Senator Johnston
President
Senate Foreign Affairs, Defence & Trade Committee
Department of the Senate
PO Box 6100
Parliament House
Canberra ACT 2600

Dear Senator

Herewith submission to the Standing Committee on Foreign Affairs, Defence and Trade concerning

Australian Participants in British Nuclear Tests (Treatment) Bill 2006

I would be appreciative of the opportunity to make a short statement and be present to answer any questions relating to my submission.

As my submission and that of Dr Jack Lonergan are complementary, it could assist proceedings if we were both present at the same time.

As the material in my submission is a compilation of data that is already available in the public domain, your early agreement to its release would be appreciated.

References marked with an asterisk * are available for viewing in a digital format on the National Archives website.

Yours sincerely

Maj (Ret'd) Alan Batchelor MBE AMIET psc.

AUSTRALIAN PARTICIPANTS IN
BRITISH NUCLEAR TESTS (TREATMENT) BILL

ABSTRACT

If the Nuclear Veterans Treatment Bill is accepted by Parliament, it will carry with it the heavy burden of the Minister's ill-advised statement that service in a nuclear test environment could not have been the cause of the significant levels of excess cancers recorded in the Adelaide University study. At the same time it will provide a platform for the Minister to claim that there were no other health effects.

Based on the measured dose-rates for Taranaki, it is shown that 40 military engineers received in a period of one hour a dose (290 mSv) that easily achieved the highest category used in the study. The study itself could only find 4 Army personnel, from the complete series of tests that were exposed at this level. The use of a multi-purpose, almost nonexistent, dose on the day of the explosion (0.1 mSv) that remained unaltered for the next 90 days, did not bear any relationship to the recorded Taranaki dose-rates, particularly during the first few weeks of intensive recovery operations.

The study of cancer deaths during the period 1958 to 1982, carried out by the University of Birmingham, found more cancer deaths in a sample of 330 U.K. veterans than would be expected in the 8,000 thought to have participated in the tests. These results demonstrated a large peak in cancer deaths that have been overlooked in the period covered by the Adelaide University study. It is therefore highly probable that the incidence of cancers and cancer deaths, for the complete test period, would be much higher than those recorded in the declining period examined by the Adelaide University.

The Korean Cancer Incidence Study includes cancer deaths in the cancer incidence figures. This has not been done in the Adelaide University study, where the cancer incidence figures do not include the cancer mortality statistics. After all, if a person dies of cancer, then he must have had cancer. The authors of the Korean Cancer Incidence Study recognised this fact. The Adelaide University did not.

A UK National Radiation Protection Board (NRPB) study includes a claim by the Ministry of Defence that only 8% of participants were considered to have been exposed. The results however have been based on all participants being exposed. This results in a significant dilution of the statistics, making it unsuitable for comparison with the present study.

Despite being advised that asbestos wool was used in protective clothing respirators and that nuclear weapons contained neutron reflectors made of beryllium, the effects of these carcinogens were not included in the study.

The examination of the presence of uranium was confined to depleted uranium and its limited radiogenic properties. Its effects as a heavy metal poison and the confirmed use of large quantities of highly enriched uranium are matters that have not been addressed by the study.

Because the Terms of Reference were confined to cancer and mortality, the study has avoided any mention of the potential for non-radiogenic effects such as defective immune systems. Hereditary effects were apparently dismissed on the grounds that sufficient dosage levels were not available. This action does not agree with that of the Massey University second pilot study.

The Royal Commission on nuclear tests put together an excellent set of research documentation that remains dormant in the National Archives in Canberra.

The Bill goes some way toward establishing the Veterans' Entitlement Act coverage recommended in the Clarke Report, but still remains outside Clarke's recommendations. The existence of the total health experience should be accepted with this being acknowledged as caused by ionising radiation and other poisonous substances peculiar to service during the nuclear tests. Continuation down the present path could involve a 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.

INTRODUCTION

The purpose of this submission is to refute the "no responsibility" basis on which the Minister for Veterans' Affairs has sanctioned the *Australian Participants in British Nuclear Tests (Treatment) Bill 2006*. Accepting the Bill on the understanding that there is no link between ionising radiation and the significant cancer excesses that exist in the study of nuclear veterans, will also result in closing the door on the non-carcinogenic effects of radiation as well as not allowing consideration of the effects of other carcinogens that were present.

Failing to study the full range of health effects reflects on the integrity of DVA who stated at a Budget Estimates hearing (5 June 2001) that "*The Mortality and Cancer incidence study will examine the effects of the entire experience of participation in the tests. This will include the effects of radiation exposure*." The current study has limited its coverage to the carcinogenic effects of radiation exposure, and ignored the "entire experience" of other health effects.

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.

The majority of the arguments and supporting documentation mentioned below have been provided to those preparing and approving the Study. There has been a general unwillingness to acknowledge or discuss the demonstrated mistakes and omissions.

RECORDED DOSE RATES
(*TARANIKI WEAPON*)

There are two main documents that determine exposure conditions experienced by members of the Antler Engineer Troop when they were exposed for a period of one hour, approximately one hour after the detonation of the weapon code-named Taranaki. Selected from the Taranaki dose-rate table is a recorded reading of 290 milli-Sieverts/ hour at a distance of 12,800 feet from the GZ that was measured at 1.1 hours after detonation (see National Archives R015/005*).

The second document is an Atomic Weapons Research Establishment document that provides locations and critical timings after detonation for the de-sealing of instrument bunkers. The particular bunkers requiring immediate de-sealing were within 12,800 feet from the GZ with the task scheduled to commence one hour after detonation (see National Archives Z505*). This task would have taken approximately one hour to complete and would have involved eight teams of five soldiers. The de-

sealing task took place one hour after detonation, when the dose received after one hours work would have exceeded 290 milli-Sieverts (mSv).

In Table 7.16 of the Dosimetry study, this task was estimated to have an external exposure rate of 0.1 mSv per 10 hour day. The total estimated dose for these "sandbag parties" during Operation Antler was 0.8 mSv, a far cry from 290 mSv received in one hour.

With these extreme differences in measured and estimated dosages being possible in other areas, particularly where early re-entries and longer times were involved, it is obvious that the Study had no grounds for basing its findings on low levels of radiation and the Minister should retract his decision that the study "*did not find any link between the significant increases in cancer rates and exposure to radiation.*"

RECORDED DOSE
(*POST OPERATION HURRICANE*)

All scientific models (including the dosimetry estimation methodology) begin as a hypothesis and are refined as a result of experience. Sometimes they are discarded when errors become too large to be tolerated. In another example, the study has estimated an external dose of 0.1 mSv per 10 hr day for "General Engineering Support" during Operations Buffalo (4 rounds) and Antler (3 rounds) with no distinction between dosages on the day of detonation or on the 90th day after detonation (Tables 7.13 and 7.16).

In Table 7.5, a recorded external dose of 20 mSv was received on the 73rd day after the detonation of Operation Hurricane (1 round).

In comparison the total dose received for the task "General Engineering Support", including inhalation and ingestion dosages, was:

- Operation Buffalo - 5.5 mSv over a period of 50 days.
- Operation Antler – 13.5 mSv over a period of 115 days.

These further discrepancies are again much too large to condone the acceptance of the study's estimation methodology.

The Minister and the Scientific Advisory Committee were requested to validate the dosimetry study estimation methodology, using the existing measurement made 73 days post Hurricane as a check of the estimation methodology. This simple comparison was never attempted. Confidence in the study by those responsible for its integrity was not demonstrated.

HMAS KOALA

The functions carried out by the crew of HMAS Koala during Operation Hurricane have been vastly understated with related exposures not being considered. Omitted from the ship's involvement were:

- Dragging the floor of the Monte Bello Lagoon on the day of the explosion including recovery of some of the radioactive remains of the vaporised HMS Plym, resulting in the ship's decontamination on that day (Letter by Ship's Captain [RC800 1952 Part 2] and sworn statement by the Boom Technician [RC480])
- Probable dragging of Lagoon floor for next 7 days (sworn statement by Leader of Radiation Hazards group concerning the recovery of Plym parts to the Laboratory Ship on Day 7).

The non-release of the log for HMAS Koala has impeded these investigations and probably resulted from the continuing requirements of secrecy concerning the suppression of information about weapon effects.

This is a much more hazardous involvement than that indicated by the Study assessment of "All ships prior to D + 4", that resulted in an estimated dose of 4 mSv for all crew members. The fact that there is a record of the issue of film badges to the crew and no dosages recorded in the official records should have been a matter of concern to the study. Concealment of significant dosages could also be related to the non disclosure of weapon effects and this is not an isolated incident.

MISSING DOSAGE RECORDS

Signatures exist for the issue of film badges to members of the Antler Engineer Troop, with no corresponding entries in the official dosage records (see National Archives R157/001*). Five are listed as a result of other employments.

A similar search for the Buffalo Engineer Troop, carrying out similar tasks, came up with no listing in the official records.

These two Engineer Troops and the crew of HMAS Koala were all involved in immediate re-entry tasks, where exposure to radiation hazards at the highest levels would have occurred. This combination of circumstances cannot be dismissed as a chance occurrence, and should have triggered alarm bells in those conducting the study. It must be obvious that the UK Ministry of Defence classified this data as vital information on weapon effects and therefore could not be released. This must tie in with the disappearance of hospital records for Maralinga, Emu Fields and the RAAF Amberley Base, that under normal circumstances should have been, but are not, supported by destruction certificates.

OVERLOOKED HEALTH EFFECTS

Asbestos. The use of asbestos wool in respirators provided a carcinogenic source that has not been included in study considerations. Its presence is confirmed in the document *RH Miscellaneous 2, Protective Clothing*, written by Capt W. N. Saxby. Paragraph 4.6.2 describes the container that was mounted over the inlet valve on the face-piece and states that the particulate filtering material was asbestos wool. The study has maintained that the excess of mesothelioma was caused by asbestos in RAN vessels and could have occurred at any time. No confirming study has been produced to support this contention, and despite being provided with the *RH Miscellaneous 2* report, no attempt has been made to introduce this confounding and test related factor.

Beryllium. The use of carcinogenic beryllium as a neutron reflecting tamper around the fissile material in a nuclear weapon is common knowledge. Confirming its use however, Mr F.P.J. Rowbotham, a member of the Dosimetry Exposure Panel, made the following statement, under oath, as an expert witness to the Royal Commission:

> "*certainly beryllium has been used in ordinary atomic bombs as a way of making them more efficient, because it is in effect, a neutron moderator and reflector*." (Transcript page 2228)

The diagnosis of berylliosis depends on the patient's knowledge of an exposure to beryllium. Because of the strict secrecy surrounding weapon components, neither the patient nor his physician had access to this knowledge. Similar lung diseases such as mesothelioma, sarcoidosis, pneumonia, etc would have been diagnosed and never associated with service in a nuclear test environment. Chronic beryllium disease is incurable and if the lungs are severely damaged, the patient may experience fatal heart failure resulting from the strain on his heart, with the underlying cause not being recognised on his death certificate.

It is clear that cancers and deaths from cancer originating from this carcinogen could easily escape the studies statistics, particularly as berylliosis and mesothelioma were not recorded separately before 1997.

Uranium. The health assessment of uranium was confined to the limited radioactive properties of Depleted Uranium (DU) and this was considered to be inconsequential. Overlooked were its heavy metal poison properties and the different composition of Highly Enriched Uranium (HEU) used in major weapons and in the minor trials. Some important facts:

- U-234 is 18,000 times more radioactive than DU.
- U-234 provides more than 50% of the radioactivity of Natural Uranium (NU).
- U-234 is present as only 0.0056% of NU.
- The presence of U-234 in HEU is increased more than 200 times (1.18%).

The effects of uranium as a heavy metal poison have been completely disregarded and the presence of U-234 in HEU cannot be dismissed in the same inconsequential manner as that applied to DU (Figures have been taken from DVA *Review of Scientific Literature on the Health Effects of Exposure to Depleted Uranium, August 2001* and *AWRE Report O24/86*).

Non Carcinogenic Effects. Deposition of alpha emitting plutonium in the hard bone structure surrounding bone marrow can damage the body's blood, immune, reproductive and other systems. These events can result in various cancers as well as a depressed immune system, the latter degrading the body's ability to repel a range of diseases not traditionally linked to ionising radiation. While it is acknowledged that these health effects would be difficult to determine, their almost certain occurrence should have been acknowledged in the Main Findings

Sterility. Paragraph 2.6.2 in Volume 1 of the Dosimetry study states "*Temporary sterility in males can occur following single doses above approximately 0.15 Sv (i.e. 150 mSv), but fertility returns after a month or so*." This statement, made very early in the study, assumes that 150 mSv was a universally unachievable dosage making it acceptable to dismiss sterility, miscarriages, still-births, deformities and other consequences. As demonstrated in the recorded dose-rates for Taranaki discussed above, 150 mSv could easily be exceeded in a very short time.

Information already available in Donovan's report *Health of Atomic Test Personnel* states that of the 2,440 questionnaires, returned fully or partially completed, 339 gave a history of infertility for two years or more, also indicating doses well above the 150 mSv benchmark stated in the study. The Wikipedia encyclopaedia states that temporary male sterility occurs in the 500-1,000 mSv range.

A 13% incidence of infertility and the availability of dosage levels higher than the benchmark 150 mSv required for one month's infertility were ignored. There is ample information to require a further more detailed health study including the incidence of miscarriages, multiple miscarriages, still-births, deformities and other genetic defects, all of which are indicated as occurrences in *The Final Submission of Counsel Assisting the Royal Commission* (National Archives RC861).

ORIGINAL RESEARCH

There is certainly a very large collection of reference material listed in the study that reflects the work of the study researchers. Areas of omission however, have resulted in vital research data being overlooked in the research plan with the suitability of some references being open to question.

Specialised Representation. The study expertise was well served in such areas as epidemiology, oncology, health physics and general science. The isolation of this knowledge in compartmentalised committees with inadequate and restricted inter-

communication capabilities significantly reduced its value. Examples of a lack of committee and research expertise are described below:

- Radiation Biologist. A most important omission that has resulted in no practical knowledge of the internal effects of ionising radiation such as that identified by the *Committee Examining Radiation Risks of Internal Emitters* and the associated Minority Report. The Majority report states "*Indeed, the actual concepts of absorbed dose become questionable, and sometimes meaningless, when considering interactions at the cellular and molecular level*" This is amplified in the Minority Report that has calculated the actual dose per year at particulate level for single particles of uranium oxide up to 5 microns in diameter and for plutonium oxide up to 2 microns in diameter. The alpha radiation from these particles is many times more damaging than gamma radiation and concentrates its very large dose within a radius measuring about one tenth of a milli-metre. When this dose is treated as a whole body dose or even a dose to a complete organ, as is done in the study, its effect is to dilute this dose to an insignificant level. This conflict between physics and biology would have been resolved by the presence of a radio-biologist.
- Nuclear Weapon Dynamics. The study has made no serious effort to discuss weapon effects and the consequential distribution of the various contaminations. Dosage estimations for individual workers have been based on uncertainties in the local dispersion of fallout and neutron induced radiation. Additional factors affecting the composition, levels and location of contamination distribution, surface characteristics and composition, positioning of detonation and supporting equipment, weapon materials, experimental additives, location and recovery times for instruments and target response equipments in relation to contamination distributions, inversion layers, weather, etc. have not been considered in the study.
- Nuclear Test Activities. A practical knowledge of who did what, where, when and for how long was essential to the allocation of a dose category to the individual names as they are presented on the Nominal Roll. The Nominal Roll (study nexus) did not contain information relevant to this task and work schedules no longer exist, except in a few cases that would involve imprecise assumptions. The Adelaide University committees did not include any member with a practical knowledge of nuclear test operations, service establishment tables or trades and excluded anyone who may have had such knowledge on the grounds that they may be aware of the medical outcomes. The essential task of assigning a dose category to working groups at the lowest possible project level, preferably individual where this was possible, must have suffered from the lack of the above expertise, resulting in allocations to dosage categories being little more than a series of assumptions.

Research Coverage. There is no indication that the study made use of the following excellent research documentation put together so painstakingly by the Royal Commission and easily found after reading the National Archives Series A6455* notes covering the function and content of the Royal Commission proceedings:

- The Australian Collation: 96 volumes organised annually from 1947 to 1985.
- The UK Ministry of Defence documents: 11 volumes.
- Foreign Commonwealth Relations Office, London: 6 volumes.
- The Aboriginal Collection: 14 volumes.
- Transcript of Royal Commission Proceedings: 17 volumes and index.

A limited amount of this material would have been found elsewhere on a random basis. An organised and investigative research effort would not have been possible without recourse to the Royal Commission collections.

As an example, on page 23 of Volume 2 of the Study it states that "Aboriginal people were excluded because there were no records of the indigenous people residing or passing through the test areas. An investigation of the 14 volumes of data identified above may not support this omission from the study.

Suitability of References. The study has placed a great deal of reliance on the findings of the National Radiation Protection Board (NRPB) studies of UK participants in the nuclear tests (NRPB-R214 and NRPB-W27). There are certain features in these related studies that make them unsuitable for comparison with this or other similar studies:

- Paragraph 3.4 of NRPB-R214 states "*Of the 22,347 test participants included in the study, only 1,804 (8%) are believed by MOD to have been liable to exposure to radiation*" There has been no effort by the NRPB study authors to apply this statement to their study results. If the MOD contention is correct, and they should know, the study findings have been significantly diluted in the same manner as the current Australian study.
- In a recent legal test case (Adshead v MOD, Nov 2002), it was found that NRPB-W27, on which the MOD case was based, was significantly flawed. It had excluded 1,520 men included in the previous study who had a higher leukaemia incidence and mortality than other veterans.
- These significant limitations in the use of the NRPB studies, particularly as a comparison study, should have been made quite clear in paragraph 12.2 of Volume 2 of the Adelaide University study. It would have been even better not to have made use of the NRPB studies as a means of justifying similar results in a study that had the same diluted structure.

Also in paragraph 12.2 of Volume 2, it states "*As the Korean War cohort had no significant exposure to ionising radiation, this cannot be a common factor in the two studies*". Because Korean and Nuclear veterans both showed significant excesses in certain cancer types, this statement indicates that because ionising radiation was not a factor during the Korean campaign, it also could not be a factor during the nuclear tests. What is not stated is the fact that 18% of the test participants had previously served in Korea and would have been included in the Korean study carried out in October 2003. Without a proper identification of those involved in both operations

and their related cancer incidence, there is no possibility of making any assumption concerning the campaign of origin of the cancers. It could also be assumed that the Korean study cancer rate was inflated by the presence of nuclear veterans. This statement and its implied conclusion are condemned because of their deceptive nature.

A Questionable Comparison

In Table 12.2 of Volume 2 of the current study, the number of cancer deaths is higher than the figure given for the incidence of cancer in three of the cancer types. This situation is only possible if deaths attributed to cancer have not been included in the cancer incidence figures. In the Korean study used in a comparison role (discussed above) by the Adelaide University the "Observed Cancers" figure includes the figures for "Deaths of Veterans diagnosed with Cancer". This can be verified in the Korean *Cancer Incidence Study 2003*, paragraph 3.6 and comparing tables 4 and 15.

There are either some very careless mistakes in the Adelaide University study or statistics have been used in a misleading manner. The Repatriation Commission and DVA were both involved in the preparation and approval of the Korean and Nuclear Veterans studies and must be held responsible for not finding and reporting a discrepancy in the presentation of these statistics.

It also follows that the quality of the peer review that assessed the scientific quality of the study is open to serious question.

Excluded References.

University of Birmingham. To present a balanced view in the study references, it should have been necessary to include the results of the deaths by cancer study carried out by Dr Alice Stewart *et al*, published in *The Lancet* on 9 April 1983. This study was carried out using a sample of 330 veterans who had taken part in the 21 UK nuclear tests conducted in the South Pacific. One of the reasons that this study is important is the fact that it was carried out on nuclear veterans between 1958 and 1982, a period that is not covered in the current study (no cancer incidence or cancer death statistics recorded in Australia before 1982).

Dr Stewart's study found for 330 veterans that "*the number of deaths from leukaemia and other RES neoplasms is much higher than would be expected if all 8,000 men had been followed up*." (RES = ReticuloEndothelial System)

The cancer deaths from RES neoplasms found in the 330 respondents was 27, when the number expected for 8,000 men was 17.2. This provides compelling evidence that the incidence of cancer deaths up to 1982 may have peaked strongly during the period not examined by the Adelaide University. If this is so, the current findings are based on a period of reduced incidence, a not unreasonable assumption when it is

considered that from 1952 to 1982 is 30 years, during which time there was ample time for the more virulent cancers, particularly leukaemia, to have taken their toll. The comparison population consisted of all members of HM Forces serving overseas in 1957 with the same age distribution.

It is reasonable to assume that cancer and cancer deaths assessments for both the early and the complete period would reveal much higher levels of incidence than those recorded by the Adelaide University.

Massey University. The Massey University in NZ is undertaking a study that covers chromosomal disturbances and the psychological impact of the UK tests on NZ nuclear veterans. The University completed the following pilot studies in 2005, and despite being informed of their significance, were ignored by the Minister and the study.

- Psychological Impact. It was shown that stress levels were elevated and the quality of life was compromised for some veterans. The study recommended the urgent development of strategies for addressing these inequalities. The pilot study was reviewed in Australia by Dr William Barclay AM, MB, BS, M Sc, DPM, FRANZCP, who agreed that the findings of the report might be expected to apply equally to Australian nuclear veterans.
- Sister Chromatid Exchange. Demonstrated the presence of elevated chromosomal disturbances in peripheral blood lymphocytes, where it is concluded that the NZ test veterans had experienced some genetic damage as a consequence of their involvement in the UK nuclear tests. It was stated that the veterans should be considered an “at risk” group that deserves special monitoring and because chromosomal disturbances involve hereditary material, the children also deserve investigation.

NOMINAL ROLL

The Nominal Roll spreadsheet is the central gathering point for study data. In 2003, I was allowed limited access to a sanitised copy of the Nominal Roll for research purposes. Since that time, I have found batches of errors and advised these to DVA. At no time have I been advised of their acceptance or otherwise. On the last occasion several omissions from the Roll were also linked with AWRE Reports identifying Australians involved in immediate re-entry tasks during Operation Totem. These immediate re-entry tasks have not been included as a task in Table 7.7 of the Dosimetry study, introducing the probability of similar omissions from the Nominal Roll.

The interface of the data on the Nominal Roll with the various cancer and death registries did not result in the return of information identifying the incidence of cancer and death from cancer with a particular ship or aircraft. This made it impossible to establish the potential linking of mortality and cancer occurrences with a particular ship or aircraft, particularly their location and function. There was no

alternative but to dilute these results in the overall statistics for RAN or RAAF cohorts.

Ground based operations were even worse. The lack of an ability to identify a work history before estimating an individual's dose assessment resulted in a questionable basis for dose categorisations. This was the situation before an interface with the registries was attempted. The information returned to the study by the Registries did not include a means for identifying a particular employment or location as the source of cancers, cancer deaths or early deaths. There was also the problem of ground based cohorts consisting of all three services. The inability to separate ships crews and aircrews from RAN and RAAF personnel engaged in ground based duties could only exaggerate the problem.

These problems would have resulted in gross data combinations being supplied by the Registries, with little or no chance of relating a dose categorisation (assessed on crude location and function data) with the incidence of cancer or death from cancer.

OMISSIONS IN THE TREATMENT BILL

Consideration should be given to including provisions for the inclusion of the following nuclear veterans within the coverage provided by the Bill:

- 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.

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.

CONCLUSION

It is concluded that:

1. The Minister for Veterans' Affairs dismissal of a linkage between ionising radiation and the significant excesses in the incidence of cancer and deaths from cancer recorded in the Adelaide University study is incorrect.

2. The Minister has been provided with overwhelming evidence that the Adelaide University study was significantly flawed, but failed to take any action.
3. The Minister had no intention of investigating these allegations and this can only be attributed to political reasons.
4. The investigative abilities of the Adelaide University are either abysmal or have been directed by other baffling requirements.