



Commonwealth Grants Commission

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# **PUBLIC SAFETY**

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# CONTENTS

|   |           |
|---|-----------|
| <b>INTRODUCTION</b>                                   | <b>1</b>  |
| The 1999 Review Assessment Approach                   | 1         |
| Role of Government in Public Safety                   | 3         |
| <b>PROPOSALS FOR THE 2004 REVIEW</b>                  | <b>4</b>  |
| Scope   | 4         |
| Structure   | 5         |
| Disability Assessment                                 | 5         |
| <b>COMPONENT WEIGHTS</b>                              | <b>6</b>  |
| State Views   | 6         |
| Staff Views   | 6         |
| <b>NATURAL DISASTER RELIEF — PHYSICAL ENVIRONMENT</b> | <b>7</b>  |
| State Views   | 7         |
| Issues  | 7         |
| Staff Views   | 7         |
| <b>NATURAL DISASTER PREVENTION AND RESPONSE</b>       | <b>8</b>  |
| State Views   | 8         |
| Issues  | 9         |
| Staff Views   | 9         |
| <b>OTHER EMERGENCY PREVENTION AND RESPONSE</b>        | <b>11</b> |
| State Views   | 11        |
| Issues  | 12        |
| Staff Views   | 12        |
| <b>NATIONAL CAPITAL ASSESSMENT</b>                    | <b>16</b> |
| State Views   | 16        |
| Staff Views   | 16        |
| <b>OTHER ISSUES</b>                                   | <b>17</b> |
| <b>PUBLIC SAFETY USER CHARGES</b>                     | <b>17</b> |
| 1999 Review Method                                    | 17        |
| Staff Views   | 18        |
| <b>SUMMARY OF ASSESSMENT FOR 2004 REVIEW</b>          | <b>18</b> |

## INTRODUCTION

### *The 1999 Review Assessment Approach*

1. ***Expenditure assessment.*** In the 1999 Review and subsequent updates, the Public Safety and Emergency Services category<sup>1</sup> comprised expenditure on administration, planning, support and operation of public safety and emergency services — including fire protection services (for example, contributions to volunteer fire brigades and operations of fire brigade boards), emergency services, immediate relief of victims of disasters and restoration of community service facilities.

2. In addition, the Commission included expenditure funded by specific purpose payments (SPPs) from the Australian Emergency Management Institute for emergency services, because such payments related to a function for which needs were assessed. It excluded expenditure funded by SPPs associated with:

- (i) the Natural Disaster Relief Arrangements (NDRA) between the Commonwealth and the States because the allocation of such payments reflected needs;
  - (ii) the Rural Adjustment Scheme because States acted as a Commonwealth agent for such payments;
  - (iii) Rural Adjustment Scheme Certificates because such payments were minor and their differential assessment was unwarranted; and
  - (iv) the Victorian Gas Emergency Assistance Fund because the allocation reflected needs.
3. The assessment structure used in the 2002 Update is in Table 1.

4. ***User charges assessment.*** In the 1999 Review and subsequent updates, user charges associated with Public Safety and Emergency Services were assessed in part differentially (fire insurance levies) and in part by the equal per capita method (smoke alarm installation charges, false alarm charges and fines). The assessment structure in the 2002 Update is in Table 2.

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<sup>1</sup> We now propose to call it Public Safety.

**Table 1** PUBLIC SAFETY AND EMERGENCY SERVICES GROSS EXPENDITURE ASSESSMENT STRUCTURE, 2002 UPDATE

| Expenditure Component       | Component weight | Factors   | Basis of calculation   |
|-----------------------------|------------------|---|--|
|                             | %                |   |  |
| Scale affected expenditure  | 4.28             | Administrative scale<br>Input costs               | General method.<br>General method with weights of 80 per cent for wages, 2 per cent for accommodation and 1 per cent for electricity.  |
| Natural disaster relief     | 3.02             | Physical environment                              | Based on actual expenditure on natural disasters in each assessment year.  |
| Natural disaster prevention | 7.12             | Dispersion<br>Input costs                         | General method<br>General method with weights of 80 per cent for wages, 2 per cent for accommodation and 1 per cent for electricity  |
| Fire brigade                | 85.20            | Dispersion<br>Input costs<br>Economic environment | General method<br>General method with weights of 80 per cent for wages, 2 per cent for accommodation and 1 per cent for electricity<br>Average of two separate factors calculated by reference to (i) data from Insurance Statistics Australia on the net value of fire insurance claims paid in each State; and (ii) the unimproved value of land factor calculated for revenue raising capacity for fire levies. |
| National capital            | 0.07             | National capital                                  | A national capital allowance of \$2 per capita has been assessed for the ACT.  |
| Isolation                   | 0.31             | Isolation   | General method   |

**Table 2** PUBLIC SAFETY AND EMERGENCY SERVICES USER CHARGES ASSESSMENT STRUCTURE, 2002 UPDATE

| User charges component | Component weight | Factors                         | Basis of calculation  |
|------------------------|------------------|---------------------------------|---|
|                        | %                |                                 |   |
| Fire insurance levies  | 82.00            | Unimproved value of land factor | Based on the unimproved value of residential and commercial property. |
| User charges           | 18.00            |                                 | Equal per capita.   |

## ***Role of Government in Public Safety<sup>2</sup>***

5. Governments aim to reduce the level of risk to the community from the occurrence of emergencies, to reduce the adverse effects of emergencies, and to improve the level and perception of safety in the community through the provision of emergency services. Such services include prevention, preparedness, response and post-emergency recovery in addressing:

- (i) fires;
- (ii) natural events — such as floods, earthquakes, landslides, heatwaves, cyclones and other storms;
- (iii) medical emergencies;
- (iv) rescues;
- (v) technological and hazardous material incidents — such as chemical spills, gas leaks, radiological contamination, explosions and spills of petroleum products; and
- (vi) quarantine and control of diseases and biological contaminants.

6. The management of major emergencies and disasters requires the co-operation of a number of service providers. The Commonwealth and State governments are major players.

7. The primary role of the Commonwealth is to support and develop national emergency management capability by:

- (i) co-ordinating the Commonwealth's assistance to States in the event of large scale emergencies;
- (ii) providing financial assistance for flood prevention/mitigation and for bearing the costs of natural disasters (through the NDRA);
- (iii) providing information and training programs; and
- (iv) supporting community awareness activities<sup>3</sup>.

8. State governments are responsible for instituting regulatory arrangements and have the primary responsibility for delivering services direct to the community.

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<sup>2</sup> Based on Steering Committee for the Review of Commonwealth/State Services Provision, *Report on Government Services 2002*, Volume 2: Emergency Management, Community Services, Housing, Part E.

<sup>3</sup> Commonwealth agencies also have emergency management responsibilities, such as control of exotic animal diseases, aviation and maritime search and rescue, management of major marine pollution and meteorological and geological hazards, the provision of fire fighting services at some airports and defence installations, and human quarantine.

9. State governments increasingly provide their emergency management and public safety activities through a multi-agency, multi-hazard approach. A central management group co-ordinates the preparedness and responses of the fire and emergency services agencies, search and rescue teams, ambulance and police. Although the management structure differs across jurisdictions, responses are co-ordinated to major incidents, such as:

- (i) natural disasters (bushfire, flood, major storms);
- (ii) major industrial accidents (fire, explosions); and
- (iii) potential terrorist attacks.

10. Fire and emergency services, which are now often combined or at least provide co-ordinated services which:

- (i) respond to structural, bush, forest, vehicle and other fires;
- (ii) develop fire safety codes and inspect fire safety measures;
- (iii) provide rural land management advice on the role and use of fire;
- (iv) train and educate the community about fire safety issues;
- (v) conduct road accident rescues;
- (vi) manage chemical and other hazardous material incidents; and
- (vii) administer legislation relating to fire safety, hazardous materials facilities and hazard mitigation.

11. Commonwealth and State governments are also jointly responsible for developing building codes, undertaking research, formulating policies and providing advice on safety.

## **PROPOSALS FOR THE 2004 REVIEW**

### ***Scope***

12. ***State Views.*** Victoria argued that the assessment of natural disaster prevention and relief expenditure should be expanded to include expenditure on all forms of emergency response. It suggested, in particular, that the value of the contribution by volunteers should be included.

13. ***Staff Views.*** Staff believe that this category includes expenditure on all forms of emergency response, including expenditure associated with training and equipping volunteers, but it does not include any notional 'staff contribution' made by volunteers. If

Victoria's point is more about the recognition of a wider range of disabilities, this is addressed later in the paper. Commission staff do not propose that the value of contributed services be included in the equalisation budget.

14. Staff propose recommending to the Commission that the current treatment of SPPs associated with this category, as set out previously, be continued in the 2004 Review.

### ***Structure***

15. States' involvement in public safety and emergency services suggests that two main types of response are required:

- (i) natural disaster incidents; and
- (ii) other incidents.

16. This dichotomy of incidents and the move by States to provide integrated services, need to be reflected in the overall assessment structure.

17. In addition, because service providers essentially prepare for and react to emergency incidents, and provide relief after the event, the structure and the disability assessments associated with each component should reflect that service providers incur:

- (i) proactive expense in trying to prevent incidents from occurring or in building capacity to deal with them if they occur;
- (ii) reactive expense in dealing with incidents when they occur; and
- (iii) expense in providing relief for those affected by incidents.

18. Staff therefore propose to recommend to the Commission that the components of this assessment, in addition to the scale-affected expense, national capital and isolation, be:

- (i) Natural Disaster Relief;
- (ii) Natural Disaster Prevention and Response; and
- (iii) Other Emergency Prevention and Response.

19. The relative importance of these components will need to be considered. There is evidence, for example, that the Natural Disaster Relief component should be larger than its current three per cent.

### ***Disability Assessment***

20. Based on State submissions and staff research, the key issues for consideration are:

- (i) whether the currently assessed physical environment factor based on short term natural disaster relief expenditure adequately reflects States' relative needs, and whether this measure of States' needs is policy-neutral;
  - (ii) how differences in 'risk' and 'capacity to provide' services should be captured in the Prevention and Response components, and in particular whether dispersion, input costs, economic environment, urbanisation or other risk factors should be assessed;
  - (iii) whether the national capital allowance for the ACT should be increased; and
  - (iv) whether people from culturally and linguistically diverse (CALD) and non-English speaking backgrounds (NESB) cause costs to be higher in the delivery of these services.
21. The rest of this paper considers these issues.

## **COMPONENT WEIGHTS**

### *State Views*

22. The Northern Territory raised concerns that its standardised expenditure for this category was considerably less than its expense in 2000-01.

### *Staff Views*

23. Staff note that in the 2002 Update assessment of Public Safety and Emergency Services, the Territory's estimated and standardised per capita expenses for 2000-01 were \$136.62 and \$68.74. This discrepancy could have occurred because component weights are held constant between Reviews. For example, the component weight for Natural Disaster Relief, based on average expenditure data between 1993-94 and 1997-98, has remained low (a little over 3 per cent) and unchanged since 1999, even though actual expenditure has increased considerably in recent years.

24. The important issue here is that the assessable natural disaster relief expenditure is likely to remain volatile — reflecting the variable incidence of natural disasters — and there is a flow-on effect to the other components assessed in the category.

25. Given the inherent expenditure volatility in this category, staff are inclined to recommend that the component weights be updated in the 2004 Review, and every year after that.

## NATURAL DISASTER RELIEF — PHYSICAL ENVIRONMENT

26. In the 1999 Review, the Commission assessed a physical environment factor based on States' actual natural disaster relief expenditure for each assessment year. This differed from the preliminary calculations when an average of 15 years of Commonwealth and State relief expenditure on natural disasters was used. It made this change because the Natural Disaster Relief Arrangements between the Commonwealth and the States allowed Commonwealth support to be introduced when each State's expenditure reached a threshold based on a percentage of its revenue. As the allocation of relief funding under these arrangements reflected need, only States' expenses were considered to be relevant to the assessment.

### *State Views*

27. New South Wales argued that States with the most densely populated urban areas would incur the most damage and require the most assistance from State agencies, particularly Public Safety and Emergency Services agencies and Welfare agencies. It referred to the Sydney hailstorms of 1999 as an example.

28. Victoria argued that using State expenditure on natural disaster relief over a five-year period to calculate the factor was inherently flawed because the assessment approach:

- (i) did not adequately reflect differences between States in the risk of natural disaster incidence over a long period; and
- (ii) effectively rewarded States that made a policy choice to spend less on prevention.

Hence, Victoria suggested that the Commission replace the physical environment factor based on State expenditure (for each year separately within the five year assessment period) with an assessment based on relative State need through the calculation of a factor using a profile of natural disaster spending over a twenty-year period.

### *Issues*

29. The key issues here are whether short term natural disaster relief expenditure adequately reflects States' relative needs for natural disaster relief expenditure in the application year, and whether this measure of States' needs is policy-neutral.

### *Staff Views*

30. Staff are not inclined to pursue the New South Wales arguments because any disabilities due to population concentration should be reflected in the natural disaster relief expenditure used in the assessment.

31. There is merit in Victoria's proposal to use an average of States' natural disaster relief expenditure over a longer period to calculate the physical environment factor for each assessment year. While such a measure is undoubtedly policy-contaminated to some extent, the proposed approach would reduce the volatility of the calculated factor and might better capture the underlying probability of some forms of natural disaster incidence, in comparison with the current method.

32. Staff have interpreted Victoria's proposal in two ways — basing the calculation of a raw physical environment factor on, say, the 20 year average of:

- (i) State expenditure on natural disaster relief, in nominal terms; and
- (ii) State expenditure on natural disaster relief, in real terms.

Because it is judged that the Commonwealth relief payments reflect States' needs, corresponding factors including Commonwealth expenditure have not been calculated.

33. Table 3 sets out the results. Staff are inclined to favour the second option because it represents the least biased indicator of State's needs — the removal of inflationary effects over a long period is important.

**Table 3** RAW PHYSICAL ENVIRONMENT FACTORS, BASED ON THE TWENTY YEAR AVERAGE OF STATES' NATURAL DISASTER RELIEF EXPENDITURE<sup>(a)</sup>, 1977-78 TO 1996-97

| Expenditure basis                   | NSW     | Vic     | Qld     | WA      | SA      | Tas     | ACT     | NT      | Aust    |
|-------------------------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| State expenditure, in nominal terms | 0.96186 | 0.57048 | 2.33772 | 0.54652 | 0.10788 | 0.07769 | 0.00000 | 4.06594 | 1.00000 |
| State expenditure, in real terms    | 0.99021 | 0.60020 | 2.07720 | 0.81274 | 0.19030 | 0.07012 | 0.00000 | 3.91885 | 1.00000 |

(a) Excludes drought relief expenditure.

Source: 1999 Review Preliminary Calculations data.

## NATURAL DISASTER PREVENTION AND RESPONSE

34. In the 1999 Review, this component had dispersion and input costs disabilities applied to it.

### *State Views*

35. Victoria argued that a State's disability due to a dispersed population was irrelevant to States' needs for natural disaster prevention expenditure and should be removed. Victoria also suggested that, owing to different physical and economic

environment influences, a dispersed population may require less spending on natural disaster prevention than a concentrated population.

### ***Issues***

36. The key issue is whether the States' needs in undertaking expenditure on natural disaster prevention and response are adequately captured by dispersion and input cost disabilities.

### ***Staff Views***

37. The assessment should reflect both the likely cost-weighted risk of the incidence of natural disasters (a flood in Longreach is less expensive than a flood in Brisbane, for example) and the cost of prevention services.

38. Therefore, staff think there is a case for assessing:

- (i) a risk factor to reflect the differential needs of States in mitigating the impact of natural disasters; and
- (ii) a capacity factor to reflect the costs of providing natural disaster prevention services in different areas of the States.

39. ***Risk factors.*** To calculate the risk factors, staff propose two options. The first option is to develop a factor based on the average annual cost of natural disasters, obtained from the Bureau of Transport Economics (BTE). These data were based on the cost of natural disasters with a total estimated cost<sup>4</sup> greater than or equal to \$10 million per event for the period 1967 to 1999 expressed in 1998-99 prices. Averaging cost data over a long timeframe (32 years) should produce a reasonable indicator of States' relative need to spend to mitigate the effects of natural disasters. Table 4 sets out the data by State and type of disaster, as well the calculation of the risk factors. It is worth noting that these costs refer to total estimated damage rather than assets owned by the State governments. They were affected by three extreme events — Cyclone Tracy, the Sydney hailstorm and the Newcastle earthquake.

40. The second option is to use the Damage Index developed by the Natural Hazards Research Centre. The Damage Index measures damage in terms of 'house equivalents' for 1191 hazardous events this century<sup>5</sup>. Table 5 sets out the percentage of building damage suffered by each State, and the calculation of the risk factors.

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<sup>4</sup> Total estimated cost for a natural disaster, provided by Emergency Management Australia, is derived by multiplying its insurance cost by a specific factor (refer to Bureau of Transport Economics, *Economic Costs of Natural Disasters in Australia*, Report 103, 2001 for details).

<sup>5</sup> Based on the PerilAUS database. The database contains more than 4800 records of hazardous events. Damage indices were constructed for 1191 events where sufficient information was judged to be available (Blong, Russell, Damage Index 1999, *Natural Hazards Quarterly*, Volume 5, Issue 4, December 1999).

**Table 4** AVERAGE ANNUAL COST OF NATURAL DISASTERS AND RISK FACTOR CALCULATION

|  | NSW     | Vic     | Qld     | WA      | SA      | Tas     | ACT     | NT       | Aust    |
|--|---------|---------|---------|---------|---------|---------|---------|----------|---------|
| Average annual cost of natural disaster (\$ million) |         |         |         |         |         |         |         |          |         |
| Flood  | 128.4   | 38.5    | 111.7   | 2.6     | 18.1    | 6.7     | 0       | 8.1      | 314.0   |
| Severe storms  | 195.8   | 22.8    | 37.3    | 11.1    | 16.2    | 1.1     | 0.1     | 0        | 284.4   |
| Cyclones   | 0.5     | 0       | 89.8    | 41.6    | 0       | 0       | 0       | 134.2    | 266.2   |
| Earthquakes  | 141.2   | 0       | 0       | 3       | 0       | 0       | 0       | 0.3      | 144.5   |
| Bushfire   | 16.8    | 32.4    | 0.4     | 4.5     | 11.9    | 11.2    | 0       | 0        | 77.2    |
| Landslide  | 1.2     | 0       | 0       | 0       | 0       | 0       | 0       | 0        | 1.2     |
| Total <sup>(a)</sup>                                 | 484.1   | 93.6    | 239.2   | 62.7    | 46.2    | 18.9    | 0.2     | 142.6    | 1087.5  |
| Factor calculation                                   |         |         |         |         |         |         |         |          |         |
| Average cost per capita (\$) <sup>(b)</sup>          | 74.5    | 19.5    | 66.5    | 33.0    | 30.8    | 40.2    | 0.6     | 725.9    | 56.4    |
| Risk factor  | 1.31998 | 0.34563 | 1.17842 | 0.58561 | 0.54586 | 0.71239 | 0.01134 | 12.86446 | 1.00000 |

(a) Figures may not add to totals due to rounding.

(b) Using the 2000-01 mean resident population.

Source: Cost data were obtained from the Bureau of Transport Economics, *Economic Costs of Natural Disasters in Australia*, Report 103, 2001, Table 3.1, p 35.

**Table 5** PERCENTAGE OF BUILDING DAMAGE BY STATE, 1900 to 1999, AND RISK FACTORS

|   | NSW     | Vic     | Qld     | WA      | SA      | Tas     | ACT     | NT       |
|---|---------|---------|---------|---------|---------|---------|---------|----------|
| Percentage of damage                          | 29.6    | 14.5    | 26.0    | 6.0     | 2.7     | 4.0     | 0.1     | 17.1     |
| Share of 2000-01 mean resident population (%) | 33.72   | 24.90   | 18.67   | 9.85    | 7.78    | 2.44    | 1.62    | 1.02     |
| Risk factor                                   | 0.87771 | 0.58228 | 1.39297 | 0.60943 | 0.34692 | 1.63963 | 0.06166 | 16.77634 |

Source: Data from Blong, Russell, A New Damage Intensity Scale: Australian Experience, *Proceedings of the Australian Disaster Conference, Disaster Prevention for the 21<sup>st</sup> Century*, Canberra 1-3 November 1999.

41. The results of the two options are different because they are based on different methods and time periods. Staff think that risk factors based on the BTE estimates are the better option. The BTE estimates, although they cover a shorter time span, are broader in scope than the Damage Index which focuses on the cost of damage to buildings only. The BTE estimates are based on the total economic cost of disasters, including additional resources used by the community as a result of the disasters. Thus, we think that they represent a better indicator of States' relative needs to mitigate the effects of natural disasters.

42. **Capacity factors.** For factors intended to measure the cost differences States face in ensuring they have the same capacity to provide prevention services, staff seek the assistance of States. Information on the relationship between locations (urban, rural and remote) and the costs of natural disaster prevention and response is sought. These average cost relationships would be used to weight populations in the relevant locations.

43. If information is not available, staff would be inclined to recommend to the Commission that it assess dispersion, urbanisation and input costs disabilities using the general methods.

## **OTHER EMERGENCY PREVENTION AND RESPONSE**

44. In the 1999 Review and subsequent updates, States' disabilities for the fire brigade services were assessed using three factors — dispersion, input costs and economic environment. The dispersion and input costs disabilities were assessed using general methods<sup>6</sup>.

45. The economic environment factor was calculated as the average of two factors — one based on residential and commercial fire insurance claims, and the other based on unimproved value of land. It was intended that the calculation of the factor be based on the gross value of fire insurance claims in each State, as a proxy for the value of property at risk of fire. However, the fire insurance claims data were only available net of recoveries and reinsurance and were not considered to reflect fire risk adequately. Therefore, another factor based on the unimproved value of land was introduced. An average of these two factors was considered to be a better proxy for the value of property at risk of fire damage.

46. To recognise that States are now providing services in a more integrated way and are responding to emergencies other than fires, staff are proposing that this component be broader than in the last review. We will assess disabilities relating to the risk of a wider set of emergencies and to States' capacities to respond.

### ***State Views***

47. Victoria argued that a risk-based model, rather than fire insurance claim data relating to actual fire occurrences, was required for urban and rural fire prevention and suppression, and other emergency responses. This was because fire insurance claims were influenced (reduced) by the level of prevention expenditure. To better account for total fire risk, it proposed that the fire insurance claim factor be removed and the value of primary production and forested land be included in the calculation of land value within the

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<sup>6</sup> The methods used to calculate these factors can be found in Commonwealth Grants Commission, 1999 Review: *Report on General Revenue Grant Relativities, Working Papers (1993-94 to 1997-98)*, Volume 3.

economic environment factor. On urban risks, Victoria suggested that the current assessment method did not fully take account of the range of functions carried out by the Fire Brigade, especially in urban areas — for example, attending to chemical spills and other incidents. It argued that the Commission should apply an urbanisation factor to the assessment of fire brigade expenditure to reflect the additional need for fire and other hazard responses in large urban centres.

48. South Australia argued that the Commission should abandon the economic environment factor currently applied to fire brigade expenditures because costs incurred by fire brigades were unaffected by measures such as the value of building and fire insurance claims.

49. The ACT suggested that fire brigade expenditure was related to the cost of providing and maintaining a response capacity determined by existing standards. It argued that a factor based on averaging fire insurance claims and the unimproved value of land was a poor proxy for a measure of response capacity because it reflected neither the demand for, nor the cost of providing a fire protection service. Hence, it suggested that the Commission should either remove the economic environment factor or assess it without the insurance claims sub-component.

50. The Northern Territory suggested a physical environment factor based on the number of fire incidents per capita be included in the Fire Brigade expenditure component to account for costs associated with fire risk and incidents. It also argued that it faced difficulties in recruiting, training and retaining volunteers in remote areas, and relied instead on professional fire fighters. As such, it suggested that the Commission introduce a 'remoteness' factor.

### ***Issues***

51. Taking all these arguments together, the key issue is whether the disability factors assessed in this component properly measure States' need to prevent and respond to all emergencies other than natural disasters. More specifically, the assessment approach should reflect the differential amounts needed:

- (i) to deal with the risk of loss associated with the occurrence of structural fires and other incidents;
- (ii) to provide the capacity necessary for the delivery of fire protection and other emergency services; and
- (iii) to recognise cost differences of providing services in different areas.

### ***Staff Views***

52. To reflect States' relative needs, staff propose to assess disabilities for this component using:

- (i) a risk factor that reflects the differential needs of States, were structural fires and other incidents to occur; and
- (ii) a cost of capacity factor that reflects the differential costs of providing services in different locations.

53. **Risk factors.** Staff propose two options to calculate risk factors. The first option would ideally be based on three drivers:

- (i) costs of property loss from structural fires<sup>7</sup>;
- (ii) costs of road accidents; and
- (iii) costs of industrial or other accidents.

Data for the costs of property loss for 1997-98 to 2000-01 are published in the *Report on Government Services*, 2002. Data for the costs of road crashes have been obtained from the Bureau of Transport and Regional Economics (BTRE). According to the BTRE, the costs for a fire crew to attend a road crash were similar for both metropolitan and rural areas, estimated, on average, at \$481 for a fatal crash and \$307 for a serious injury crash in 1996<sup>8</sup>.

54. Staff have also obtained data on annual incidents of fatal and serious injury road crashes for the period 1988 to 1996 from the Australian Transport Safety Board.

55. We do not have data on the costs of industrial accidents or the relative workload generated for fire and emergency services of different types of incident. We seek State advice on the availability of such information.

56. Given the available information, Table 6 and Table 7 set out the data and the factor calculations using two of the three cost drivers. They would be combined additively, with a 50 per cent weight for each.

57. Staff are concerned that the property loss data are not consistent across States<sup>9</sup> and cover a short span of years. We seek State assistance to improve its quality. Staff also seek information from the States on the total expenses imposed on fire and emergency services providers by these two cost drivers, so that standard weights for combining the two sub-factors can be estimated.

58. A second option would be to calculate risk factors based on information to be sought from the Australian Valuation Office on the improved value of residential, industrial, commercial and rural properties, and forests.

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<sup>7</sup> Structural fires are those relating to housing and other buildings.

<sup>8</sup> Bureau of Transport and Regional Economics, *Road Crash Costs in Australia*, Report 102, 2000.

<sup>9</sup> Expenses on bush/rural fire services were not consistently included for States.

**Table 6** TOTAL PROPERTY LOSS FROM STRUCTURAL FIRES AND FACTOR CALCULATION

|  | NSW     | Vic     | Qld     | WA      | SA      | Tas     | ACT     | NT      | Aust    |
|--|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| Per capita property loss from structural fire (\$pc, in 2000-01 dollars)               |         |         |         |         |         |         |         |         |         |
| 1997-98  | 29      | 20      | 15      | 20      | 16      | 51      | 11      | NA      | 24      |
| 1998-99  | 29      | 23      | 17      | 20      | 15      | 32      | 22      | 10      | 22      |
| 1999-2000  | NA      | 20      | 19      | 26      | 10      | 29      | 15      | 27      | 20      |
| 2000-01  | NA      | 23      | 23      | 21      | 13      | 68      | 16      | 7       | 23      |
| Total property loss from structural fire (\$million in 2000-01 dollars) <sup>(a)</sup> |         |         |         |         |         |         |         |         |         |
| 1997-98  | 182.8   | 92.6    | 51.4    | 36.3    | 23.7    | 24.1    | 3.4     | NA      | 414.3   |
| 1998-99  | 184.7   | 107.7   | 59.2    | 36.9    | 22.3    | 15.1    | 6.8     | 1.9     | 434.5   |
| 1999-2000  | NA      | 94.8    | 67.2    | 48.7    | 15.0    | 13.7    | 4.7     | 5.2     | 249.1   |
| 2000-01  | NA      | 110.4   | 82.7    | 39.8    | 19.5    | 32.0    | 5.0     | 1.4     | 290.8   |
| Average loss over the period <sup>(b)</sup>  | 183.73  | 101.37  | 65.12   | 40.42   | 20.13   | 21.20   | 4.96    | 2.84    | 439.77  |
| Factor calculation   |         |         |         |         |         |         |         |         |         |
| Average loss per capita <sup>(c)</sup>   | 28.27   | 21.12   | 18.10   | 21.30   | 13.42   | 45.10   | 15.86   | 14.47   | 22.82   |
| Risk factor  | 1.23882 | 0.92564 | 0.79337 | 0.93350 | 0.58821 | 1.97631 | 0.69489 | 0.63427 | 1.00000 |

(a) Calculated as per capita loss multiplied by the corresponding mean resident population.

(b) Average over available data only.

(c) Corresponding to the 2000-01 mean resident population.

Note NA = not available.

Source: Data for per capita property loss from structural fire were obtained from the publication: Steering Committee for the Review of Commonwealth/State Services Provision, *Report on Government Services 2002*, Volume 2: Emergency Management, Community Services, Housing, Supporting Table 11A.7.

59. **Capacity factors.** For the proposed factors measuring differential costs of establishing a base capacity to provide fire and emergency services, staff seek the assistance of States in providing any information concerning the relationship between locations (urban, rural and remote) and costs of providing the services. The Northern Territory argument that it is more expensive to recruit, train and retain volunteers in remote areas will be considered here, although staff note that the Territory has close to the Australian number of volunteers per capita (see Table 8).

60. If sufficient information cannot be obtained, staff would be inclined to recommend to the Commission that dispersion, urbanisation and input cost disabilities be assessed in this component, using the general methods.

**Table 7** TOTAL COSTS OF ROAD CRASHES TO FIRE SERVICE PROVIDERS AND FACTOR CALCULATION

|   | NSW  | Vic  | Qld  | WA   | SA   | Tas  | ACT  | NT   | Aust |
|---|------|------|------|------|------|------|------|------|------|
| Total costs of road crashes (\$ million) <sup>(a)</sup> |      |      |      |      |      |      |      |      |      |
| 1988  | 2.55 | 2.70 | 1.22 | 0.71 | 0.69 | 0.19 | 0.06 | 0.12 | 8.25 |
| 1989  | 2.37 | 2.56 | 1.13 | 0.81 | 0.69 | 0.20 | 0.07 | 0.13 | 7.96 |
| 1990  | 2.21 | 2.00 | 1.13 | 0.72 | 0.68 | 0.18 | 0.07 | 0.15 | 7.13 |
| 1991  | 1.96 | 1.73 | 1.07 | 0.70 | 0.56 | 0.16 | 0.06 | 0.12 | 6.38 |
| 1992  | 1.85 | 1.64 | 1.16 | 0.68 | 0.44 | 0.14 | 0.06 | 0.11 | 6.09 |
| 1993  | 1.82 | 1.67 | 1.15 | 0.70 | 0.46 | 0.14 | 0.05 | 0.12 | 6.10 |
| 1994  | 1.81 | 1.66 | 1.28 | 0.72 | 0.43 | 0.15 | 0.06 | 0.11 | 6.21 |
| 1995  | 1.78 | 1.69 | 1.31 | 0.79 | 0.44 | 0.15 | 0.05 | 0.12 | 6.34 |
| 1996  | 1.76 | 1.67 | 1.25 | 0.73 | 0.48 | 0.13 | 0.07 | 0.13 | 6.22 |
| Average cost over the period                            | 2.01 | 1.92 | 1.19 | 0.73 | 0.54 | 0.16 | 0.06 | 0.12 | 6.74 |

Factor calculation

|   |         |         |         |         |         |         |         |         |         |
|---|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| Average cost per capita (\$) <sup>(b)</sup> | 0.31    | 0.40    | 0.33    | 0.38    | 0.36    | 0.34    | 0.19    | 0.63    | 0.35    |
| Risk factor                                 | 0.88504 | 1.14585 | 0.94393 | 1.09935 | 1.03329 | 0.97845 | 0.55626 | 1.81093 | 1.00000 |

(a) The weighted sum of fatal and serious injury road crashes incidents, with the cost weights being \$481 (the average cost of a fatal road accident to fire service providers) and \$371 (the average cost of a serious road accident to fire service providers).

(b) Corresponding to the 2000-01 mean resident population.

Source: Costs of road crashes data to fire service providers were sourced from the Bureau of Transport and Regional Economics. *Road Crash Costs in Australia*, Report 102, 2000. Incidents of road crashes were obtained from Australian Transport Safety Board, unpublished data.

**Table 8** VOLUNTEER FIRE FIGHTERS BY STATE, PER CAPITA 1999-2000

| Volunteer Fire fighters | NSW    | Vic    | Qld    | WA     | SA     | Tas    | ACT    | NT     | Aust    |
|-------------------------|--------|--------|--------|--------|--------|--------|--------|--------|---------|
| Number                  | 69 000 | 61 657 | 45 294 | 18 224 | 24 000 | 5 000  | 450    | 2 206  | 225 831 |
| Per capita              | 0.0107 | 0.0130 | 0.0128 | 0.0097 | 0.0161 | 0.0106 | 0.0015 | 0.0114 | 0.0125  |
| Persons per volunteer   | 93     | 77     | 78     | 103    | 62     | 94     | 689    | 88     | 80      |

Source: Compiled by ACT Emergency Services Bureau from information provided by jurisdictions.

## NATIONAL CAPITAL ASSESSMENT

61. In 1999, a national capital allowance of \$2 per capita was assessed to recognise the difficulties faced by the ACT in recruiting volunteer fire fighters for bush fire protection in the large areas of open space around the city<sup>10</sup>. In the 2002 Update, the total allowances assessed for the ACT was \$0.615 million.

### *State Views*

62. The ACT argued for an increase in the assessment for national capital influences to \$3.3 million. Of that, \$2.9 million would account for the additional costs due to its reduced capacity to recruit volunteer bush fire fighters, the high urban/bush interface and an inability to collect fire insurance levies on Commonwealth property.

63. The ACT presented evidence that its volunteer numbers were low on a per capita basis compared with those in other States, as shown in Table 8. It argued that the ACT, as the most highly urbanised jurisdiction, with over 99 per cent of its population resident in the capital city compared with an Australian average of 62.8 per cent, had little scope for recruiting volunteer bush fire fighters from less than one per cent of rural population. Thus, it has to have a larger paid fire fighter workforce. The ACT also argued that its inability to collect fire insurance levies on Commonwealth property was not adequately reflected in the assessment.

64. The remaining \$0.4 million represented additional costs the ACT had incurred in providing Level 3 responses to Federal Government institutions, such as Parliament House, Government Departments and diplomatic missions, since September 11 2001. There was also a need for a greater response capacity in the ACT to enable its public safety and emergency services to prepare for the threat of terrorist attacks since the threat in the ACT is larger than elsewhere because of the location of Commonwealth Government Departments and the diplomatic corps.

### *Staff Views*

65. Staff are inclined to recommend to the Commission that:
- (i) the allowance of \$2 per capita for volunteer fire fighters and the greater urban/rural interface due to the national capital plan, be retained; and
  - (ii) additional costs imposed by the location of Commonwealth Government Departments and the diplomatic corps in the ACT be assessed.

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<sup>10</sup> In the 1999 Review, an allowance of \$1 per capita was assessed by judgement to account for the ACT's disability in recruiting volunteer fire fighters and another \$1 per capita for greater urban/rural interface in ACT.

We are inclined to recommend to the Commission that a total national capital allowance of around \$1.15 million be assessed for the ACT in this category<sup>11</sup>.

66. We are not inclined to accept that the ACT incurs additional costs in protecting Commonwealth property, and the value of Commonwealth property is appropriately left out of the expense assessment. The Commonwealth currently funds one-third (or approximately \$4.5m in 2001-02) of the operating costs of the ACT fire brigade. Nor are we inclined to accept that the ACT's inability to collect fire insurance levies on Commonwealth property is not appropriately taken into account in the user charges assessment where the value of Commonwealth property is not included in the revenue base.

## **OTHER ISSUES**

67. New South Wales argued that the needs of culturally and linguistically diverse (CALD) and non-English speaking background (NESB) persons should be taken into account in assessing Public Safety expenditure.

68. The Report on Government Services 2002<sup>12</sup>, noted that a number of jurisdictions (New South Wales, Victoria, Queensland, Western Australia, and the Northern Territory) have implemented specific programs to improve fire services to Indigenous people. These programs aim to build capacity within Indigenous communities to deal with fire, to improve the success of education and awareness programs and to improve the representation of Indigenous people working within the fire services. No information on cost impacts are provided.

69. Unless clear evidence is available that people from different backgrounds impose higher costs on service delivery, staff are not inclined to introduce a socio-demographic composition factor. In any case, it is possible that the cost impacts are already adequately recognised in the risk factors calculated using the average of actual expenditures.

## **PUBLIC SAFETY USER CHARGES**

### ***1999 Review Method***

70. Since the 1999 Review, the Public Safety and Emergency Services user charges assessment has been based on two components — fire insurance levies and non-levy revenue. The fire insurance levies were assessed differentially using a factor

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<sup>11</sup> Calculated as \$2 multiplied by the 2000-01 mean resident population for the ACT, plus \$0.4 million.

<sup>12</sup> Steering Committee for the Review of Commonwealth/State Services Provision, *Report on Government Services 2002*, Volume 2, Emergency Management, p572.

based on the unimproved value of land, and the non-levy revenue assessed on an equal per capita basis.

71. In the 1999 Review, the Commission wanted to use the value of improved land and buildings in each State as the revenue base for assessing capacity to raise fire levies. Since these data were not available for all States, the Commission used unimproved land values as a proxy for the improved value of property. It also discounted the unimproved value of land in New South Wales by 25 per cent because its unimproved values were a higher proportion of improved values, compared with other States.

### *Staff Views*

72. Staff propose to recommend to the Commission that:

- (i) the scope of the Public Safety user charges category match that used for the corresponding category in the 1999 Review;
- (ii) subject to the availability of data, the assessment of fire insurance levies be based on the improved value of property; and
- (iii) the assessment of other user charges be by the equal per capita method.

If data on the improved value of property are not available, we would be inclined to recommend that no change be made to the existing assessment method.

73. In addition, the component weights assessed in the 1999 Review will be updated as part of normal review processes.

## **SUMMARY OF ASSESSMENT FOR 2004 REVIEW**

74. Subject to the outcome of the November Conference, staff propose to recommend to the Commission that:

- (i) the scope of this category remain unchanged;
- (ii) the structure of the assessments be changed as proposed;
- (iii) component weights for the expenses and user charges assessments be updated in the 2004 Review and, for the expenses assessment, in subsequent Updates;
- (iv) the physical environment factor in the Natural Disaster Relief component be recalculated using an average of States' natural disaster relief expenditure over a 20 year period, adjusted for inflation;

- (v) relative needs in the Natural Disaster Response and Prevention component be assessed using a risk factor and a capacity factor;
- (vi) relative needs in the Other Emergencies Response and Prevention component be assessed using a risk factor and a capacity factor;
- (vii) the ACT's national capital needs continue to be assessed in a separate National Capital component, but a variation to the allowance assessed be considered; and
- (viii) subject to the availability of data, the assessment of fire insurance levies be based on the improved value of property and the other user charges be by the equal per capita assessment.

Table 9 sets out further data we need. Table 10 sets out the proposed assessment structure for Public Safety in the 2004 Review.

**Table 9** PUBLIC SAFETY, SUMMARY OF FURTHER DATA REQUEST

| Expenditure Component                    | Factors         | Data request from States  |
|--|-----------------|---|
| Natural disaster prevention and response | Capacity factor | Data on the costs of providing natural disaster prevention and response services in different locations of the State — ideally for capital cities, urban, rural and remote areas.   |
| Other emergency prevention and response  | Risk factor     | Data on total property loss from structural fires, with separate entities for urban and rural areas. <sup>(a)</sup> Data should cover a time period as long as possible and should be consistent in definition and coverage.<br><br>Data on costs of incidents other than structural fires and road accidents — in particular, separate data on industrial accidents. |
| Other emergency prevention and response  | Capacity factor | Data on the costs of providing other emergency prevention and response services <sup>(b)</sup> in urban and rural areas.  |

(a) Data published in the Steering Committee for the Review of Commonwealth/State Services Provision, *Report on Government Services 2002*, Volume 2: Emergency Management, Community Services, Housing, Supporting Table 11A.7 were inconsistent in coverage.

(b) Emergency services other than natural disaster prevention and response.

**Table 10** PUBLIC SAFETY, PROPOSED 2004 REVIEW ASSESSMENT STRUCTURE

| Component                                | Component weight <sup>(a)</sup> | Factors              | Basis of calculation   |
|--|---------------------------------|----------------------|--|
| <b>Expenses</b>                          |                                 |                      |  |
|  | %                               |                      |  |
| Scale affected expenditure               |                                 | Administrative scale | General method.  |
|  |                                 | Input costs          | General method.  |
| Natural disaster relief                  |                                 | Physical environment | Based on an average of States' actual real expenditure on natural disasters over 20 years.   |
| Natural disaster prevention and response |                                 | Risk factor          | Option 1: based on the average annual cost of natural disasters for the period 1967 to 1999 in Australia, data obtained from the Bureau of Transport Economics.<br>Option 2: based on the Damage Index developed by the Natural Hazard Research Centre for the period 1900-1999.   |
|  |                                 | Capacity factor      | Based on State Data Return on the costs of providing natural disaster prevention services in urban and rural areas.  |
| Other emergency prevention and response  |                                 | Risk factor          | Option 1: based on two sub-factors: (i) costs of property loss from structure fires (data published in the <i>Report on Government Services</i> , 2002) and (ii) costs of road crashes (cost data from the Bureau of Transport and Regional Economics, incident data from the Australian Transport Safety Board).<br>Option 2: based on improved value of residential, industrial, commercial and rural properties, and the value of forests (AVO sourced data). |
|  |                                 | Capacity factor      | Based on State Data Return on the costs of providing fire services in urban and rural areas.   |
| National capital                         |                                 | National capital     | General method, assessing a total allowance of around \$1.15 million.  |
| Isolation                                |                                 | Isolation            | General method   |
| <b>User Charges</b>                      |                                 |                      |  |
| Fire insurance levies                    |                                 | Economic environment | Based on improved value of residential and commercial property.  |
| Other user charges                       |                                 | EPC                  |  |

(a) Component weights are to be determined.