even more complicated—these require identifying the actual river that may flood combined with the level at which the policy will respond.

Generally these products are multi-year products and are used to provide risk transfer of high severity, low probability events and ensure liquidity enhancement after an event. They are an alternative to traditional insurance programs and are useful for pure economic losses or other uninsurable risks.

¹⁶ KPMG Addendum report

Parametric products can be structured as a derivative or insurance contract. Insurance-linked securities or catastrophe bonds can be used to transfer risk to the capital markets. They can operate with the same parametric based triggers.

Given their limited use and the necessary tailoring of products to meet individual needs, accurate premium prices for any of the potential non-traditional products available in the market are difficult to estimate.

The pricing of parametric solutions will be determined by the probability of a loss under the chosen structure, and the level of cover purchased. Specifically, price will be impacted by the following factors:

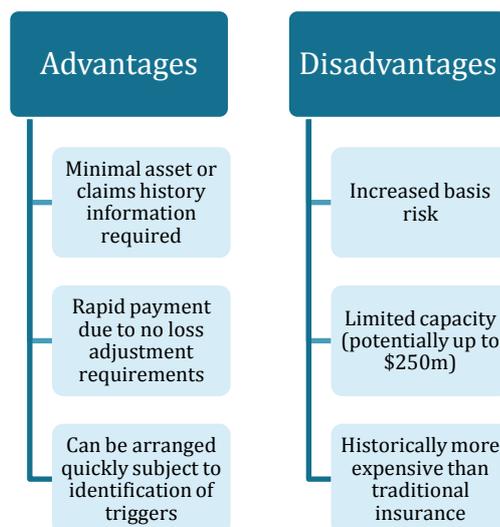
- peril(s) covered;
- the trigger type and threshold as well as the number of triggers included in the structure;
- exact geographic region covered;
- payout structure (e.g. Is it binary or is the payout layered? What are the agreed payout values? What is the overall limit?);
- duration of the contract;
- quality of data available;
- form of the contract; and
- impact of historical losses.

All of these factors work together to produce a probability of loss, which will ultimately be a key determinant in the pricing. Reinsurers will also include an appropriate margin for their costs, including a charge for the cost of the use of their capital. Historically, parametric products have been found to be more expensive than traditional insurance options.

At present, there is limited capital available in the market to support parametric products. Advice from the market participants indicates that cover of up to approximately \$250 million could be secured for some risks. When considered in the context of road assets, this level of cover is unlikely to alleviate the financial burden for most States, particularly when measured against the cost of coverage.

Figure 4 outlines the advantages and disadvantages of parametric solutions for road assets compared to traditional insurance arrangements.

Figure 4: Parametric Solutions - Advantages and Disadvantages



Hybrid/Bespoke Solution

Hybrid or bespoke solutions combine a defined trigger for loss (parametric solution) with an indemnity based settlement (traditional insurance solution). These products are more flexible, and in some cases enable the transfer of risk on a traditional indemnity basis for otherwise uninsurable risks. For a road specific program, claim payments could be structured in two ways:

- against quantifiable losses sustained as a result of damage; or
- loss value is calculated based on pre-agreed values per km per demographic (i.e. priority or lifespan etc).

Overseas Experience

Finance is only aware of a few examples of governments globally purchasing non-traditional risk transfer products. Where arrangements are in place, the payments are generally intended to support communities affected by a natural disaster, as opposed to funding the repair or replacement of public infrastructure. For roads assets in particular, we have been unable to identify any examples of a government utilising such a vehicle to transfer risk to the private sector.

Parametric solutions are potentially well-suited to small or less developed countries or jurisdictions. In the event of a natural disaster, government funds may not be readily available or need to be diverted away from existing projects to provide the necessary emergency relief. Parametric products can provide quick access to guaranteed capital for jurisdictions who may otherwise find it difficult to raise funds either internally or within the capital markets.

General Observations on Risk Transfer Options

The transfer of risk in respect of road assets is a very complex matter. It is evident that the damage to road infrastructure following a natural disaster can be considerable and place a significant burden on the budgets of both States and the Commonwealth via the NDRRA. In general, the road assets of States (both state

owned and local) are not insured. Therefore, in the context of a review of the insurance arrangements of States, the question is whether the transfer of risk for road assets to insurers is a viable option that should be actively pursued by States.

The appetite and capacity of traditional insurance arrangements for road assets in Australia is insufficient.

Traditional insurance products have proven difficult or impossible for some jurisdictions to access. There is currently limited capacity available in the market, and limited appetite for the cover given the poor loss experience in some geographic regions. In addition, the limited data held by some jurisdictions, particularly with respect to claims history, contributes to the limited interest by insurers.

Non-traditional insurance options are limited in their availability and, even if available, may not be cost-effective.

Non-traditional risk transfer options offer quick access to capital following a disaster. However, they are very risky. Capacity in the market is very tight. Market participants advise an upper limit of around \$250m. The level of cover that could be purchased may make little difference in the event of a major disaster relative to its cost. These options can be expensive, although actual pricing is difficult to gauge given the tailored nature of the products. A parametric solution for road assets may not be a viable solution for reducing States' exposure in all cases.

Risk transfer options for road infrastructure may not present a viable solution for all jurisdictions in Australia.

It is evident that risk transfer options do exist—with the right data, the right product, and the right structure at the right price. However, the limitations of these options indicate that risk transfer for road assets, whether traditional or non-traditional, may not be a viable solution for most jurisdictions.

Alternative Funding Options

In the absence of effective risk transfer options for road assets, Finance has briefly considered alternative options for funding the significant costs of repair that follow natural disaster events. Finance has not made any recommendations on the preferred approach to funding road asset damage as the options are only preliminary and conceptual in nature. Any of these options may be impacted by broader arrangements in respect to Commonwealth/State financial relations. Full consideration of these would need to be carefully assessed in the context of any such analysis. In any consideration of possible changes in disaster assistance policy which might affect the existing NDRRA arrangements, further thought would need to be given to the issue of incentives for prudent risk management.

National Roads Pool

The AGA Road Pool Report (Appendix D) provides a high level assessment of a national pool approach. Under a pool arrangement, risk would be shared between all jurisdictions, including the Commonwealth. The AGA considered two different ways that costs could be shared between the parties: proportional and non-proportional approaches. The AGA did not consider other options. After comparison and analysis of the two approaches, the non-proportional model was preferred by the AGA. The non-proportional model is more robust because it is better aligned with sound risk management behaviours. The AGA report is

conceptual in nature and does not address State’s individual insurance arrangements or the financial exposure of Commonwealth or State taxpayers of the models proposed. Matters such as these would, among other things, require further and more detailed consideration in order to form a firmer view on possible models. The AGA’s work on this matter provides a useful starting point for possible future thinking in this area.

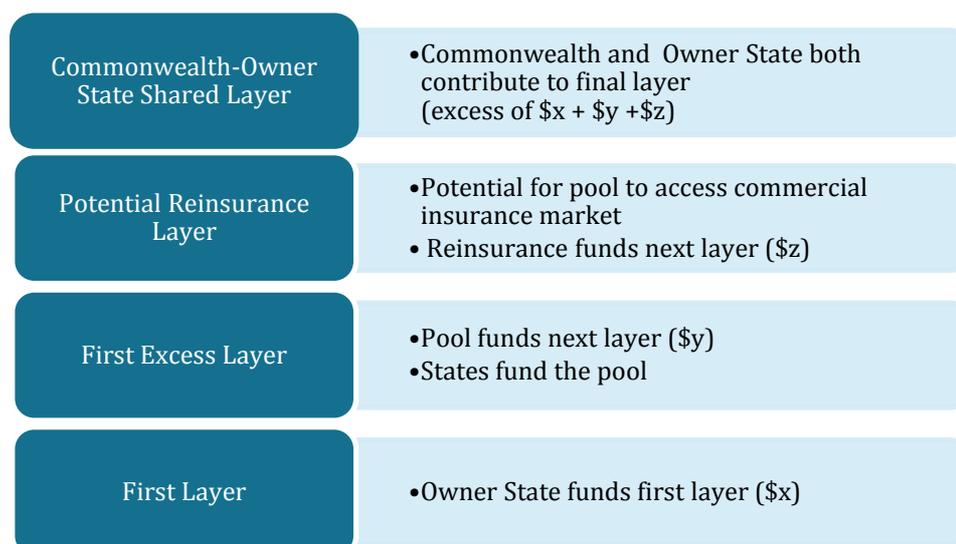
Under the non-proportional model, costs are shared in layers, with the State in which the disaster occurs (the Owner State) meeting the first layer, all States sharing in the cost of the next (first excess) layer in fixed proportions, and any additional costs being met by the Commonwealth and the Owner State in predetermined shares. The layers and proportions could be determined in many different ways to take account of various factors for example:

- State in which the damage occurred;
- Revenue base of each State; and
- Relative exposure to natural hazard of each State.

This type of pool structure offers many potential benefits to both the Commonwealth and States. Carefully designed layer structures could provide clear price signals to States and encourage the implementation of effective risk management practices. A first layer that represents meaningful expenditure relative to the revenue base of the State would encourage the use of risk mitigation techniques for those road assets likely to be exposed to natural disaster risk.

Pooling of all national road assets may improve the potential to access commercial insurance. The offer of a large and more diverse pool of road insurance business to the commercial market may be more attractive than multiple small programs (which is the case with each State approaching the market individually). A layer such as this could sit between the two lower layers and the final layer.

Figure 5: National Road Pool model for funding road asset damage



Implementing a pool approach would also involve some significant challenges including changes to the current funding arrangements. The AGA has noted that the

pool model would only work if road relief was excluded from the existing NDRRA funding arrangements. This would require all States to participate in the pool and enable risk to be diversified to the greatest extent.

Governance arrangements for the pool would be complex and require the involvement and agreement of all States to issues such as the calibration of any cost-sharing formula. Funding models, validating and paying claims, and administering the pool are all issues that would need to be addressed.

This approach to a national road pool is at a high-level and considers only one model. Detailed analysis of all available options would be required before forming a firm view on the way forward.

Concessional Loans

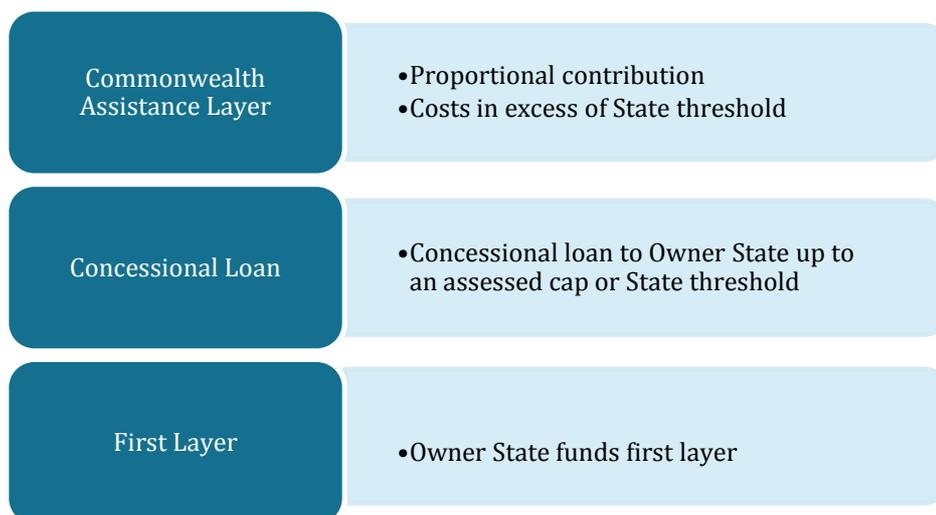
Funding to States to address disaster related roads damage could also be provided through the use of concessional loans. The use of concessional loans could be structured in a variety of ways.

One option would be for Commonwealth assistance to be provided by a concessional loan in the first instance, after the first layer of State retention is exceeded. This would likely work best if roads were subject to a separate threshold to non-road assets. The benefits of separate thresholds for insured and uninsured assets are highlighted in the KPMG Consolidated report. KPMG notes that adopting a separate (and likely higher) threshold for roads will encourage States to seek opportunities to implement risk mitigation practices and reduce their retained losses.

The next layer of Commonwealth assistance could take the form of a proportional contribution, similar to the structure of the current NDDRA assistance model. The Commonwealth and the State would share in the costs of damage that exceed the level of the concessional loan, in pre-determined proportions.

The level of Commonwealth assistance to be provided in the form of a concessional loan would need to be carefully considered and be set taking into account a State's ability to repay, as well as the asset values of the State and the need to send appropriate signals with respect to the management of a State's risk exposures.

Figure 6: Concessional loans model for funding road asset damage



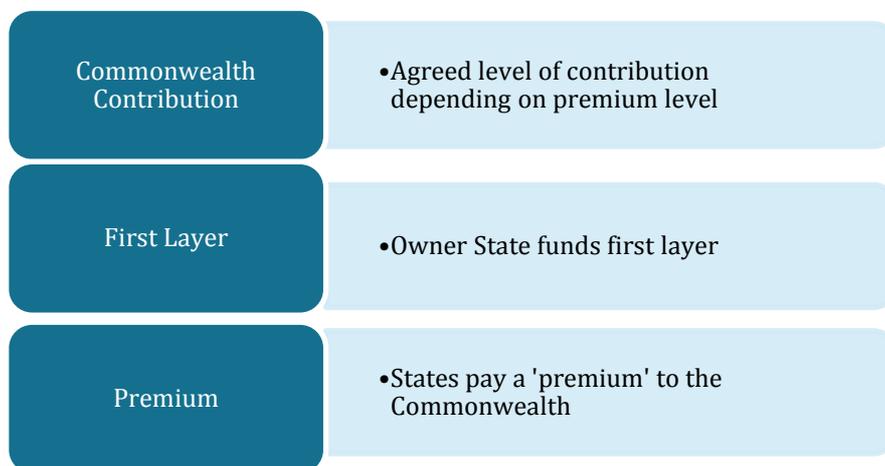
The [Infrastructure Finance Working Group's final report](#) (April 2012) noted that States and Territories have generally been reluctant to take on additional debt for infrastructure funding as this would 'generally have a negative impact on their ability to maintain AAA credit ratings'. While concessional loans may impact on a State's credit rating, infrastructure repair and maintenance are primarily the responsibility of the States. In the absence of commercial insurance, concessional loans may offer cost-effective access to capital in accordance with the requirements of the Determination.

Insurance-type Arrangement

In the absence of cost-effective options for the transfer of risk to the commercial insurance market, the Commonwealth could consider implementing measures to provide assistance to States under an insurance-type arrangement. This would involve the Commonwealth charging the States a 'premium' in exchange for an agreed level of contribution toward the repair or restoration of road assets. States would retain the first layer of risk (similar to the current NDRRA threshold structure or an excess under an insurance policy) and the Commonwealth would contribute to losses over this amount. The Commonwealth's level of contribution could be negotiated with States depending on the premium to be charged.

Premiums could be risk-rated to provide the necessary price signals to States with respect to risk management behaviour and encourage investment in risk mitigation opportunities.

Figure 7: Insurance-type arrangement for funding road asset damage



The implementation and administration of an insurance-type arrangement would be heavily dependent on the availability of data in order to accurately set premium and Commonwealth contribution levels. As noted earlier in this report, the States maintain only limited asset and loss history data. Effective development of an insurance-type arrangement would likely not be possible until more comprehensive data is available.

Finding 1: *Given State obligations under the Determination to have access to adequate capital to fund infrastructure losses, alternative funding options to meet the cost of road asset damage should be further explored.*

8. Differential Thresholds

Finance is required by Guideline 5/2011¹⁷ of the Determination to make recommendations as to differential thresholds or differential rates of assistance that should apply under the Determination depending on the appropriateness of individual State's insurance arrangements.

Finance has not made any recommendations in respect to the thresholds for any individual State at this time. The insurance arrangements for the State owned non-road assets of the NT and TAS were not considered to be appropriate in accordance with the obligations under the Determination. This report recommends that the NT and TAS adopt the qualitative benchmark process and submit a further independent assessment to the Commonwealth. Finance will further consider recommendations as to differential thresholds or differential rates of assistance for these States depending on the adequacy of the States' responses, subject to recommendations three and four being accepted.

Accordingly, Finance has adopted a high-level approach, and explored issues related to the current threshold structure that have the potential to impact on risk management behaviour or do not correlate well with the structuring of State insurance arrangements.

The structure of the NDRRA should generate strong financial incentives for States to adopt sound risk management practices and invest in mitigation. KPMG has identified several structural areas that may not support this objective.

Categories of Assistance

The Determination defines category B measures as assistance of the following types:

- Restoration or replacement of essential public assets.
- Loans, subsidies or grants to certain businesses, primary producers, voluntary or non-profit bodies and individuals.
- Counter disaster operations for the protection of the general public.

The combination of the costs of infrastructure repair with other community relief expenditure under category B complicates the analysis of the effectiveness of the current threshold levels. It also distorts calculations on the level of support provided for infrastructure repair which is an important component in the assessment of the appropriateness of insurance arrangements.

Separating the eligibility criteria for assistance for infrastructure repair from that for individual and community relief would allow for better analysis of the support provided in individual categories of assistance, more comprehensive review of threshold levels and targeted reimbursement rates to be established.

¹⁷ Clause 6c

The Determination employs a single threshold model as the basis for the calculation of assistance to States. While there is a first and second threshold that determines the level of assistance provided, the same threshold applies to all categories of expenditure on a cumulative basis. KPMG notes that this approach does not allow sufficient flexibility to make adjustments to thresholds such that the assistance to individuals and communities for smaller events is balanced with changes that influence risk management behaviour with respect to infrastructure.

Establishing separate thresholds for infrastructure repair and individual and community relief would increase the Commonwealth's opportunity to set better targeted thresholds. Thresholds for infrastructure repair could then be adjusted to reflect the appropriateness of a State's insurance arrangements.

***Finding 2:** Changes to the current NDRRA threshold structure and eligibility criteria for Commonwealth assistance may improve risk management behaviour and encourage investment in mitigation. In particular:*

- *Assistance for the restoration or replacement of essential public assets could be separate from that related to individual and community relief.*
- *Separate threshold structures could be established for the restoration or replacement of essential public assets as well as individual and community relief.*

Payment Basis

The Determination provides for Commonwealth assistance to be provided on the basis of total expenditure by a State on eligible disasters during a financial year. The expenditure incurred in the year may relate to events that occurred up to 24 months prior. That is, the expenditure threshold required to be breached applies only once in a financial year to the overall expenditure incurred in that year.

Insurance and reinsurance policies are typically available on a per-event basis. This has the potential to create added complexity for States in the design of insurance arrangements that are cost-effective in reducing exposure under NDRRA. It also complicates the assessment of the appropriateness of those insurance arrangements by the Commonwealth.

There are sound reasons for the current financial year payment basis. The primary purpose of the NDRRA is to provide financial support to the States when they are unable to meet the cost of essential disaster recovery themselves. However, the AGA notes in the AGA Review that an expenditure year payment basis is inappropriate for EPA.

Alternative Payment Basis Options

KPMG has proposed a per-event payment basis. This involves nominating a threshold for expenditure to apply to each and every eligible disaster. This is similar to the way insurance operates with excesses or deductibles. AGA's preference is for an occurrence-year basis. This involves the aggregation of natural disaster losses incurred within a financial year. Each option has benefits. The best option is likely to depend on the structure of the NDRRA and the assets for which assistance is provided.

The per-event or occurrence-year payment bases would not need to apply to individual and community relief expenditure. Commonwealth assistance for individual and community relief expenditure is currently provided at 50 per cent

once the small disaster criterion is exceeded. The level of assistance increases to 75 per cent once the second threshold is exceeded. Establishment of a separate threshold for individual and community relief expenditure (finding 4) could allow this model to be maintained on a financial year basis.

Per-event basis

As discussed in chapter 7, alternative options for the funding of road asset damage could result in the exclusion of road relief from the NDRRA. This would leave predominantly insurable assets subject to the NDRRA. A per-event basis could operate effectively if it could be tied to the insurance arrangements of States.

AGA has noted in their Road Pool Report (with respect to the payment basis options for a national funding pool), that a per-event payment basis has the potential to introduce definitional difficulties, such as those posed by an 'hours clause' (as discussed in chapter 7). However, a per-event payment basis that dove-tails with the cover provided by the States' insurers would be aided by the definitional assessment of the insurers.

Concerns regarding the accumulation of expenditure by States (for example from multiple events in the one financial year) could be addressed through the use of an annual cap. This would limit the State's financial exposure by providing for the Commonwealth to increase its contribution once the cap is exceeded. The increased contribution could be provided by way of waiving or lowering the threshold for any additional events in the financial year, an exceptional circumstances payment or a concessional loan.

A per-event basis has the benefit of increasing the transparency of the costs related to particular disasters. This would assist the understanding of where risk mitigation investment would be of the greatest benefit.

In conjunction with the per-event payment basis, State thresholds for assistance could be set by giving consideration to the levels of retention held by each State under their respective insurance programs, in conjunction with their annual revenue and risk profile.

Occurrence-year basis

The occurrence-year payment basis could be beneficial if the NDRRA continued to provide assistance for both insurable and non-insurable assets. This approach would increase the transparency of the costs related to particular disasters and reduce complexity, while limiting the financial exposure of the States.

Finding 3: *Subject to the consideration of finding 2, Commonwealth assistance for the restoration or replacement of essential public assets could be provided on either a per-event or an occurrence-year basis.*

Threshold Structures

KPMG has made further recommendations with respect to thresholds, namely:

- implementing separate thresholds for insured and uninsured assets; and
- reviewing the determination of thresholds such that they are relevant to the underlying risk exposures.

In the event that road assets remain subject to Commonwealth assistance under NDRRA, a separate (and most likely higher) threshold for uninsured assets may encourage States to seek ways to reduce their retained losses. This could include investment in planning to improve the resilience of assets to natural disasters. The AGA notes that this approach to the adjustment of thresholds could provide States with a 'meaningful incentive to carefully consider the benefits of insurance, where available'.

The AGA also observes that models that differentiate between insurable and uninsurable assets have the potential for improved efficiency as there could be less need for jurisdictions to demonstrate, and for the Commonwealth to test, compliance with the requirements around cost-effectiveness and financial exposure minimisation. The AGA strongly encourages the examination of differential thresholds for insured and uninsured assets.

***Finding 4:** Subject to the consideration of finding 2, separate thresholds for insured and uninsured assets that are relevant to the underlying risk exposures could be considered in order to provide a meaningful incentive to States to consider the benefits of insurance, where available.*

Small Disaster Criterion

The small disaster criterion (SDC), which acts as the initial trigger for NDRRA assistance, is defined as \$240,000 in 2006/07 values. KPMG's view is that this is low taking into consideration the value of State assets, the significant State revenue streams and the values used by the Insurance Council of Australia when declaring natural disaster events. The NDRRA provides assistance with financial relief to individuals and communities, as well as for the repair of infrastructure. Finance considers that the SDC, in respect to infrastructure assets only, could be increased. This would mean that only larger disaster events with greater State expenditure on infrastructure would meet the criteria for an eligible disaster¹⁸. The cost of restoration or replacement of infrastructure must be related to an eligible disaster for it to contribute to a State's threshold and therefore become eligible for Commonwealth assistance. Such assistance would then be limited to more significant disaster events. The appropriate level for the SDC would depend on the quantum of financial losses related to recent eligible disasters and the financial strength of the State budgets.

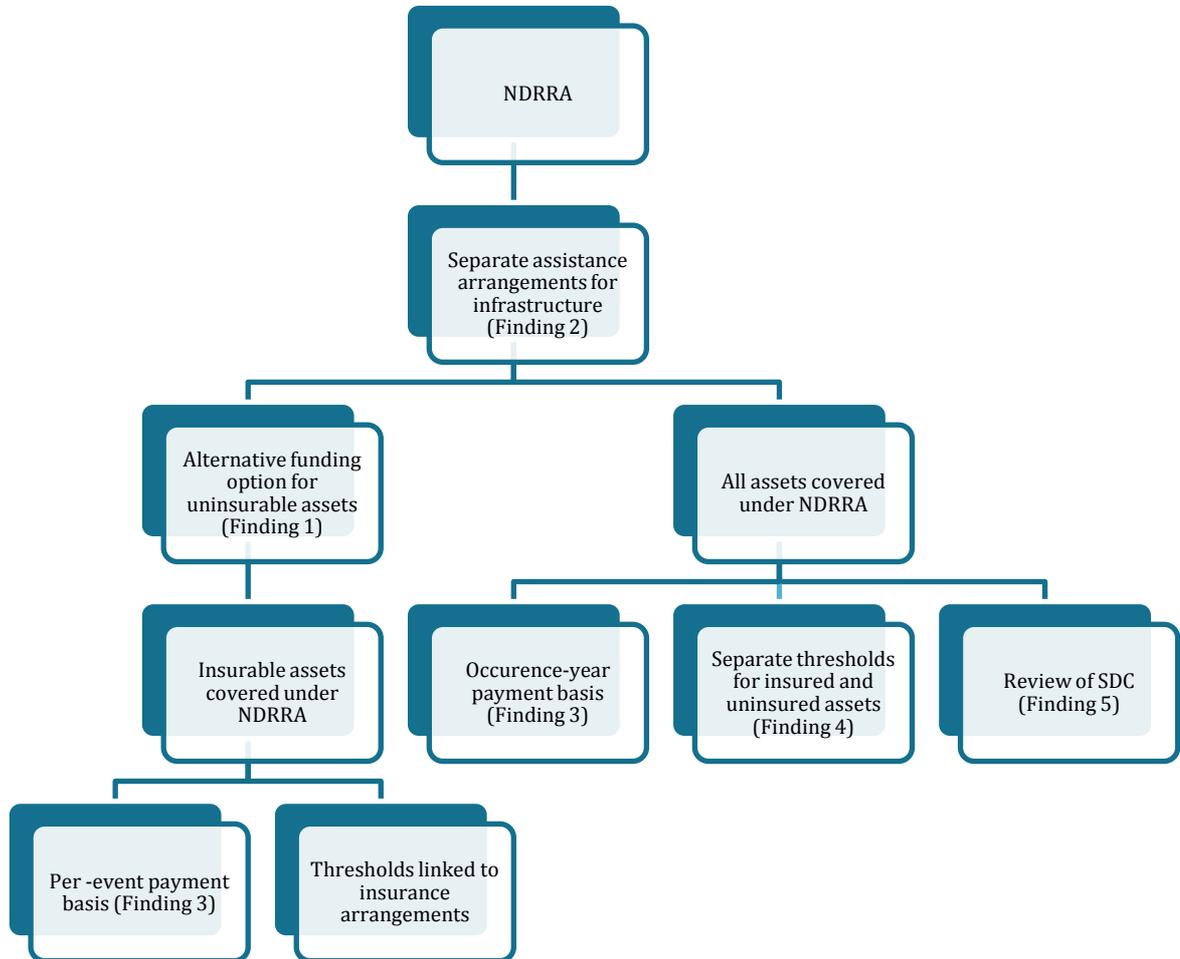
***Finding 5:** The Small Disaster Criterion could be reviewed to ensure that eligibility for Commonwealth assistance in respect to infrastructure assets is limited to more significant disaster events.*

¹⁸ As defined in clause 5.4 of the Determination

Threshold Summary

The differential thresholds findings are summarised in Figure 8 below.

Figure 8: Differential Threshold Findings



The AGA has commented that “since the NDRRA ... does not differentiate between insurable and uninsurable assets, it does not provide a strong natural incentive to jurisdictions to seek to obtain insurance cover for their insurable EPA”. The revisions to the Determination with respect to cost-effective insurance requirements sought to address this deficiency. The AGA has recognised that “the submission process has highlighted the very significant challenges involved in giving effect to, and monitoring compliance with that requirement”. Finance’s findings with respect to differential thresholds are designed to address these challenges.