The Senate

Standing Committee on Foreign Affairs, Defence and Trade

Australian Participants in British Nuclear Tests (Treatment) Bill 2006 [Provisions]

Australian Participants in British Nuclear Tests (Treatment) (Consequential Amendments and Transitional Provisions) Bill 2006 [Provisions]

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TABLE OF CONTENTS

Chapter 1

Introduction

Background

1.1 The Hon Bruce Billson, Minister for Veterans' Affairs and Minister Assisting the Minister for Defence, introduced the Australian Participants in Nuclear Tests (Treatment) Bill 2006 and Australian Participants in Nuclear Test (Treatment) (Consequential Amendments and Transitional Provisions) Bill 2006 (the Bills) into the House of Representatives on the 14 September 2006. The Bills were passed by the House on the 11 October 2006 and introduced into the Senate on 12 October 2006.

1.2 The Bills relate to Australians who participated in the British nuclear tests conducted in Australia in the 1950s and 1960s. Between 1952 and 1957 British atomic weapons detonation tests were conducted in Australia at Monte Bello Islands off the west coast of Western Australia, and at Emu Field and Maralinga in South Australia. There were also six hundred minor trials, including the testing of bomb components, conducted between 1953 and 1963. The preliminary nominal roll of test participants compiled by the Department of Veterans' Affairs listed 3235 Royal Australian Navy, 1658 Australian Army and 3223 RAAF personnel, as well as 8907 civilians, who were involved in the testing program.[1]

1.3 There have been a number of studies into the effects of the nuclear tests on participants. Most recently, the findings of the Australian Participants in British Nuclear Tests in Australia Study were released in June 2006. The study found a higher rate of cancer among the nuclear test participants than the general population. However, the higher cancer rate was not found to be associated with radiation exposure.[2]

1.4 Entitlements for participants in the nuclear tests have been under consideration for some time. In February 2002 the Government commissioned an independent review of veterans' entitlements. The terms of reference required the review committee to consider perceived anomalies with eligibility for access to *Veterans' Entitlements Act 1986* (VEA) benefits and qualifying service that might be raised by several specific groups, including Australian participants in the British atomic tests. The review committee's report, released in January 2003, recommended that participation by Australian defence force personnel in the British atomic tests

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1 The Hon Bruce Scott MP, Minister for Veterans' Affairs and Minister Assisting the Minister for Defence, *Nominal Roll Completed for Atomic Test Studies*, Media Release, 29 June 2001.

2 Gun, R., Parsons, J., Ryan, P., Crouch, P. and Hiller, J., *Australian participants in British nuclear tests in Australia, Vol 2: Mortality and cancer incidence*, May 2006, p. v.

should be declared non-warlike hazardous service and the VEA should be amended to ensure that this declaration could have effect in extending VEA coverage.[3]

1.5 The Government response to the report stated that the Government would 'respond positively to the needs of those affected by the British Atomic Test programme' when the outcomes of the Australian Participants in the British Nuclear Test Programme – Cancer Incidence and Mortality Study were available.[4]

1.6 Following release of the Australian Participants in British Nuclear Tests in Australia Study, in June 2006 the Hon Bruce Billson MP announced additional health care for the test participants, stating:

> Although the study found that the rate of some cancers among the nuclear test participants was higher than in the general Australian population, it did not find any link between the increase in cancer rates and exposure to radiation.
>
> Despite the lack of association between cancer rates and radiation exposure, the Government has decided that it would be appropriate to provide health cover for nuclear test participants who have any form of cancer.[5]

Reference of the Bills

1.7 On 11 October 2006, the Senate adopted the Selection of Bills Committee Report No. 11 of 2006 referring the provisions of the Bills to the Senate Standing Committee on Foreign Affairs, Defence and Trade for inquiry and report by 7 November 2006. On the 7 November 2006 the committee was granted an extension to report to the 8 November 2006.

Purpose of the Bills

1.8 Both Bills form a package designed to provide new health care entitlements for eligible Australian participants in the British nuclear tests. The Australian Participants in Nuclear Tests (Treatment) Bill 2006 provides for non liability cancer testing and treatment for eligible participants. The treatment is to be provided through the Repatriation Commission and the Department of Veterans' Affairs. The second bill provides consequential amendments to the *Aged Care Act 1997*, the *Income Tax Assessment Act 1997*, the *National Health Act 1953* and the *Social Security Act 1991*. The Bill also makes transitional provisions in relation to claims made.

1.9 In his second reading speech, the Hon Bruce Billson stated that the Bills would:

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3 Report of the Review of Veterans' Entitlements, List of Recommendations, www.veteransreview.gov.au/report/prelims/recommendations.htm, accessed 11 October 2006.

4 Government's Response to the Review of Veterans' Entitlements (The Clarke Report), www.minister.dva.gov.au/clarke_report.htm, accessed 11 October 2006.

5 *Nuclear Test Participants to Receive Additional Health Care*, Media Release, 28 June 2006.

> …implement an undertaking given by the government in 2003 when it announced its response to the review of veterans' entitlements. The undertaking was to respond positively to the health needs of the participants, at the conclusion of the mortality and cancer incidence study of the group.[6]

Submissions and hearings

1.10 The committee advertised its inquiry in *The Australian* on 17 October 2006 and on the Internet. A number of organisations and stakeholders were also contacted and invited to make submissions to the inquiry. A list of the submissions received appears at Appendix 1.

1.11 The committee held one public hearing on 6 November 2006, at Parliament House, Canberra. A list of witnesses who appeared before the committee at that hearing is given in Appendix 2.

Acknowledgement

1.12 The committee thanks all those who assisted with this inquiry.

6 *House Hansard*, 14 September 2006, p. 11.

Chapter 2

Background

The tests

2.1 Between October 1952 and October 1957 twelve British atomic weapons detonation tests were conducted in Australia at Monte Bello Islands off the west coast of Western Australia, and at Emu Field and Maralinga in South Australia. The tests were conducted on the following dates:

Operation Hurricane – Monte Bello Islands

- 3 October 1952

Operation Totem – Emu Field

- 15 October 1953
- 27 October 1953

Operation Mosaic – Monte Bello Islands

- 16 May 1956
- 19 June 1956

Operation Buffalo – Maralinga

- 27 September 1956
- 4 October 1956
- 11 October 1956
- 22 October 1956

Operation Antler – Maralinga

- 14 September 1957
- 25 September 1957
- 9 October 1957[1]

2.2 There were also six hundred minor trials, including the testing of bomb components, conducted between 1953 and 1963 at Emu Field and Maralinga. The tests were conducted with the full cooperation of the Commonwealth Government and involved both Australian and British personnel. Tests involving hydrogen bombs were also conducted at Christmas and Malden Islands in the Pacific Ocean, but Australians were not involved in the conduct of these tests.[2]

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1 Gun, R. et al, 2006, *Australian participants in British nuclear tests in Australia, Vol 2: Mortality and cancer incidence*, p. 5.

2 Report of the Review of Veterans' Entitlements, Chapter 16 – British Atomic Tests, p. 373

2.3 Both military and civilian personnel participated in the tests. Different sources provide different estimates of the number of Australians involved. A nominal roll of participants has been compiled by the Department of Veterans affairs. However the roll has been subject to revision over time and concerns about its accuracy remain. The Report of the Review of Veterans' Entitlements released in 2003 stated that the nominal roll contained 15 406 names at that time, 8035 Defence Force personnel and 7371 civilians.[3] A recent study into cancer and mortality incidence among participants in the tests stated that over 16 000 Australians participated in the tests,[4] while the Bills Digest compiled for the Australian Participants in British Nuclear Tests (Treatment) Bill stated that 17 023 Australians participated in the tests.[5] These publications referenced various versions of the nominal roll.

Brief history of studies

2.4 There have been a number of studies and research activities, conducted in Australia and overseas, regarding the effects of the British atomic tests in Australia. These include:

- the Australian Ionising Radiation Advisory Council Report No. 9 provided to government in 1983;[6]
- the 1983 report *Health of Atomic Test Personnel* (commonly referred to as the Donovan Report), based on a survey of Australian test participants;
- the 1984 *Report of the expert committee on the review of data on atmospheric fallout arising from British nuclear tests in Australia*;[7]
- the 1984 Royal Commission into the British nuclear tests in Australia, led by the Hon James McClelland;
- the 1988 and 1993 studies conducted by the UK National Radiological Protection Board on personnel who participated in the tests;[8]

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3 Report of the Review of Veterans' Entitlements, Chapter 16 – British Atomic Tests, p. 375

4 Gun, R. et al, 2006, *Australian participants in British nuclear tests in Australia, Vol 2: Mortality and cancer incidence*, p. xvii and 4.

5 Peter Yeend and Amanda Biggs, Bills Digest, No. 31, 2006–07, Parliamentary Library, p. 3.

6 Australian Ionising Radiation Advisory Council, Report to the Minister for Science and the Environment, *AIRAC Report No, 9*, January 1983. For a summary see Peter Yeend and Amanda Biggs, Bills Digest, No. 31, 2006–07, Parliamentary Library, p. 3.

7 Professor C. B Kerr (Chairman), *Report of the expert committee on the review of data on atmospheric fallout arising from British nuclear tests in Australia*, Atmospheric Fallout Committee, 31 May 1984. For a summary see Peter Yeend and Amanda Biggs, Bills Digest, No. 31, 2006–07, Parliamentary Library, p. 4.

8 See Peter Yeend and Amanda Biggs, Bills Digest, No. 31, 2006–07, Parliamentary Library, p. 5; Gun, R. et al, 2006, *Australian participants in British nuclear tests in Australia, Vol 2: Mortality and cancer incidence*, pp 125–126.

- the development by the Department of Veterans' Affairs of a Nominal Roll of participants involved in the tests;
- the 1990 and 1997 studies of New Zealand participants in the British nuclear tests in the Pacific;[9]
- mortality and morbidity studies of the nuclear test veterans conducted by Sue Rabbit Roff in the UK;[10]
- the 2003 UK study of mortality and cancer incidence in the period 1952–98 among UK participants in the nuclear tests;[11]
- the Australian Participants in British Nuclear Tests in Australia Study, which reported in June 2006.[12]

2.5 The studies have produced different findings and insights into the conduct of the tests and circumstances of the test participants. Reviews of the Donovan report state that definite conclusions about the relationship between participation in the nuclear tests and health effects, such as increased incidence of cancer and infertility, cannot be drawn from the study.[13] Yeend and Biggs note that the survey 'did find a correlation between illnesses and test participation and also a higher incidence of some illnesses with increased exposure to radiation through the tests' but that these incidences 'were mostly ascribed to chance'.[14]

2.6 Summaries of the 1988 and 1993 UK studies present a mixed picture. Some strong associations between participation in the tests and ill health effects found in the first study were not evident in the second study. The authors are reported as concluding that the possibility that test participation had caused a small increase in the risk of non-chronic lymphatic leukaemia could not be ruled out, with the evidence suggesting that the risk was greatest in the early years after the tests.[15] The 2003 UK

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9 See Gun, R. et al, 2006, *Australian participants in British nuclear tests in Australia, Vol 2: Mortality and cancer incidence*, pp 126–127.

10 Submission 10, pp 1–2.

11 Muirhead, C R et al. 'Follow up of mortality and incidence of cancer 1952-1998 in men from the United Kingdom who participated in the United Kingdom's atmospheric nuclear weapon tests and experimental programmes', *Occupational and Environmental Medicine*, 60, 165-72, 2003.

12 Carter, M., Robotham, F., Wise, K., Williams, G. and Crouch, P., *Australian participants in British nuclear tests in Australia, Vol 1: Dosimetry*, May 2006 and Gun, R., Parsons, J., Ryan, P., Crouch, P. and Hiller, J., *Australian participants in British nuclear tests in Australia, Vol 2: Mortality and cancer incidence*, May 2006.

13 See Report of the Review of Veterans' Entitlements, Chapter 16 – British Atomic Tests, p. 374; Gun, R. et al, 2006, *Australian participants in British nuclear tests in Australia, Vol 2: Mortality and cancer incidence*, p. 2.

14 Peter Yeend and Amanda Biggs, Bills Digest, No. 31, 2006–07, Parliamentary Library, p. 4.

15 Summary presented in Gun, R. et al, 2006, *Australian participants in British nuclear tests in Australia, Vol 2: Mortality and cancer incidence*, p. 126.

study was reported as finding that the overall rates of death and cancer incidence among test participants were very similar to a matched control group, and that reports of a raised risk of multiple myeloma amongst test veterans were not substantiated. Again the possibility that test participation caused a small risk of leukaemia (other than chronic lymphatic leukaemia) could not be ruled out.[16]

2.7 A summary of the New Zealand research states that these studies found evidence for a link between haematological cancers and test participation, but no association with other cancers.[17] Sue Rabbit Roff's first study 'suggested that there was an excess of radiogenic cancers and other conditions among the British and New Zealand nuclear veteran respondents'.[18] Her second study 'eventually resulted in proactive health care entitlements for New Zealand test veterans *and their families*' [original emphasis].[19]

2.8 The 1984 Royal Commission in Australia was instrumental for subsequent initiatives that sought and obtained compensation from the British Government relating to the tests. Recommendations arising from the Commission related to the clean up of the test sites, control of access to unsafe areas and compensation for Indigenous owners of the land.[20] The Royal Commission also made recommendations relating to compensation for participants, including:

> The benefits of the Compensation (Commonwealth Government Employees) Act 1971, including the shifting of the onus of proof from the claimant to the Commonwealth, should be extended to include not only members of the armed forces who are at present covered by the Act, but also civilians who were at the test sites at relevant times, and Aborigines and other civilians who may have been exposed to the 'Black Mist'.
>
> To assist the Commissioner for Employees' Compensation in the performance of the additional duties recommended in Recommendation 1, a national register of nuclear veterans, Aborigines and other persons who have been exposed to the 'Black Mist' or exposed to radiation at the tests should be compiled.[21]

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16 Health Protection Agency, Press Release 3/03, 'Third Epidemiological Study of Nuclear Test Veterans', www.hpa.org.uk/hpa/news/nrpb_archive/press_releases/2003/press_release_03_03.htm, (accessed 26 October 2006).

17 Summary presented in Gun, R. et al, 2006, *Australian participants in British nuclear tests in Australia, Vol 2: Mortality and cancer incidence*, p. 127.

18 Submission 10, p. 2.

19 Submission 10, p. 2.

20 See Report of the Review of Veterans' Entitlements, Chapter 16 – British Atomic Tests, p. 374.

21 Quoted in Report of the Review of Veterans' Entitlements, Chapter 16 – British Atomic Tests, p. 374.

The Mortality and Cancer Incidence Study

2.9 The most recent study relating to health effects resulting from participation in the nuclear tests is the Australian Participants in British Nuclear Tests in Australia Study, which was released in June 2006. In July 1999 the Government announced the development of a nominal roll and conduct of a cancer and mortality study. The nominal roll was a prerequisite for the study. The Department of Veterans' Affairs commissioned the Department of Public Health at the University of Adelaide to undertake the study in early 2003. The study was based on 10 983 test participants identified from the nominal roll, of whom 7116 were military and 3867 civilian participants in the tests.[22]

2.10 The study had two main components. One, the dosimetry study, used data from the nuclear tests and modelling techniques to estimate the radiation exposure of participants in the nuclear tests. The other, the mortality and cancer incidence study, compared the number of deaths and cases of cancer among test participants with that in the general population, from 1982 to the end of 2001.

2.11 Staff of the Department of Public Health at the University of Adelaide conducted the study and authored the study report. A Scientific Advisory Committee was established with the role of reviewing and advising on the methodology of the study and supervised the report's preparation. An Exposure Panel was established to reconstruct ionising radiation dose estimates and a Consultative Forum representing twenty organisations and individuals was formed.[23]

2.12 The study estimated that the radiation doses received by Australian participants in the nuclear tests were generally small. The findings state:

> Approximately 79% of the participants were assessed as receiving doses less than 1 mSv that is, approximately half the annual dose received from natural background radiation. Only 4% received more than 20 mSv, the current internationally accepted annual limit for a radiation worker recommended by the International Commission on Radiological Protection.[24]

2.13 The study also reported that some groups did receive significant exposures. The groups estimated to have been exposed to doses of 5mSv or higher were:

- some RAAF aircrew who flew through the contaminated clouds in RAAF or RAF aircraft after nuclear explosions

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22 Gun, R. et al, 2006, *Australian participants in British nuclear tests in Australia, Vol 2: Mortality and cancer incidence*, p. xvii.

23 Carter, M., 2006, *Australian participants in British nuclear tests in Australia, Vol 1: Dosimetry*, Appendices 1–4, pp 159–165.

24 Carter, M., 2006, *Australian participants in British nuclear tests in Australia, Vol 1: Dosimetry*, p. xix.

- crew members from HMAS Hawkesbury who assisted in records recovery and participated in Joint Services Training Unit (JSTU) exercises during Operation Hurricane
- crew and divers from HMAS Koala who recovered a landing craft during Operation Hurricane
- members of the JSTU who undertook radiation monitoring training during Operation Hurricane
- members of the Radiation Hazards group at Operation Totem
- Peace Officers who patrolled contaminated areas
- Indoctrinee Force members at Operation Buffalo
- elements of the Maralinga Range Support Unit who provided a range of engineering and support duties in forward areas from Operation Buffalo through to post Operation Antler activities
- drivers and passengers in contaminated vehicles travelling over contaminated ground
- members of the Australian Health Physics Group (AHPG) who conducted radiation surveillance
- members of the AHPG team who collected Cobalt-60 (60Co) pellets after Operation Antler
- a team that decontaminated and dismantled the DC 12 building in Maralinga Village at the end of the minor trials.[25]

2.14 The overall death rate among the nuclear test participants studied was not significantly different to the general population. However, cancer mortality was found to be 18 per cent higher among the test participants than the general population and cancer incidence was 23 per cent higher.[26]

2.15 The cancer incidence experienced by participants in the tests was significantly higher than the general population across a range of cancer types, including lip, oral cavity and pharynx cancers, cancer of the oesophagus, lung cancer, colorectal cancer, melanoma, prostate cancer and leukaemia.[27] Results were reported separately for the three services and the civilian participants. Some cancers, although not higher across the board, were more prevalent among specific services. For example, mesothelioma

25 Carter, M., 2006, *Australian participants in British nuclear tests in Australia, Vol 1: Dosimetry*, p. xx.

26 Carter, M., 2006, *Australian participants in British nuclear tests in Australia, Vol 1: Dosimetry*, p. xx and xxi.

27 Carter, M., 2006, *Australian participants in British nuclear tests in Australia, Vol 1: Dosimetry*, p. xxi.

was not significantly higher in the test participant group as a whole, but 180% higher among RAN nuclear test participants than the population in general.[28]

2.16 The study found that the increases in cancer rates 'do not appear to have been caused by exposure to radiation'.[29] The report states:

> Neither all cancers combined nor any cancer known to have an association with radiation showed any increase in mortality or incidence with increasing radiation exposure in this cohort.
>
> The lack of association between cancer and radiation is not surprising, given the estimated low radiation exposure of most cohort members, and the relatively small proportion of subjects with any significant exposure.[30]

2.17 The report suggests other possible causes for some of the cancers. For example, the Main Findings state that the increased incidence of mesothelioma among RAN personnel 'is most likely due to asbestos in naval vessels'.[31] In relation to lung cancer, the report states that 'the excess could be due to a higher smoking prevalence in test participants' and that 'some contribution to lung cancer excess is also likely from asbestos in RAN personnel, and possibly in civilian participants also'.[32] However, causal relationships between these factors and the increase in cancer incidence among nuclear test participants were not tested by the study.

2.18 A covering letter to the report by Professor Bruce Armstrong, Chair of the Scientific Advisory Committee to the study, acknowledged some tensions regarding presentation of the study findings:

> Towards the end of the Committee's consideration of the reports, there was contention over the content and wording of some parts of them; particularly the section entitled Main Findings. Most of the Committee members present at the time considered the matters under contention to be matters of presentation not of science. However, the contention was not resolved and Ms Ann Munslow-Davies, the Consultative Forum representative on the Committee, felt, in consequence, that she could not endorse the reports.[33]

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28 Summary presented in Gun, R. et al, 2006, *Australian participants in British nuclear tests in Australia, Vol 2: Mortality and cancer incidence*, pp xxi and 93.

29 Carter, M., 2006, *Australian participants in British nuclear tests in Australia, Vol 1: Dosimetry*, p. vi.

30 Carter, M., 2006, *Australian participants in British nuclear tests in Australia, Vol 1: Dosimetry*, p. xxii.

31 Carter, M., 2006, *Australian participants in British nuclear tests in Australia, Vol 1: Dosimetry*, p. vi.

32 Carter, M., 2006, *Australian participants in British nuclear tests in Australia, Vol 1: Dosimetry*, p. vi.

33 Carter, M., 2006, *Australian participants in British nuclear tests in Australia, Vol 1: Dosimetry*, p. iv.

2.19 Criticisms of the study raised in evidence this inquiry are canvassed in Chapter 4.

Review of Veterans' Entitlements

2.20 In February 2002 an independent review of veterans' entitlements was commissioned by the Hon Danna Vale, Minister for Veterans' Affairs and Minister Assisting the Minster for Defence.[34] Among the terms of reference, the review committee was tasked with reviewing access to Veterans Entitlement Act (VEA) benefits and qualifying service for several specific groups. The terms of reference stated that the review would:

- Consider perceived anomalies with eligibility for access to VEA benefits and qualifying service that might be raised by some World War II veterans, veterans of the British Commonwealth Occupation Forces in Japan, Australian participants in British atomic testing in Australia, Australian service personnel engaged in counter-terrorist and special recovery training, and other interested parties; and
- Recommend possible changes to address any anomalies and to facilitate the equitable and efficient administration of the VEA.[35]

2.21 The review received 160 submissions regarding the British atomic tests. The Report of the Review of Veterans' Entitlements, which has become commonly referred to as the 'Clarke report', noted that the submissions argued for compensation coverage under the VEA through the hazardous service provisions in Part IV of the act. A small number of submissions also sought qualifying service to give access to the service pension.[36]

2.22 According to the Clarke report, coverage as hazardous service under the VEA would provide the following entitlements for those eligible:

- entitlement to claim for the disability pension and for their dependants to claim the war widow's or orphan's pension under the generous standard of proof known as the 'reverse criminal' standard of proof;
- entitlement to the Repatriation Health Card — For Specific Conditions (White Card) for accepted disabilities;

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34 Review of Veterans' Eligibility Provisions and Benefits for Totally and Permanently Incapacitated and Other Veteran Disability Pensioners, commonly referred to as the Review of Veterans' Entitlements.

35 Report of the Review of Veterans' Entitlements, Appendix 1 – Terms of Reference, www.veteransreview.gov.au/report/appendixes/app1.htm, (accessed 13 October 2006).

36 Report of the Review of Veterans' Entitlements, Chapter 16 – British Atomic Tests, p. 371

- access to the Repatriation Health Card — For All Conditions (Gold Card) subject to the VEA criteria being met (e.g. where the rate of disability pension is above 100 per cent); and
- entitlement to the White Card for malignant neoplasm and posttraumatic stress disorder, irrespective of whether the condition is accepted as caused by that service.[37]

2.23 The report assessed that participation in the British nuclear tests could be considered non-warlike hazardous service, on the basis that it met the following criteria for such service:

- the military activity is more hazardous than normal peacetime duty;
- the application of force, if applicable, is limited to self-defence; and
- the threat to members is such that casualties might occur but are not expected.[38]

2.24 The Clarke report concluded that:

> … the British atomic test series was a unique, extraordinary event in Australia's history. Atomic devices were exploded in Australia, with Australian forces potentially exposed to levels of radiation beyond what would today be considered safe levels. By common sense and by any reasonable measure, service in the test operations must be regarded as involving hazards beyond those of normal peacetime duties.[39]

It recommended:

> Participation by Australian Defence Force personnel in the British atomic tests be declared non-warlike hazardous and the legislation be amended to ensure that this declaration can have effect in extending VEA coverage.[40]

2.25 The report also noted that such an extension of the VEA should be unique:

> The recognition of non-warlike hazardous service by the members involved in the tests should be regarded as a *one-off extension of the VEA*. Apart from involvement in wars, other conflicts and overseas deployments, it is difficult to conceive of another Australian military operation in the 20th century comparable to the tests' scale and risk of harm to individuals.[41]

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37 Report of the Review of Veterans' Entitlements, Chapter 16 – British Atomic Tests, p. 372.

38 Report of the Review of Veterans' Entitlements, Chapter 16 – British Atomic Tests, p. 389.

39 Report of the Review of Veterans' Entitlements, Chapter 16 – British Atomic Tests, p. 398.

40 Report of the Review of Veterans' Entitlements, Chapter 16 – British Atomic Tests, p. 399.

41 Report of the Review of Veterans' Entitlements, Chapter 16 – British Atomic Tests, p. 394

2.26 Some submissions to the review raised concerns regarding the hurdles that test participants may face in VEA coverage were extended. These related to the Statements of Principles (SOPs) set by the Repatriation Medical Authority in relation to cancers which must be met for claims to be successful. Concerns included that the SOPs were inadequately researched, that they did not recognise that cancers caused by radiation exposure can metastasise as other types of cancer and that there would be considerable evidentiary difficulties for individuals in showing that they had radiation exposures to the levels required in the SOPs.[42]

2.27 The report noted that at that time the Australian Participants in British Nuclear Tests Cancer and Mortality Study was assessing the possibility of estimating dosages for each of the tests and associated activities. The report considered that such an exercise 'if viable and successfully conducted, could provide the foundation for individuals to make claims of exposure based on their position or placement during and after test explosions'.[43]

2.28 The Review of Veterans' Entitlements did not support a fully presumptive approach to compensation on the basis that it 'would be contrary to the principles and features of the repatriation system'.[44] To resolve the issues of causation, the review considered it important that the cancer and mortality study and exposure estimates be completed quickly. Accordingly, the report recommended that 'the Government move quickly to finalise the cancer and mortality study'.[45]

Government response to the review

2.29 The Government announced its response to the Review of Veterans' Entitlements in March 2004.[46] The response to recommendations relevant to participants in the British nuclear tests were as follows:

> Recommendation
>
> 45. Participation by Australian defence force personnel in the British atomic tests be declared non-warlike hazardous and the legislation be amended to ensure that this declaration can have effect in extending VEA coverage.
>
> Accepted in principle - the Government will respond positively to the needs of those affected by the British Atomic Test programme when the outcomes of the Australian Participants in the British Nuclear Test Programme - Cancer Incidence and Mortality Study are available.

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42 Report of the Review of Veterans' Entitlements, Chapter 16 – British Atomic Tests, p. 383.

43 Report of the Review of Veterans' Entitlements, Chapter 16 – British Atomic Tests, p. 396.

44 Report of the Review of Veterans' Entitlements, Chapter 16 – British Atomic Tests, p. 396.

45 Report of the Review of Veterans' Entitlements, Chapter 16 – British Atomic Tests, p. 399.

46 The Hon John Howard, Prime Minister, *Additional Benefits for Veterans, Government Response to Clarke Report*, Media Release, 2 March 2004.

Recommendation

46. The Government move quickly to finalise the cancer and mortality study.

Accepted - this study is expected to be released in late 2004.[47]

The new entitlements

2.30 The Government's announcement of the health care entitlements provided by the Bills followed the release of the Australian Participants in British Nuclear Tests in Australia Study in June 2006. The Hon Bruce Billson, Minister for Veterans' Affairs and Minister Assisting the Minister for Defence, stated:

> Although the study found that the rate of some cancers among the nuclear test participants was higher than in the general Australian population, it did not find any link between the increase in cancer rates and exposure to radiation.
>
> Despite the lack of association between cancer rates and radiation exposure, the Government has decided that it would be appropriate to provide health cover for nuclear test participants who have any form of cancer.[48]

2.31 The Hon Mr Billson noted that the health care entitlements applied equally to Defence personnel, APS employees and third party civilian contractors. The Minister outlined that the proposed legislation would enable access to treatment for all malignant cancers, such as those affecting the thyroid, stomach, prostate, liver, lung, skin, throat and breast as well as other non-radiogenic cancers.[49]

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47 *Government's Response to the Review of Veterans' Entitlements (The Clarke Report)*, http://minister.dva.gov.au/clarke_report.htm (accessed 11 October 2006).

48 *Nuclear Test Participants to Receive Additional Health Care*, Media Release, 28 June 2006.

49 *Nuclear Test Participants to Receive Additional Health Care*, Media Release, 28 June 2006.

Chapter 3

Provisions of the Bills

Australian Participants in British Nuclear Tests (Treatment) Bill 2006

3.1 The provisions of the Bill are to provide non-liability treatment of, and testing for, malignant neoplasia (cancer) for Australian participants in British nuclear tests conducted at the Emu Field, Monte Bello Islands and Maralinga sites in the 1950s and 1960s.

Who is covered?

3.2 Subclause 7(1) of the Bill establishes that only nuclear test participants are eligible for treatment. Subclause 5(1) sets out who is to be regarded as a nuclear test participant. They are identified as a person who was present:

- in the Monte Bello Islands nuclear test area at any time between 3 October 1952 and 19 June 1958 inclusive;
- in the Emu Field nuclear test area at any time between 15 October 1953 and 25 October 1955 inclusive;
- in the Maralinga nuclear test area at any time between 27 September 1956 and 30 April 1965 inclusive.[1]

3.3 In addition to these criterion, Subclause 5(1) requires that a nuclear test participant was a member of the Australian Defence Force, or an employee of the Commonwealth, or a person who, under a contract with the Commonwealth, provided construction, maintenance or support services relating to the conduct of nuclear tests in a nuclear test area and who was, at that time, an Australian resident.

3.4 Subclause 5(2) provides that a person is a nuclear test participant if the person was involved in the transport, recovery, maintenance or cleaning of a vessel, vehicle, aircraft or equipment that was contaminated as a result of its use in a nuclear test area within specified time periods. Subclause 5(3) provides that a person is a nuclear test participant if they meet all of the following criterion:

- the person flew in an aircraft of the Royal Australian Air Force or the Royal Air Force at any time between 3 October 1952 and 31 October 1957; and
- at the time the person flew in the aircraft, the aircraft was used in measuring fallout from nuclear tests conducted in a nuclear test area; and the aircraft was contaminated by the fallout; and
- the person was a member of the Australian Defence Force and an Australian resident.[2]

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1 Explanatory Memorandum, pp. 1–2.

3.5 The Minister for Veterans' Affairs and Minister Assisting the Minister for Defence, the Hon. Bruce Billson, told the House:

> We are not only about veterans; we are all about veterans and we are all about the civilians, the public servants and the contractors…It would be a great injustice and an enormous disservice to ignore the reality that it was not only serving members of the Australian Defence Force involved in these tests…[3]

3.6 Subclause 7(2) of the Bill exempts a person from treatment under the Act if: they are eligible for treatment under Part V of the *Veterans' Entitlement Act 1986* (VEA); liability for the person's treatment has been accepted under the *Safety, Rehabilitation and Compensation Act 1988* (SRCA) or any law relating to workers' compensation; liability for treatment has been accepted under the Commonwealth's 1986 Administrative Scheme.

Entitlements

3.7 The Bill offers the same level of assistance in relation to cancer treatment as under the VEA. This includes travel, community nursing, physiotherapy, medical procedures listed on the MBS, palliative care, pharmaceutical items prescribed for treatment and rehabilitation aids.[4]

3.8 Item 10 establishes the Repatriation Commission as the authority responsible for determining the eligibility of claims for treatment. The provision of treatment under the Bill is broadly based on section 90 of the VEA. This section leaves the identification of the 'Treatment Principles' to the Commission:

> The Commission may, from time to time…[set] out circumstances in which, and conditions subject to which, treatment of a particular kind, or included in a particular class of treatment, may be provided under this Part for, or in respect of, eligible persons…

Sub section 90(2) adds:

> Without limiting the generality of subsection (1), a document referred to in that subsection may specify kinds or classes of treatment that will not be provided for, or in respect of, eligible persons under this Part, or will not be so provided at places, or in circumstances, specified or described in the document.

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2 Explanatory Memorandum, pp. 1–2.

3 Mr Bruce Billson, Minister for Veterans Affairs, Second Reading Speech, Australian Participants in British Nuclear Tests (Treatment) Bill 2006, House of Representatives *Hansard*, p. 142.

4 Department of Veterans' Affairs, *Answers to Questions on Notice*, Friday 3 November 2006, p. 3.

Indeed, modification of the 'Treatment Principles' used for the VEA may be necessary for the provisions of this Bill, given that the Bill is for treatment of a different class of persons than those eligible under the VEA. Unlike the VEA, the only eligibility requirement under the Act is meeting the definition of a 'participant'.[5]

3.9 Division 2 of the Bill deals with the provision of treatment and entitlements. Item 12 empowers the Commission to approve treatment; Item 14 removes from the Commission the obligation to provide treatment or the right to access treatment for an individual other than that approved by the Commission under the Bill.[6] Items 16 and 17 of the Bill empower the Commission to set out in writing the principles that are to apply under the Bill and to modify these principles without having to amend the Bill in the Parliament. If the Commission wishes to modify the Treatment Principles, these have to be approved by the Minister in writing.

The appeals process

3.10 Part 4 of the Bill deals with the review of decisions made by the Commission. Division 1 empowers the Commission to review its decisions in cases where a claimant is dissatisfied with a decision on his/her eligibility for purposes of the Act or with a decision revoking his/her eligibility.[7] The Commission must make a written record of its decision detailing its findings on questions of fact, its supporting evidence and the reasons for its decision (Item 26). The Commission must also give the claimant a copy of the review decision (Item 27).

3.11 Part 4, Division 2 enables a person to make an application to the Administrative Review Tribunal if they are unsatisfied with a Commission decision or a review of a decision.

Travel allowances

3.12 Item 19 of the Bill empowers the Commission to cover travel expenses for claimants accessing treatment. Claims are required for these expenses to be covered (Item 21) and it is the Commission that determines the claims (Item 23).[8]

Offences under the Act and recovery of amounts

3.13 Part 5, Item 37 of the Bill contains standard offence provisions for legislation relating to the knowledge of claims for assistance and knowingly providing false or

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5 Department of Veterans' Affairs, *Answers to Questions on Notice*, Friday 3 November 2006, p. 2.

6 Peter Yeend and Amanda Biggs, Australian Participants in British Nuclear Tests (Treatment) Bill 2006, Bills Digest No. 31 2006–07, *Parliamentary Library*, Canberra, 6 October, p. 15.

7 Explanatory Memorandum, p. 13.

8 Peter Yeend and Amanda Biggs, Australian Participants in British Nuclear Tests (Treatment) Bill 2006, Bills Digest No. 31 2006–07, *Parliamentary Library*, Canberra, 6 October, p. 16.

misleading information. Items 38 to 44 relate to offences by medical service practitioners servicing under the terms of the Bill.[9] Many of the offences are based on section 93 of the *Veterans' Entitlement Act (1986)* and sections 306–310 of the *Military Rehabilitation and Compensation Act (2004)*.

3.14 Division 4 of the Bill allows for the recovery of amounts obtained through false or misleading statements. Item 46 states that any amounts recoverable 'must be recovered from the person who made or on whose behalf the statement was made…The quantum is reviewable but not the decision to recover.'[10]

Australian Participants in British Nuclear Tests (Treatment) (Consequential Amendments and Transitional Provisions) Bill 2006

3.15 The purpose of this Bill is to provide for consequential amendments to other Acts arising from the *Australian Participants in British Nuclear Tests (Treatment) Bill 2006* (APBNTT). There are seven amendments to four separate Acts.

- Items 1 and 2 amend the *Aged Care Act 1997* (ACA) to enable information relating to the APBNTT to be passed between the Secretary of the Department of Health and Ageing and the Secretary of the Department of Veterans' Affairs.
- Items 3 and 4 clarify that amounts expended or provided under the APBNTT are drawn from the consolidated revenue fund, not subsection 96–10 of the ACA.
- Items 5 and 6 amend the *Income Tax Assessment Act 1997* to ensure that travel expenses covered by the APBNTT are not taxable income.
- Item 7 amends the *National Health Act 1953* (NHA) to ensure that a person receiving treatment under the terms of the APBNTT meets the definition of a repatriation nursing home patient under subsection 40AFA of the NHA.
- Item 8 broadens the definition of a Medicare card under the NHA to include a card issued under the APBNTT.
- Items 9 and 11 amend the NHA definition of a pharmaceutical benefit to include a pharmaceutical benefit provided under the APBNTT.
- Item 12 amends the *Social Security Act 1991* (SSA) to exempt as income payments made under the APBNTT.[11]

3.16 Schedule 2 of the Bill contains transitional provisions that set the earliest start date for testing or treatment payments under the APBNTT. Payments can begin up to

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9 Explanatory Memorandum, p. 21.

10 Explanatory Memorandum, p. 24.

11 Peter Yeend and Amanda Biggs, Australian Participants in British Nuclear Tests (Treatment) (Consequential Amendments and Transitional Provisions) Bill 2006, Bills Digest No. 34 2006–07, *Parliamentary Library*, Canberra, 12 October 2006, pp. 2–3.

three months prior to the date of a claim, but not before 19 June 2006 (the date the government made its decision).[12]

Summary

3.17 If passed, the main effect of the Australian Participants in British Nuclear Tests (Treatment) Bill 2006 would be to broaden eligibility for non-liability testing and treatment for cancer. It would include both Defence and non-Defence Force personnel not already eligible under the VEA, the SRCA and the 1986 Administrative Scheme. It also provides for the payment of travel expenses for testing and treatment. The payments are subject to the Repatriation Commission's decision, which are to be based on the VEA's Treatment Principles.

12 Peter Yeend and Amanda Biggs, Australian Participants in British Nuclear Tests (Treatment) (Consequential Amendments and Transitional Provisions) Bill 2006, Bills Digest No. 34 2006–07, *Parliamentary Library*, Canberra, 12 October 2006, p. 3.

Chapter 4

Issues and recommendation

4.1 In the main the issues raised by submitters were not related to the operation of the Bills if enacted. Submitters welcomed and supported the provision of health care for the nuclear test participants. Rather, the concerns raised related to the broader policy issue of whether the Bills provide an appropriate response to the needs of those Australians who participated in the British nuclear tests.

4.2 This chapter first reviews the issues raised in relation to the provisions of the Bills. It then considers the other matters raised by submitters: disputes over the dosimetry and cancer and mortality incidence study; ineligibility for veterans' entitlements; and the issue of compensation and recognition. The chapter also presents the committee's conclusions and recommendation.

Provisions of the Bills

4.3 The principal issue raised in relation to the provisions of the Bills concerned the definition of a 'nuclear test participant'. Submitters argued that the definition provided in the Bills excludes certain groups affected by the tests from receiving the proposed health care entitlements.

4.4 Major Alan Batchelor argued that the coverage of the Bills should be extended to include the following:

- Decontamination and maintenance personnel who worked on contaminated aircraft that were based at various RAAF airfields around Australia and flew through fallout clouds at a location outside the test areas.
- The timings for Emu Field do not cover the situation when the Australian Radiation Detection Unit were operating from this base (collecting fallout data) and had to temporarily evacuate the area when it was covered with fallout from the Tadje weapon (dirty bomb salted with cobalt-60).
- Aboriginal incursions into Range Areas, such as the Milpuddie incident, should be identified specifically.[1]

4.5 The RSL was concerned that due to the date and place specifications, the following groups would not be covered by the provisions of the Bills:

1. The maintenance personnel at RAAF Amberley who decontaminated returning aircraft from the test sites. These personnel worked in what were called the “Igloo Hangers” on base and because of their duties

1 Major Alan Batchelor, *Submission 2*, p 13.

were definitely exposed to radiation. As some aircraft were redirected to other bases, maintenance personnel at those bases should also be included.

2. The personnel, both Naval and civilian, who worked on the returning ships in Naval Dockyards and Fleet Bases. The anti-wetting system used by Naval ships of this vintage would not have completely decontaminated these vessels.

3. The personnel, both Army and civilian, who maintained any equipment that the Australian Army utilised during the tests. Again, this equipment would not have been completely decontaminated prior to removal from the sites.[2]

4.6 The Department of Veterans' Affairs (DVA) considered that the above groups would be covered by the legislation:

> The RSL's concerns are unfounded as these groups of personnel are defined as "Participants" and are covered by the new legislation.[3]

4.7 DVA pointed to Section 5(2) which defines as a nuclear test participant a person who was 'involved in the transport, recovery, maintenance or cleaning of a vessel, vehicle, aircraft or equipment that was contaminated as a result of its use in a nuclear test area', being involvement that occurred in specified areas within specified time periods.[4] At the committee's public hearing, Mr John Hodges, National Veterans' Affairs Adviser for the RSL, agreed that DVA's clarification made it clear that the above groups were covered by the provisions of the Bills. However, this had not been apparent from the relevant Explanatory Memorandum.

4.8 Mr Reuben Lette stated that 'British Scientists left the British/Australian Air Base in Adelaide in late 1967. Tests on contaminated material from Maralinga and other areas were still carried out by them until then and burial of contaminated material also happened in 1967'.[5] On this basis, he argued that personnel involved at the sites up until 1967 should be covered by the provisions of the Bills.

4.9 Dr Philip Crouch, Mr Rob Robotham and Dr Geoff Williams raised concerns about members of the Commonwealth Police who served at Maralinga up until 2001 and were likely to have received significant radiation doses as a result of patrolling through areas that were heavily contaminated, particularly with plutonium. They noted that unless members of the Commonwealth Police were present at Maralinga prior to

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2 *Submission 27*, p. 1

3 Department of Veterans' Affairs, Answers to Questions on Notice, Friday 3 November, Question 5, p 3.

4 Department of Veterans' Affairs, Answers to Questions on Notice, Friday 3 November, Question 6, p 4.

5 *Submission 19*, p. 1

1965, they would not come within the definition of a 'nuclear test participant' provided in the Bill.[6]

4.10 Dr Crouch explained that the types of activities involved in the patrols would have led to plutonium inhalation and an increased rate of cancer.[7] The committee was advised that around 100-200 officers would have been involved.[8] Mr Robotham considered that the highest risk group, not already covered by the provisions of the Bills, were the Commonwealth Police officers present from 1965 to the mid-1980s:

> The worst aspect of all of this is from 1965 until essentially the mid-eighties, when the nature of that hazard was rediscovered by Australia and steps were taken to advise the Commonwealth police on what to do and not to. Once they took those procedures on board, I believe from the mid-eighties through until 2001, they were really at very little risk.[9]

4.11 DVA representatives commented that concerns about coverage for members of the Commonwealth Police were a 'new issue' which would be considered by the department:

> … police officers who were involved at the time of the studies and through to the two years are incorporated in the study and are on the nominal roll, but I think the proposition being put regarding them and their activities through to reasonably recent times is a new issue, which I think is something we would take out of this hearing and put to our minister as to whether or not there should be a response to that.[10]

4.12 Some submitters also argued that health care entitlements should be extended to cover people not directly involved in conducting the tests. Groups specifically identified included Indigenous people living in or near the test areas, people affected by fall out from the tests and the dependents of those who participated in the tests.[11]

Committee view

4.13 With regard to the circumstances of the Commonwealth Police who served in contaminated areas from 1965 to the mid-1980s and who are not covered by the provisions of the Bills, the committee endorses DVA's proposal to raise this matter with the Minister for response.

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6 *Submission 13*, pp. 5–6 and *Committee Hansard*, 6 November 2006, pp 27-29.

7 *Committee Hansard*, 6 November 2006, p. 29.

8 Dr Geoff Williams, *Committee Hansard*, 6 November 2006, p. 34.

9 *Committee Hansard*, 6 November 2006, p. 38.

10 Mr Mark Sullivan, Secretary, Department of Veterans' Affairs, *Committee Hansard*, 6 November 2006, p. 48.

11 See for example Mr Hess, *Submission 6*; Mr Byrt, *Submission 9*; Mr White, *Submission 25*; Mr Pastakatzis, *Submission 37*.

Other matters

Disputes over the scientific studies

4.14 Numerous submitters to the inquiry critiqued the findings and methods of the Australian Participants in British Nuclear Tests in Australia Dosimetry and Mortality and Cancer Incidence Study. When announcing the health care entitlements encompassed by the Bills, the Hon Mr Billson referred to this study, noting that it had not found 'any link between the increase in cancer rates and exposure to radiation'.[12] Submitters suggested that flaws in the study had resulted in incorrect conclusions, which in turn had been used as the basis for limiting health care entitlements for the nuclear test participants. Dr John Lonergan, a qualified scientist, argued:[13]

> My concerns lie in the areas of scientific methodology underlying the cancer study and the interpretation of results. These aspects are flawed and have been directly responsible for the Government reneging on an earlier decision agreeing in principle to compensating the veterans under the terms of the Veterans Entitlement Act.[14]

4.15 Criticisms of the study included that:

- the nominal roll of participants used to create the sample for the study was deficient;[15]
- the radiation dosages allocated to participants in the study were underestimated;[16]
- the effects of the radiation dosages were underestimated;
- there was insufficient evidence to explain the higher rate of cancer among the nuclear test participants by other, non radiation, causes;[17]

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12 Mr Bruce Billson, Minister for Veterans' Affairs and Minister Assisting the Minister for Defence, *Nuclear Test Participants to Receive Additional Health Care*, Media Release 28 June 2006.

13 Dr John Lonergan OBE, BSc (Hons 1, Physics), MSc (Nuclear Physics), BA (Logic and Philosophy), PhD (philosophical foundations of physics). Formerly RAAF radar mechanic WW11; Defence Research Scientist; Science Adviser to the Navy; Superintending Research Scientist, Dept of Defence; Head, Science Branch, Dept of Education and Science; Deputy Secretary and Acting Secretary, Department of Science; Vice-Chairman, OECD Committee for Scientific and Technological Policy.

14 *Submission 1*, p. 2.

15 Dr John Lonergan, *Submission 1*, p. 2; Major Alan Batchelor, *Submission 2*, pp 12–13; Australian Nuclear Veterans' Association, *Submission 3*.

16 Dr John Lonergan, *Submission 1*, pp 8-11; Major Alan Batchelor, *Submission 2*, pp 4–6; Ms Sue Rabbit Roff, *Submission 10*, pp 6-7.

17 Dr John Lonergan, *Submission 1*, pp 5-7; Assoc Prof Tilman A Ruff, *Submission 33*, p. 3.

- the study assessed the correlation between all cancers experienced by the study population and radiation doses, instead of focussing on the correlation with increased cancer experience;[18]
- the study did not include cancer related deaths in the assessment of cancer incidence in the study population;[19]
- the study focussed on ionizing radiation and did not assess the health impacts of exposure to other substances related to participation in the tests, such as asbestos, beryllium, and highly enriched uranium;[20]
- the study did not address other non-cancer health effects of participation in the tests, such as sterility, defective immune systems;[21]
- due to lack of data, the study did not cover the period prior to 1982 and other studies indicate that the incidence of cancer and cancer deaths among test participants may have been highest then;[22] and
- the study did not include Indigenous People and others exposed to the effects of the tests.[23]

4.16 Detailed information was submitted in support of a number of the above criticisms, particularly in relation to the argument that the ascribed radiation doses were underestimates. For example, Dr Lonergan and Major Batchelor presented evidence that some of the estimates were based on calculations using the wrong time, place and exposure information for certain teams involved in the tests.[24] Dr Lonergan rebutted the size of the assumed resuspension factor used in the dosage estimates, given resuspension factors used in other reports.[25] Submitters also pointed to the deficiencies in the records kept at the time of the tests. The detail of the evidence submitted critiquing the study is not rehearsed in this report. Rather, the committee refers interested readers to the relevant submissions and evidence taken at the public hearing for fuller explanation.

4.17 Submitters also criticised the conduct of the study. They stated that in making assumptions about the radiation doses experienced by the nuclear test participants, the study authors had not involved or taken advice from people familiar with the

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18 Dr John Lonergan, *Submission 1*, pp 2, 5, 6.

19 Major Alan Batchelor, *Submission 2*, p. 11.

20 Major Alan Batchelor, *Submission 2*, pp 7-8.

21 Major Alan Batchelor, *Submission 2*, p 3 and 8; Mr Hess, *Submission 6*, p. 1; Mr Ian Batchelor, *Submission 22.*

22 Major Alan Batchelor, *Submission 2*, pp 11-12; Assoc Prof Tilman A Ruff, *Submission 33*, p. 3.

23 George Dale Hess, *Submission 6*, p. 1; Mr Paul Langley, *Submission 12*; Assoc Prof Tilman A Ruff, *Submission 33*, p. 3; Ms Michele Madigan, *Submission 31*.

24 *Submission 1,* pp 10–11; *Submission 2*, pp 4–6 and *Submission 2a*.

25 Dr John Lonergan, *Submission 1*, p. 9.

operations of the tests, particularly those who had actually been involved.[26] In their view, various errors found in drafts of the report and amendments to data in the published report did not give confidence in the final report findings.[27] Major Alan Batchelor criticised the composition of the research team, suggesting that the study would have benefited from the input of experts in radiation biology and nuclear weapons dynamics.[28]

4.18 Submitters also expressed concern that the study had not been subject to adequate peer review, that inadequate time had been allowed for rigorous assessment of the report and that members of the study Consultative Forum and Scientific Advisory Committee had been sidelined from the review process.[29] Dr Lonergan commented on the short time-frame allowed to review the draft reports:

> Previously sight unseen, it was an impossible task to analyse these long complicated report in what in effect amounted to less than one week. Despite protestations the DVA Project Manager insisted on going ahead.[30]

4.19 The Department of Veterans' Affairs (DVA) expressed confidence in the findings of the reports, stating that the study stood up to scientific scrutiny:

> The Dosimetry Study has been internationally peer reviewed and has been accepted by the scientific community.
>
> The Epidemiological Study is an important piece of research and has been presented at several scientific meetings and is currently going through the process of being developed for publication in relevant journals. The epidemiology study was undertaken according to world best practice for this type of study and was under the auspices of an independent Scientific Advisory Committee.[31]

4.20 DVA explained that in addition to the Scientific Advisory Committee engaged to oversee the study and the Consultative Forum comprising representatives of the ex-service community and involved government agencies, the Dosimetry Report was also peer reviewed by three experts in nuclear physics: Dr John L. Symonds, Chief Scientist (Power & Energy) of the Australian Atomic Energy Commission Research Establishment; Dr Keith Lokan, Australian Radiation Laboratory and Dr Frank Barnaby, nuclear issue consultant to the Oxford Research Group.[32]

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26 Dr John Lonergan, *Submission 1*, p. 9; Major Alan Batchelor *Submission 2*, p. 9.

27 See Dr John Lonergan, *Submission 1*, p. 9; Ms Sue Rabbit-Roff, *Submission 10*, p. 9.

28 Major Alan Batchelor *Submission 2*, p. 9.

29 See Dr John Lonergan, *Submission 1*, pp. 12–14; Major Alan Batchelor, *Submission 2*, p. 4.

30 *Submission 1*, p. 12

31 *Submission 30*, p. 4.

32 Department of Veterans' Affairs, Answers to Questions on Notice, Friday 3 November, Question 11, p 8.

4.21 DVA also noted that although the records kept during the tests were 'by no means complete', the scientific panel responsible for the Dosimetry Study considered there were sufficient numbers to provide a basis for dose estimation.[33]

4.22 Several of the authors of the Dosimetry Report made a submission to the inquiry, in which they stated:

> We are well aware that there have been a number of criticisms of the radiation doses that were calculated for participants, and claims that exposures were underestimated. We stand by our report, but we do not believe that this is the appropriate forum to defend our results. However, should the Committee wish, we would be pleased to supply further information.[34]

4.23 At a public hearing criticisms of the study were discussed with several of the Dosimetry Report authors and with the Chair of the Scientific Advisory Committee, Professor Bruce Armstrong.[35] Clarification was provided on a number of issues. For example, with regard to criticism of the time period covered by the study, Dr Crouch said:

> …I think it is a misunderstanding to say that the group's mortality was not studied before 1982. Mortality, including cancer mortality, was studied right back from when the people were first at the test. In fact there was a two-year lag period, but from two years after their exposure, up until 2001, all of the deaths were included. The 1982 date comes about because cancer registries were not established until about then. There have always been births, deaths and marriages registries, so deaths can always be sorted. But cancer incidence cannot be studied much before about 1982.[36]

4.24 In relation to the exclusion of Indigenous people from the study, Professor Armstrong said that the researchers had 'absolutely no way of getting anything like a census of who they were, where they were and what they were doing'. He elaborated:

> For us to have done something, or for the investigators to have done something, they would have had to have had the identity of all these individuals so that they could then ascertain whether they had died, then get a copy of their death certificate and find out whether they appeared in a cancer registry. A simple census of how many people and where they were would not have been sufficient. It would have had to have been an identified list.[37]

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33 *Submission 30*, p. 4.

34 Dr Philip Crouch, Mr Rob Robotham, Dr Geoff Williams, *Submission 13,* p. 5.

35 *Committee Hansard*, 6 November 2006, pp 29–34 and 40–52.

36 *Committee Hansard*, 6 November 2006, p. 32.

37 Professor Bruce Armstrong, *Committee Hansard,* 6 November 2006, p. 42.

4.25 Professor Armstrong also provided some information about the difficulty of the dose estimation task and the limited records available from radiation exposure badges:

> …there were very few measurements available. That is not the only evidence on which these exposure estimates were made, as you would be aware from the report. A very substantial attempt was made in the dosimetry study to estimate individual exposures based on all the information that we have available about the nature of the tests performed, the distribution of radiation that you would expect both in time and place as a result of that, the nature of that radiation and then the location of groups of men. This is not down to the individual; it is based on the group—where they were and what they were doing at different times in relation to the time at which the detonation occurred. On that basis, my view is that one has a reasonable reconstruction of what the doses probably were. But you are quite right: in terms of actual measurements there are very few.[38]

4.26 The committee is not in a position to validate the scientific arguments made in submissions, or to arbitrate on points of contention. It notes however the concerns raised by submitters regarding the conclusions of the dosimetry and cancer incidence and mortality study. It also acknowledges the difficulty of the task that the study researchers undertook. The committee understands that further research may provide a fuller understanding of the health impacts of Australians' participation in the British nuclear tests. The committee notes that the Dosimetry Report has been peer reviewed and that the Chair of the Scientific Advisory Committee is satisfied with the scientific methodology. The committee is concerned that the Department's conduct of the consultation process has drawn criticism from a range of people and organisations.

Ineligibility for veterans' entitlements

4.27 A number of submitters argued that full coverage under the Veterans' Entitlement Act (VEA) should be extended to military personnel who were participants in the British nuclear tests.[39]

4.28 The Clarke report did not support full VEA coverage for the nuclear test participants through classification of the participation as 'qualifying service'. The review stated:

> …it is inappropriate to declare service in the British atomic tests to have been warlike because that service does not meet the criterion of being an

38 *Committee Hansard*, 6 November 2006, pp 41–42.

39 See for example Australian Nuclear Veterans Association Inc., *Submission 3*; Australian Student Environment Network, *Submission 5*; Mr Adam Wolfenden, *Submission 7*; Friends of the Earth, *Submission 8*; Ms Cate Kyne, *Submission 14*; Pat Mackle, *Submission 15*; Mr Luke Digance, *Submission 17*; Ms Sarah Hoyal, *Submission 21;* MrBreasley, *Submission 24.*

> activity required to pursue specific military objectives, such as a declared war or conventional combat operations against an armed adversary.[40]

4.29 Rather, as discussed in Chapter 2, the review considered it appropriate to recognise participation in the tests as non-warlike, hazardous service. Nearly all submitters called for the Clarke review recommendations to be fully implemented.[41] For most submitters, endorsement of the Clarke review recommendations was based in a view that extension of VEA entitlements would provide just and deserved recognition of the service provided and suffering experienced by the remaining nuclear test participants.

4.30 Submitters also noted that while the provisions of the Bills provide cancer treatment for test participants, there are no provisions for the widows of those already deceased or their dependents and no provisions for compensation. Mr Charles Geshke stated:

> …servicemen lost their lives. The effect was not only on them but on their families, as breadwinners, as fathers to children and all the other things that come with a composite family. There should be some recognition of that. The bill does it, as I see it, in giving diagnosis and treatment. I get that irrespective of whether I was a veteran of nuclear trials or not. The difference is that the widows and the children do not get the benefits.[42]

4.31 Coverage under the VEA would enable eligible participants to make a claim for the disability pension and, should they die from war or defence caused injury or disease, for their widow to claim the war widow's pension.[43] Witnesses to the inquiry emphasised that extension of the VEA to cover nuclear test participants would not require legislative change. Brigadier Kerry Mellor, representing the Regular Defence Force Welfare Association, explained:

> …it is already open to the minister under the Veterans' Entitlements Act to determine that a certain class of people who rendered service can be classified as veterans. So it is very hard to understand why it is necessary to have special legislation to grant entitlement to these people under the Veterans' Entitlements Act when they could easily be determined to be

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40 Report of the Review of Veterans' Entitlements, Chapter 16 – British Atomic Tests, p. 395.

41 See for example, Australian Nuclear Veterans Association Inc., *Submission 3*; Australian Student Environment Network, *Submission 5*; Mr Adam Wolfenden, *Submission 7*; Friends of the Earth, *Submission 8 and 8a*; Ms Cate Kyne, *Submission 14*; Pat Mackle, *Submission 15*; Luke Digance, *Submission 17*; Injured Service Persons Association, *Submission 26;* Womens' International League for Peace and Freedom, *Submission 36*.

42 *Committee Hansard*, 6 November 2006, p. 19.

43 Mr Hodges, National Veterans' Affairs Adviser, Returned and Services League of Australia, described the entitlements afforded by hazardous service classification. See *Committee Hansard,* 6 November 2006, p. 23.

> veterans for the purposes of the act by the minister by administrative action.[44]

4.32 Major Alan Batchelor expressed concern about setting up health care entitlements under a separate Act, outside the Veterans' Entitlement Act:

> Continuation down the present path could involve the proliferation of Bills as each health effect is acknowledged on a piecemeal basis and a complete duty of care responsibility is avoided until there are no longer any veterans.[45]

4.33 The Clarke review noted at the time that the classification of non-warlike hazardous service applied only to service outside Australia.[46] The review used the classification framework also to assess service within Australia. However, it remains the case that the Government has not extended the 'non-warlike service' classification for service within Australia.[47] DVA noted that there is 'no longer any scope for a declaration of "Hazardous" service'. Such declarations have been replaced by 'Non-Warlike Service'. DVA also noted that:

> The VEA has never been extended to include Australian Defence Force peacetime coverage for a specific Occupational Health and Safety (OH&S) exposure or for conditions related solely to environmental threats.[48]

4.34 Mr Rick Johnstone, National President of the Australian Nuclear Veterans' Association, considered that an unprecedented extension of VEA coverage would be appropriate:

> We are told by Minister Billson that never before in history have Australian servicemen and women received benefits under the Veterans' Entitlements Act if they had not had overseas service as, for the purpose of the act, they are not seen as veterans. It is a known fact that nuclear weapons test participants faced far greater hazards than many who went overseas. I suggest that we make history again and make nuclear test participants the very first who have not had overseas service to receive full entitlement under the Veterans' Entitlements Act for hazardous service far beyond that which is normally experienced in normal peacetime service.[49]

4.35 DVA commented that the proposed legislation provides a broader response than that recommended by the Clarke report, as it encompasses civilian contractors

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44 *Committee Hansard*, 6 November 2006, pp 13–14.

45 Major Alan Batchelor, *Submission 2*, p 3.

46 Report of the Review of Veterans' Entitlements, Chapter 16 – British Atomic Tests, p. 389.

47 The Hon Bruce Billson, *House Hansard*, 11 October 2006, p. 142.

48 Department of Veterans' Affairs, Answers to Questions on Notice, Friday 3 November, Question 1, p 1.

49 *Committee Hansard*, 6 November 2006, p. 14.

and APS employees as well as military participants.[50] It should be noted that if nuclear test participants were to be granted non-warlike service classification for the VEA, claims for a disability pension would need to satisfy a factor specified in the relevant Statements of Principles. For example, for cancers with radiation dose factors, evidence of receiving a certain dosage level would need to be shown. DVA observed that for the Statements of Principles for those cancers covered by the recent Dosimetry Study, the dosage levels required for a successful claim are considerably higher than those estimated in the study.[51]

Compensation, justice and recognition

4.36 Most submitters commented on the 'non-liability' framework of the Bills and argued that compensation for participants should also be addressed. Submitters viewed compensation as a long-awaited form of justice and recognition for the test participants. As noted above, a number of submitters also argued that there were flaws in the recent study which found no association between increasing radiation exposure from participation in the tests and increased cancer incidence. These submitters argued that the study had been inappropriately adopted to support the non-liability basis of the Bills.

4.37 Compensation claims in relation to participation in the nuclear tests have been dealt with under different legislation over time. The *Safety, Rehabilitation and Compensation Act 1988* (SRCA) applies to employees of the Commonwealth, including current and former members of the Australian Defence Force. Section 7(1) of the SRCA deals with employees or members of the ADF who have been engaged in work with the Commonwealth involving exposure to certain substances, including ionising radiation. Under this section, if the employee subsequently suffers from a disease that is characteristic of exposure to that substance, then it will be taken that the employee's employment materially contributed to the cause of the disease, unless the contrary can be established.[52] The Clarke report stated that Section 7(1) of the SRCA has been applied to claims for disease or death related to exposure to ionising radiation from the tests only where:

> It has been established that the member was at a test site at the time of, or after, a test was carried out there;
>
> It has been confirmed that the member was actually exposed to a dose of ionising radiation at the test site; and
>
> The member has suffered from a disease that is characteristics of exposure to ionising radiation.[53]

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50 Department of Veterans' Affairs, Answers to Questions on Notice, Friday 3 November, Question 1, p 1.

51 Department of Veterans' Affairs, Answers to Questions on Notice, Friday 3 November, Question 2, p 2.

52 See Report of the Review of Veterans' Entitlements, Chapter 16 – British Atomic Tests, p. 377.

53 Report of the Review of Veterans' Entitlements, Chapter 16 – British Atomic Tests, p. 377.

4.38 As an outcome of the McClelland Royal Commission, coverage under a scheme similar to SRCA is now provided to all non-Government employees, pastoralists and Indigenous Australians who were in the test area at the relevant time.[54]

4.39 A Special Administrative Scheme was introduced in 1989, providing compensation to any participants in the tests who subsequently developed multiple myeloma or leukaemia (other than chronic lymphatic leukaemia). The scheme was revised in 1995 to provide compensation where the relevant disease had developed within 25 years of participation in the tests. The scheme is now closed.[55] An Act of Grace scheme also operated for a period from 1988 to 1989 enabling plaintiffs with common law actions to have their cases assessed outside the court system.[56]

4.40 The Clarke report noted that the major difficulty that nuclear test participants experience in making a claim under the SRCA is in providing evidence that they were exposed to a dose of ionising radiation.[57] Between 1996 and 2006 only nine compensation payments have been made to Australian participants in the nuclear tests, all of these under the SRCA.[58]

4.41 Major Alan Batchelor called for a change to the onus of proof in compensation claims:

> When an application for compensation is made by a nuclear test veteran (or his widow), he becomes responsible for proving his presence at a test site, and in the case of aircrew, he was in a contaminated aircraft. As there is no repository where this information is available, the presence of the veterans name on the Nominal Roll should be acceptable and Defence should be responsible for providing or certifying other missing information.[59]

4.42 Submitters argued that classifying participation in the nuclear tests as 'non-warlike' service for the purposes of the VEA would create a substantial improvement with regard to compensation. DVA acknowledged the difference:

> Granting non-warlike service to this group would enable disability compensation claims to be determined under the *Veterans' Entitlements Act 1986* (VEA) using the more generous standard of proof...[60]

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54 Department of Veterans' Affairs, *Submission 30,* p. 2.

55 Department of Veterans' Affairs, *Submission 30*, p. 2.

56 Report of the Review of Veterans' Entitlements, Chapter 16 – British Atomic Tests, p. 380.

57 Report of the Review of Veterans' Entitlements, Chapter 16 – British Atomic Tests, p. 377.

58 Senator Campbell, Answer to Senate Question on Notice no. 2329.

59 Major Alan Batchelor, *Submission 2*, p 13.

60 Department of Veterans' Affairs, Answers to Questions on Notice, Friday 3 November, Question 2, p 2.

4.43 In arguing the case for retrospective compensation, Group Captain (retired) Charles Geschke suggested that 'it is little different to the aircraft fitters exposed to toxic fumes when refurbishing or sealing the F111 fuel tanks'.[61] DVA agreed that there were some similarities between the two groups:

- Both the British Nuclear Tests Study and the Study of Health Outcomes in Aircraft Maintenance Personnel found an increase in the incidence of cancers amongst their respective cohorts without a clear indication of causation.
- Both groups have argued that the circumstances of their employment was more hazardous than that associated with normal peacetime service conditions of employment and should be recognised by a declaration of hazardous or non-warlike service.
- The proposed response to both Studies has recommended that any response should recognise the entire cohort involved including military, APS and third party contractors.
- Neither proposed response recommended access to additional benefits under the Veteran's Entitlements Act 1986 (VEA) as the VEA has never been extended to include peacetime coverage for a specific Occupational Health and Safety (OH&S) exposure or for conditions related solely to environmental threats.
- Rather, both groups have been provided with compensation coverage under the Safety Rehabilitation and Compensation Act 1988 and its antecedent legislation and with non-liability health care for conditions which may be causally related to their respective periods of service.[62]

4.44 However, an ex-gratia payment was made for the F-111 Deseal/Reseal Participants. DVA explained that this payment was "not related to having a personal injury" such as cancer but recognised the "unique working environment associated with the F-111 Deseal/Reseal Programs". Further, DVA commented that the F-111 Study indicated 'that the working conditions might have contributed to a dose-response relationship'.[63] While the findings of the Australian Participants in British Nuclear Tests Study are inconclusive regarding causation, 'they clearly state that there is no dose-response relationship leading to an increased risk of cancer from the most

61 *Submission 11*, p. 2.

62 Department of Veterans' Affairs, Answers to Questions on Notice, Friday 3 November, Question 9, p 6.

63 Department of Veterans' Affairs, Answers to Questions on Notice, Friday 3 November, Question 9, p 6.

likely cause, increased radiation exposure'.[64] DVA also stated that in contrast to the F-111 Deseal/Reseal participants, the employment conditions experienced by the nuclear test participants 'did not involve a constant requirement to work in cramped and confined spaces where the potential carcinogens accumulated'. [65]

Conclusions and recommendation

4.45 The committee recognises the dedicated service given by Australian participants in the British nuclear tests under the authority of the Australian Government and the subsequent significant impact for many on their health and wellbeing.

4.46 The committee appreciates that submitters have taken the opportunity afforded by this inquiry to raise wider policy issues concerning the Government's response to those who participated in the tests. The committee notes the arguments and proposals for alternative forms of entitlement, such as coverage under the VEA and compensation, put forward by many submitters to the inquiry. The committee also notes that such extension of the VEA is unprecedented for peace-time service in Australia.

4.47 The committee notes the dissatisfaction with the response provided by the Bills. In particular, the committee notes the concerns raised by some submitters regarding the veracity of the recent dosimetry and mortality and cancer incidence study, and the proposal that participation in the nuclear tests be declared non-warlike service for the purpose of the VEA.

4.48 While the entitlements provided for under the current Bills do not extend as far as some submitters hoped for, the committee notes that the Bills do provide significant cancer testing and treatment provisions, not only for service personnel but also eligible public service employees and civilian contractors. The committee is conscious not to delay the introduction of the entitlements, which provide progress on this longstanding issue. The committee is also satisfied that the Bills do not preclude other subsequent compensation claims and arrangements. Accordingly the committee recommends that the Bills be passed without delay.

4.49 However, the committee draws to the Government's attention, for consideration and response, the situation of the few hundred Commonwealth Police who served in contaminated areas from 1965 to the mid-1980s. The committee was advised that these officers were at high risk of radiation and increased cancer and are not covered by the provisions of the Bills.

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64 Department of Veterans' Affairs, Answers to Questions on Notice, Friday 3 November, Question 9, p 6.

65 Department of Veterans' Affairs, Answers to Questions on Notice, Friday 3 November, Question 9, p 6.

Recommendation 1

4.50 The committee recommends that the Senate pass the Bills without amendment.

SENATOR DAVID JOHNSTON
CHAIRMAN

Australian Democrats Additional Comments

Inquiry into the provisions of the Australian Participants in British Nuclear Tests (Treatment) Bill 2006 and a related Bill

Introduction

This legislation will provide for the testing and treatment for cancers for Australian participants in British nuclear tests in Australian in the 1950s and 60s. The Committee's main report has outlined some of the concerns raised in the inquiry. However, it has downplayed the concern raised in relation to the legislation in its current form.

As has been pointed out in many of the submissions to the Inquiry, the Bills

- are predicated on the basis of disputed research,
- ignore the many non-cancer related health effects of exposure to radiation and the concomitant health care and treatment needs,
- fail to adequately recognise key categories of people exposed to fallout from the tests,
- neglect the intergenerational genetic and heritable consequences of participation in the tests and
- do not offer compensation for pain and suffering for surviving veterans and exposed civilians and their families and for the partners and families of those test participants who have tragically already died.

The Democrats support efforts, however overdue, to provide fair and just treatment to those Australians who were involved either as service personnel or civilians in the tests and consequently exposed to radiation. As such we welcome the measures in these Bills which essentially provide the equivalent of a White Card for cancer testing and treatment for surviving participants of the British nuclear tests, although we would argue that these measures should be significantly extended.

We are also concerned that these Bills will represent the entirety of the Government's recognition of its responsibility to the tens of thousands of veterans and civilians and their families for the diseases and deaths likely to have been caused by exposure to atmospheric nuclear weapon test explosions. The Bills explicitly dismiss the Government's liability in exposing participants to high levels of ionising radiation.

<u>Inadequacies of Research</u>

Many submissions to the inquiry challenged the findings of the 2006 mortality and cancer incidence study of the Australian participants of the British nuclear tests.

Submissions highlighted controversy over the studies including specific methodological concerns and broader process issues.

Inadequate dosimetry estimates

Most significantly the claim that increases in cancer were unrelated to radiation exposure were considered implausible by many witnesses and submissions, with the more likely explanation considered to be inadequate dosimetry estimates that substantially underestimated radiation exposure.

Volume 1 of the findings from the Australian Participants in British Nuclear Tests in Australia, Dosimetry 2006 indicates that for the purposes of examining the consequences of radiation exposure each participant was assigned an estimated accumulated dose for each test series. Participants were grouped into one of five exposure categories, A to E, with F applied to those individuals for which there was insufficient information on which to base an estimate of the dose.

Exposure category	Radiation exposure range (mSv)
A	<1
B	1–<5
C	5–<20
D	20–50
E	50 or more
F	Unknown

Dr Lonergan commented that "The proper conclusion emerging from the studies is that, with high probability, ionising radiation was responsible for a great many of the excess cancers and that the lack of connection between cancers and dosages was due to underestimating the dosages experienced by the participants and/or underestimating the effect of those dosages."

Major Batchelor noted that "The first and only release of the Cancer and Mortality study for comment by the Consultative Forum resulted in a conflict between adequate time for assessment of an obviously unsound document and a desire by DVA to publish as soon as possible, no matter the consequence. The current situation stems from this unseemly haste, where it still remains to be established that estimated exposures to ionising radiation do not agree with recorded measurements by extremely large factors."

Major Batchelor provides several examples of demonstrated mistakes between recorded and estimated dosage rates. In testimony to the Committee referring to tables before the Committee he notes that "an extract from AWRE report T5/54 *Fission product sampling,* co-authored by an Australian Army officer who was also the principal scientific officer at the Long Range Weapons Establishment. Highlighted is documented evidence of even higher dose rates than those stated in my original submission: a land-rover was driven toward the photographic tower ‘C’ at a distance of approximately one mile from ground zero (where) the activity was the order of 50

to 60 roentgens per hour (ie 500 to 600 mSv/hr). On the next page, 4B: The sample was flown immediately from Emu to Salisbury where the fused black spheres were found to be extremely active and to contain very large quantities of plutonium. It would take 60,000 hours of continuous exposure at the study's estimated dose rate of 0.01 millisieverts to achieve this dose.

Associate Professor Ruff argued that "the availability of any film badge external photon exposure for only 4% of test participants is an inadequate basis for sound dosimetry estimations." Associate Professor Ruff went on to note that "there is clear evidence that some test personnel were exposed to very much higher doses than the 100msv used in the study for all doses estimated to be greater than 50 mSv. The Royal Commission documented individual exposures up to 300 mSv."

Group Captain Geschke commented that the dosimeter readings estimated from aircraft readings and inferred for aircrew could be misleadingly low. Ms Rabbitt Roff points out that the dosimetry study relied on "internal radiation exposures…calculated from estimates of radionuclide intakes. An assessment of internal doses requires information on the time spent performing specific tasks and the probable intakes of radioactivity during the time. Ms Rabbitt Roff goes on to highlight that the study report itself acknowledges that "some of the biggest uncertainties…are in the lack of detailed knowledge of what various participants in the UK atomic testing program were actually doing, where and for how long."

Major Batchelor, in his testimony before the Committee, commented that "because the dosimetry committee was not properly equipped to prepare work histories at the individual or workgroup level, employment designations were described in such sweeping categories as: general engineering support, all ships prior to the D + 4, transport in contaminated vehicles, logistical support for G1 and so on, with no proper description of who did what, where and when. There was some identification of specific tasks but the lack of involvement information remained a problem. It follows that dosage categorisations for individuals were based on obscure and uncertain employment groupings."

The Australian Veterans and Defence Services Council commented that "The outcome of the Dosimetry Report is that there was no hazard from radiation. This position is not acceptable in the face of the clear evidence of radiation hazard. On Tremouille Island in the Monte Bellos, to this very day, there are signs which say, "Radiation Risk Hazard, do not stay for more than one hour, do not raise dust, do not consume food, do not remove anything from the island." The submission continues "if there was no radiation hazard why did the Australian Government spend $104 million on a decontamination of the Taranaki area of Maralinga in the late 1990s? In this context if there was a hazard that necessitated a clean-up, how much more would the hazard have been for the men who were there in the 1950s and 1960s, most of them without proper safety clothing. The manner in which the Dosimetry Report was produced, give little confidence in the integrity of its content and the conclusions, which are so fundamental to the determination of the government commitment."

Healthy Soldier Effect

Many submissions commented on the failure of the study to incorporate what is commonly referred to as the healthy worker effect – or in this case the healthy soldier effect. This refers to the phenomenon whereby mortality and morbidity within the workforce is generally lower than the general population as individuals must be generally healthy to be employable. Associate Professor Ruff identified the lower non-cancer mortality rate in serviceman and civilian contractors participating in the nuclear tests in comparison to the Australian population as evidence of the healthy worker effect.

Witnesses to the inquiry commented that the failure to adjust for this effect in the analysis of the data contributed to an underestimation of the effects of exposure to radiation. Group Captain Geschke argued that "I have little doubt that the average serviceman is healthier than the average member of the population at large….in addition to serviceman being healthier on intake most serviceman have a regimen which require them to stay fit not only through activities but also adequacy of their diet and the regular medical examinations and treatment. On this basis I believe the percentages of 18 and 23 understate the degree of higher incidence of cancers amongst participants."

Major Batchelor commented "For some reason this study only looked at the healthy soldier effect for the first two years, whereas the soldier's life is healthy for all of his life in the service. To disregard that is to mask the results of the study. It should have been stated, and there should have been an effective percentage allowance made for the healthy soldier effect." Dr Lonergan remarked "there is no doubt at all that the results that are presented in the reports would be worse if you took away the healthy worker effect. There is no question about that; the results would be worse.

Groups included and omitted from study sample

Many of the witness and submissions to the inquiry raised concern exclusion of individuals and groups from the study and the consequent effect on the findings. Associate Professor Ruff commented that "the study excludes… about 6000 – more than one third – of the estimated 17,000 individuals directly exposed to the nuclear tests, including groups likely to include highly exposed individuals, such as Aboriginal people and some pastoralists living in the vicinity of tests sites and subjected to local fallout."

In testimony before the Committee Prof Armstrong, a member of the Consultative Forum involved in the studies, commented "it is true that pastoralists and Aboriginal people were not included, and that is principally because we had absolutely no way of getting anything like a census of who they were, where they were and what they were doing."

Ms Madigan, in reference to the exclusion of Indigenous Australians, suggests that it is "astounding that the very people whose lifestyle and lack of knowledge of what was going on at the time ensured that they be potentially the most vulnerable as a group of

all those affected by the tests ….this serious error…of course undermines the validity of the entire study."

Dr Williams, a member of the research team, commented that "without having done a proper scientific assessment, my guesstimate is that any Aborigines who passed through that area at that time could have potentially received similar doses to the Commonwealth Police on the basis that through any dust-raising activities, such as filling in rabbit holes, hunting for bush tucker or whatever, and by simply living in the area—a very dusty area—you were going to be exposed to the risks of inhaling plutonium. So, while Aborigines were never part of the DVA study and therefore we never had a cohort of Aboriginals to assess doses for….any who were in the area were potentially at risk."

In testimony to the committee Major Batchelor identified as critical the omission of records of some high-exposure groups from any analysis of the effects of participation in the nuclear tests, "probably the most critical evidence provided to, and ignored by, the minister was the documented level of exposure experienced in their working environment by 40 military engineers involved in the desealing of instrument bunkers one hour after the detonation of the weapon codenamed Taranaki. The dosage records for this group, the other members of the Antler Engineer Troop, members of the Buffalo Engineer Troop and the crew of HMAS *Koala* have not been published in the official records. These groups were all employed on very early re-entry and in high exposure situations."

The omission of individuals whose cancer fell outside the study data collection window of 1982-2001 was also identified as a substantial limitation to the results outlined in the study report. Associate Professor Ruff commented that "the cancer study window of 1982-2001 would have missed cancers occurring up to 30 years after the first nuclear test in Australia (1952). This is particularly relevant for leukaemia, which has a much shorter latency (approximately 5-15 years) compared with solid tumours ….. excess leukaemia rates could have been missed by the observation period selected." Associate Professor Ruff also noted that "the absence of data since 2001 excludes cancers and deaths occurring in the last 5 years, during which elevated rates of these outcomes would be expected to continue to rise.

Concerns were also raised within evidence presented to the Committee over the omission of deaths attributed to cancer from cancer incidence figures. Major Batchelor argued that "If a person dies of cancer then his contraction of cancer should also be included in the cancer incidence numbers." In his testimony to the Committee Major Batchelor noted that "The first paragraph of the Adelaide university main findings identifies a mortality study starting from the time of the nuclear tests, and a cancer study for cases of cancer, whether fatal or not, commencing in 1982. It is important to note that the main findings state that the study of both cases of cancer and cancer deaths commenced in 1982 and provides the basis for much that follows." Dr Crouch's testimony to the Committee confirmed that "incidence was only counted after 1982 …. I would presume that there were cases of fatal cancer prior to 1982."

Group Captain Geschke makes the point that 17.7% of the cohort were excluded from the study analysis and findings because their date of birth was not known, commenting that "the exclusion could have slanted the results of the study". No justification is provided as to why lack of a date of birth was sufficient grounds for the exclusion of all data from these individuals.

Dr Lonergan noted that "I have seen evidence that the nominal roll of participants is deficient to the extent that some participants have been left out and others have not been correctly credited with the circumstances of their actual involvement." The nominal roll is the list of individuals who were considered participants of the nuclear tests for the basis of the studies.

The National Servicemen's Association of Australia commented that while the Department of Veterans Affairs has identified 137 Navy National Serviceman as participants of the nuclear tests, their organisation believes that the correct figure should be 400 plus.

The omission of Commonwealth Police Officers from inclusion in the epidemiological study was also identified in oral and written submissions. Dr Crouch and his colleagues argued that "they were clearly one of the most heavily exposed groups involved in the tests and their aftermath… the period used to identify the participants for the purposes of the epidemiological study was 1952-1965. Those who did not serve in the area during that period are excluded….even though many of them may have had multiple tours of duty at Maralinga and accumulated significant radiation exposures."

The Australian Nuclear Veterans' Association raised concerns about the inclusion on the nominal roll of individuals who would have had little or no exposure to radiation. Their submission states "Most of the civilians whose names appear on the nominal roll had left the test site before any tests were carried out and were put on the nominal roll purely to water down any tests or studies that would follow." Mr Johnstone, the National President of the Australian Nuclear Veterans' Association, further stated "including people who obviously had no exposure at all at any time in the studies would dilute the findings."

Dr Crouch, a member of the Study Group involved in the 2006 mortality and cancer incidence study of the Australian participants of the British nuclear test, acknowledged that "80% of that group we believe got virtually no radiation exposure at all." Paragraph 2.12 of the Committee's main report references the study's estimation that approximately 79% of the participants were assessed as receiving less than 1 mSv that is, approximately half the annual dose received from natural background radiation.

Missing and unavailable records

Difficulties accessing hospital and other records and documents were identified as problematic both for the study and wider compensation claims.

Ms Munslow-Davies commented that "History will show a history of available documents and not those that for whatever reason are destroyed, altered or mislaid….. Recently I discovered a hidden archive of documents about the British Nuclear Tests, their conduct in Australia, safety and health implications and policy of that era. Altogether there were over 3000 documents. As of today nine of these documents have been released …. We still do not have access to the remaining 2991 documents or many of the documents that they refer too. This is despite numerous court cases, a Royal Commission, a health study, the current health study and the passage of almost 50 years." In testimony to the Committee Ms Munslow-Davies expanded on her submission and reported that "The knowledge that the documents were missing was widespread. The Adelaide hospitals had lost their documents, hospitals at Watson had lost their documents, the hospital at Woomera had lost its records and the records at Maralinga hospital and at all the first-aid posts were gone as well." Major Batchelor also noted that the Amberley hospital records are missing as well.

Alternative Explanations

A number of submissions highlighted that none of the proffered explanations for excess cancers among nuclear test participants, offered as alternatives to ionising radiation, are satisfactory as they are not substantiated with evidence that links the participants with the hypothesised causes.

Dr Lonergan commented that "The epidemiologists tried to blame a swag of [cancers] on excess smoking. But their argument which runs like this is circular - smoking is a common cause of this set of cancers, therefore these military people must have smoked excessively, therefore they developed these cancers. Such an argument is only valid if independent evidence of excessive smoking is produced. No such evidence was produced." Dr Lonergan continues "the speculation that increased smoking prevalence in the cohort could account for excess incidences of cancers of the oral cavity, oesophagus and lung is discussed but substantially negated 'because the mortality study of nuclear test participants has shown no excess mortality from chronic obstructive pulmonary disease (COPD), a finding that would be unexpected in a population with a high smoking prevalence.'"

This inconsistency is also highlighted by Ms Munslow-Davies who states "there is no evidence to support the statement that these servicemen smoked more than the general population…There is no corresponding increase in airways disease (which you would expect if this were the case."

Similarly, in an attempt to link civilian participants to asbestos-related diseases. Dr Lonergan points out that study report makes the statement that "*many of the civilian subjects in the cohort were in the construction industry, where asbestos was commonly used, at a time when less caution was exercised than in recent years. Whether any of these subjects were exposed to asbestos during the nuclear tests is not known*". Dr Lonergan goes on to comment that no "evidence produced to show whether they were exposed to asbestos in the work they did before the nuclear tests, or

after them, or whether they differed in this or any other way from their parent population."

Ms Rabbitt Roff points out that researchers responsible for the Australian study have proffered different age structures between Vietnam Veterans samples and Australian participants in the nuclear tests as a possible explanation for the higher cancer incidence and mortality in the Australian test participants. A similar argument has been proposed for differences in cancer mortality between UK and Australian participants in the nuclear tests. However no evidence of any age difference between the cohorts is offered.

General Process Issues

The Committee received written and oral evidence that the final stages of preparation of the study report was very rushed and that criticism and comment on the report by members of the Consultative Forum and Scientific Advisory Committee was ignored. In his testimony before the committee Dr Lonergan made the point " My objections to the published reports were sent to the Repatriation Commission on 30 July and then passed by Rear Admiral Harrington to DVA for attention. They have never been answered."

In her testimony Ms Munslow-Davies reported that "We were under the assumption, going into the final [Scientific Advisory Committee] meeting, that the main findings would be reviewed, as they were seen as prejudicial (a) to the study and (b) to the veterans. This did not occur, and the final meeting of the SAC lasted for less than an hour and a half, at which time it became extremely obvious that nothing would be changed, the report was already on its way to the printers and the decisions had already been made. That was the point where I withdrew full and total support, something that I did not take lightly."

Dr Crouch, a member of the Study Group involved in the 2006 mortality and cancer incidence study of the Australian participants of the British nuclear test, confirmed in his testimony before the Committee that "there did appear to be some rush towards the end to get [the report] finalised so it could be presented to parliament."

The Democrats acknowledge that we have commented on only some of the many matters raised by witnesses and submissions to the inquiry. However, due to the short time allowed by the Government for this inquiry and the associated reporting deadline, we are limited in the issues we can address.

Conclusion

The current legislation is the Government's response to the 2006 mortality and cancer incidence study of the Australian participants of the British nuclear tests which identified increased cancer rates and cancer deaths amongst test participants.

It is now 50 years since the nuclear tests took place and many people were exposed to the radiation that has harmed them. These people have been poorly treated in the past

50 or so years. About half of the test participants have died waiting for the recognition and justice they are yet to receive.

The Democrats acknowledge that this is a difficult area to research and to find hard evidence. However evidence to the Inquiry throws doubt on the validity of the conclusions drawn by the studies. It is noteworthy that all of the criticisms of the study identify ways in which exposure to radiation and consequent illness would have been underestimated. It is disappointing that the concerns and questions raised by members of the consultative forum and others have not been adequately resolved. The Democrats are disappointed that neither Associate Professor Ruff nor Ms Rabbitt Roff, both critics of the study methodologies and findings, were invited to appear before the Committee during the course of the inquiry.

There is general recognition that participants in the tests were essentially human guinea pigs. Governments have a duty of care to their citizens, whether military personnel or civilians, and the Government has a responsibility to provide care and compensate those whose illnesses have a high probability of being connected to their exposure to hazardous activities.

It is a welcome step in the right direction that we have a bill which provides for non-liability treatment for cancer for the participants in the test, but it is disappointing that participants are still being denied the recognition and respect that they are entitled to. Equally just are demands for acknowledgement from indigenous groups and others who experiences have been completely disregarded to date.

This Government should do better. In line with the Clarke review, participants of the nuclear tests should be classified as veterans and non-warlike hazardous service status granted. This would permit easier access to a range of benefits including war widows' pensions. Paragraph 2.22 of the Committee's main report acknowledges that, according to the Clarke report, coverage as hazardous service under the VEA would provide greater entitlements than offered by this legislation. Mr Hodges, the National Veterans' Affairs Advisor for the Returned and Services League of Australia made the comment in his testimony to the Committee that "With regard to test participants in particular, yet again at the RSL national congress in September this year the motion that the service that the participants undertook during these tests be regarded as hazardous service under the Veterans' Entitlements Act was passed and again formed part of the RSL's budget submission to government. …..Once service has been deemed hazardous and a member of the service has been allotted to that area then that member comes under the VEA for that period of service. This means simply that compensation is payable for any disease or injury during that service that can be related to that service. For these participants this would mean that, as they came under the VEA at the time of the tests, any cancers, post-traumatic stress disorder, depression or anxiety disorder that they have been diagnosed with will be treated at departmental expense without admitting liability for compensation. This is available to all members whose service falls under the VEA and this is what this bill does in relation to cancers for the participants. As a follow-on, if a claim for compensation is made and accepted then a disability pension is payable. Then the big one: if a veteran

then dies of a war or defence caused injury or disease then the widow is entitled to a war widows pension. ….. [the minister]has missed the point: it is not only the health care but also the compensation."

This Bill also does not go to the question of compensation. This remains an outstanding issue and one that should be dealt with expeditiously. To date only nine cases of compensation related to the effects of ionising radiation for services related to nuclear tests have been made by the Australian Government under the Safety Rehabilitation and Compensation Act 1988. As highlighted in the Bills Digest for this legislation the current compensation pathways present many difficulties for participants trying to obtain compensation. It is time-consuming, expensive and places the burden of proof on the individual who has difficulty accessing hospital and dosage records and is ill-matched to meet the resources of the Government. Nevertheless the Government, through the provision of these compensation payments to a small number of successful claimants, has acknowledged its liability for the exposure to radiation during the nuclear tests. Similarly the compensation provided by the British Government and subsequent efforts to remediate the Maralinga site is recognition of the contamination resulting from the tests. The Government has finally recognised that it has an obligation to provide at the very least cancer treatment for test participants. It should act with integrity towards those who participated in the tests and their families and stop hiding behind denials of the consequences of exposure to radiation and address the issue of compensation.

The Democrats support the Bill as it does go some way to providing assistance to Australian participants in nuclear testing in the 1950s and 60s. However this legislation is a limited and inadequate response to the needs of test participants. It does nothing to address the broader health needs of participants and their families and ignores the long-standing issue of compensation. The Government should implement the Clarke review recommendations, undertake appropriate compensation arrangements, give further consideration to the concerns about the study conduct and findings, and commit to continued data collection and epidemiological studies that include data subsequent to the 2001 cut-off for the 2006 mortality and cancer incidence study.

Senator Lyn Allison
Australian Democrats

Appendix 1

Public submissions

1	Dr John P (Jack) Lonergan
1A	Dr John P (Jack) Lonergan
2	Maj (Ret'd) Alan Batchelor
2A	Maj (Ret'd) Alan Batchelor
3	Australian Nuclear Veterans Association Inc.
4	B.C.O.F. National Research, Commemorative & Welfare Association (A.C.T. Inc.)
5	Australian Student Environment Network
6	Mr George Dale Hess
7	Mr Adam Wolfenden
8	Friends of the Earth, Australia
8A	Friends of the Earth, Adelaide
9	Mr Patrick T Byrt
10	Ms Sue Rabbitt Roff
11	Mr Charles Norman Geschke
12	Mr Paul Langley
13	Dr Philip Crouch, Mr Rob Robotham and Dr Geoff Williams
14	Ms Cate Kyne
15	Pat Mackle
16	Ms Jacqui Caldwell
17	Mr Luke Digance
18	National Servicemen's Association of Australia
19	Mr Reuben E Lette
20	Regular Defence Force Welfare Association Inc.
21	Centre for Sustained Arid Towns
22	Mr Ian Batchelor
23	Ms Bettina Quatacker
24	Mr Adam Breasley
25	Chris White
26	Injured Service Persons Association (Peacetime Injuries)
27	RSL National Headquarters
28	Ms Ann Munslow-Davies
29	Australian Veterans and Defence Services Council Incorporated
30	Department of Veterans' Affairs
31	Ms Michele Madigan
32	Climate Change Action Group
33	Assoc Prof Tilman A Ruff, University of Melbourne
34	Atomic Ex Servicemen's Association A.C.T. Inc.
35	Mr Mathew Douglas Wright
36	Women's International League for Peace and Freedom

37 Mr Nick Pastalatzis

38 Australian Flying corps and Royal Australian Air Force Association National Council Inc.

39 Australian Federal Police

Appendix 2

Public hearing and witnesses

Monday, 6 November 2006 – Canberra

ADAMS, Commodore Harold John Parker (Retired), National President, Regular Defence Force Welfare Association

ARMSTRONG, Professor Bruce Konrad, Chair, Consultative Forum

BATCHELOR, Major Alan Frank (Retired), Private capacity

BROWN, Mr Raymond, National President, Injured Service Persons Association

CROUCH, Dr Philip Charles, Private capacity

GESCHKE, Mr Charles Norman, Private capacity

GRIFFITHS, Mr Richard David, National Secretary, Regular Defence Force Welfare Association

HODGES, Mr John, National Veterans' Affairs Adviser, Returned and Services League of Australia

JOHNSON, Mr Mark David, National Manager, Compensation Policy, Department of Veterans' Affairs

JOHNSTONE, Mr Daryl Richard (Rick), National President, Australian Nuclear Veterans Association

LONERGAN, Dr John Patrick ('Jack'), Voluntary consultant, Regular Defence Force Welfare Association of Australia

MELLOR, Brigadier Kerry, National Vice-President, Advocacy and Compensation, Regular Defence Force Welfare Association

MUNSLOW-DAVIES, Ms Ann Michelle, Honorary member, Australian Ex-Services Atomic Survivors Association

ROBOTHAM, Mr Francis Patrick Joseph, Private capacity

SULLIVAN, Mr Mark Anthony, Secretary, Department of Veterans' Affairs

WILLIAMS, Dr Geoffrey Alan, Private capacity

Appendix 3

Additional information, tabled documents, and answers to questions on notice

Tabled documents

Hearing date 6 November 2006

John P (Jack) Lonergan OBE:
1. Brief CV
2. Cancer incidences
3. Comments on Dosimetry

Senator Lyn Allison, *Senate Question on Notice 2329.*

Major Alan Batchelor MBE (ret'd):
1. *Australian participants in British nuclear tests in Australia – Vol 2:Mortality and cancer incidence*, annotated.
2. United Kingdom Ministry of Defence (Procurement Executive) AWRE Aldermaston, SFS/OEL/AA/1(P) – *Listing of Persons at UK Overseas Defence Nuclear Experimental Programmes Citizens of Australia (Provisional Issue)*, January 1982.
3. Table 7.16 Operation Antler: estimated combined external and internal exposures, annotated.
4. Observations on Dosimetry Panel's considerations, May 2005.
5. United Kingdom Atomic Energy Authority, *Atomic weapons research establishment, Report No. T112/54.*
6. Department of Atomic Energy, *Atomic weapons research establishment, Report No. T5/54.*
7. CERRIE Minority Report 2004, *Technical Annex 1: Carcinogenic risk of Particulates.*
8. Major Alan Batchelor, correspondence dated 6 July 2006 and attachments.

Additional information

Provided by J.G. Collins:
1. J.G. Collins, *The war of the Veterans*, March 2001.
2. B.C.O.F. National Research, Commemorative & Welfare Association (ACT Inc.), *The Vietnam Veteran Newsletter*, 15 April 2006.
3. Anne Wilkinson, 'Veteran: We ate lunch at ground zero', *The Senior*, August 2006.
4. Major Alan Batchelor MBE (Ret'd), *The war of the Veterans* review.
5. 'The man who took a bulldozer under the shadow of the bomb'*, Review*, 16 May 2001.
6. 'John's fighting a war for veterans', *Toowoomba Chronicle*.
7. David LM Bernshaw, Private Radiation Oncology Service, 27 October 1995.

8. Department of Veterans Affairs – Office of Congressional Affairs, *Significant Federal Register Submissions of Interest to Veterans*, September 1998.
9. Veterans' Review Board – Decision and Reasons, 5 March 1999.
10. Excerpts of a letter written by John Collins to Hon. Bruce Scott, MP, Minister for Veterans Affairs on 6 June 2001; in reply to his letter of 26 April, to the Secretary of the BCOF National Association Inc. (Queensland Branch).
11. Federal Court of Australia, Collins v Repatriation Commission [2005] FCA 1566
12. J.G. Collins, *Keeping the Peace*, 18 October 2006.
13. J.G. Collins, *For V.R.B. Hearing. Extracts from the book "Hiroshima and Nagasaki" by the Committee for the compilation of materials on damage caused by the atomic bombs in Hiroshima and Nagasaki.*

Answers to written questions on notice

Department of Veterans' Affairs, Answers to written questions on notice.
Dr Philip Crouch, Answer to question on notice from Senator Allison.