

09 November 2018

To: **Senator Hon Matthew Canavan,**

The Minister for Resources and Northern Australia

National Radioactive Waste Management Facility (NRWMF) public submission

RE: Flawed NRWMF process and failure to follow *essential* Nuclear Safety Committee advice, untenable *indefinite storage* compromises Safety & Security, and a Threat to Rights & Interests.

Dear Minister

Please accept this public submission & consider my request to discuss these issues with your Office.

An Executive Summary (p.3-7) and 7 x Public Interest Safety & Security Questions are provided for your consideration & for a requested response from your Department or Ministerial Office (p.11-12).

Imposition of a co-located *indefinite* above ground Store, for primarily ANSTO irradiated nuclear fuel wastes & Intermediate Level reactor wastes, compromises Safety & Security & is illegal in SA law.

This flawed Federal gov. NRWMF process has failed '*due process*' and failed to follow "*essential*" advice of the Nuclear Safety Committee to the regulator ARPANSA (NSC advice to the CEO on the NRWMF plan, Nov 2016) for transparency in decisions and for: "*The ongoing requirement to clearly and effectively engage all stakeholders, including those along transport routes.*"

The NSC has also advised (2013) that dual handling transport for interim storage "*does not represent International Best Practice*" and "*also has implications for security*" and for safety (see p.8-9).

The NRWMF threat to Indigenous rights & interests cuts to the core of high level SA public interests.

My submission to the Minister (May 2017) on your decision under the *National Radioactive Waste Management Act 2012* to assess two sites near Kimba as potential sites for the proposed NRWMF raised a range of issues that have not been properly addressed since (see Attachment 4).

My background experience is relevant: as an Australian Conservation Foundation (ACF) campaigner based in Adelaide over 1996 to 2011, including 5 years on the prior Federal attempt to impose a nuclear waste facility in SA (over 1998 to 2004) – another flawed process that had to be abandoned.

I was also a Witness as an individual on nuclear waste issues at the SA Parliament Joint Committee Inquiry on the Findings of the Nuclear Royal Commission, held in 2016.

Please feel free to contact regarding any aspect of this public submission, by Mobile, Text or E-Mail.

Yours sincerely

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Independent Environment Campaigner

(Address in SA and Mobile & E-Mail contacts provided in e cover note to this public submission)

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Executive Summary – Safety & Security compromised in flawed NRWMF process

Since April 2016 the NRWMF site selection process has solely targeted SA in a political agenda to impose an untenable above ground *indefinite* (up to 100 yrs) nuclear waste Store & associated port.

This Federal agenda proposes actions which are expressly illegal in SA, with the import, transport, storage and disposal of nuclear fuel wastes prohibited by the SA Liberal State government in 2000.

This *illegal* Store is primarily for ANSTO nuclear fuel wastes & Intermediate Level reactor wastes (p.8), and is intended to be co-located at a proposed Low Level waste disposal NRWMF site in SA.

ANSTO unacceptably intends to double their Intermediate Level Waste (ILW) reactor waste stockpile without any waste disposal capacity, while States & Territories ILW wastes are reported as 'largely historical with only minor projected future arising' (p.8).

A decision to co-locate a nuclear fuel waste Store in SA, made or confirmed at Cabinet level earlier this year, is unnecessary and flawed and unacceptably floats International Best Practice (p.8-9, 13).

Lucas Heights is by far the best resourced & secure facility to responsibly manage ANSTO irradiated nuclear fuel waste & Intermediate Level reactor wastes in the long-term and until a scientifically defensible and publicly acceptable permanent disposal option may be arrived at.

Analogous prior proposed co-location of a nuclear fuel waste Store in SA was abandoned by the Howard government over Feb 2001 to mid-2004, while the then "National Radioactive Waste Repository" to take 'Low Level' (300 year) wastes was intended to be sited near Woomera in SA.

The site selection process has been seriously compromised by Federal failure to follow "*essential*" advice of the Nuclear Safety Committee to the regulator ARPANSA (NSC advice to the CEO, Nov 2016) on the NRWMF plan: for "*transparency*" in decisions and for "*The ongoing requirement to clearly and effectively engage all stakeholders, including those along transport routes*" (p.10 & 23).

This Nuclear Safety Committee (NSC) advice goes to two fundamental issues: First this is an SA State level stakeholder issue and has to be effectively addressed by both Federal & SA gov.'s at that level.

Secondly, regional community views in targeted proposed nuclear waste Port cities & along associated transport routes must be effectively and specifically engaged and taken into serious consideration *before* any conceivably credible site selection Ministerial decision could be made.

Transparency in NRWMF decision making is also essential but has been unacceptably lacking.

A nuclear waste port in SA has always been a core requirement of siting a co-located Store in SA.

In July the Federal gov. named Whyalla or Port Pirie as required nuclear waste ports (p.21-22) facing decades of shipments of ANSTO nuclear fuel waste imports to SA – first from the UK circa 2020, from Lucas Heights and from France, with 2 shipments intended within the first 2 years of operations.

In an arrogant flawed process, the Federal gov. named Port cities in SA in a [Report](#) posted to a website but failed to even inform the targeted SA communities, local gov.'s, State MP's and Media.

See attached Brief "**Federal gov. names SA Ports to impose nuclear waste shipments**" (1/8/2018).

I broke this story to SA regional communities in lead story's on Southern Cross TV (6th Aug) and in the Whyalla News (9th Aug) - with the **Whyalla Mayor** saying Council won't accept this.

The **Port Pirie Mayor** stated Council were '*blind-sided*' by the Federal gov. position to potentially require Port Pirie as a nuclear waste port (in strong ABC Radio News coverage 7th Aug).

Whyalla or Port Pirie, and Port Augusta - named on a number of potential required nuclear waste transport routes, face "*occurrences of complete shutdown*" but are **excluded from having a say**.

SA communities also have a public interest right to be engaged on the Report (p.8-9) that in the first 4 yrs of intended Store operations one hundred B-double truckloads of Intermediate Level wastes - primarily ANSTO reactor wastes, are to be trucked into & across SA to a Store at a NRWMF site.

Further, the site selection process has failed to engage SA communities (p.10) on key Safety & Security Questions in transport of ANSTO irradiated nuclear fuel wastes into regional SA (p.11-12).

The NSC has also advised (2013) that *dual handling* transport for *interim storage* "*does not represent International Best Practice*" and "*also has implications for security*" and for safety (see p.8-9).

The SA Nuclear Fuel Cycle Royal Commission (NFCRC, 2016) concluded that terrorist attack scenarios are conceivable during the transport of nuclear fuel wastes & that if a cask was lost at sea and was irrecoverable the radioactivity that escapes is expected to affect thousands of cubic km of seawater.

This site selection process must answer key public interest Safety & Security and Reputational Risk Questions on intended nuclear fuel waste shipments into an SA Port and across SA, including:

- Comparable nuclear accident and marine contamination risks raised by the SA NFCRC;
- Conceivable terrorist attack scenarios as raised by the SA NFCRC;
- Implications for SA's clean & green reputation, for agricultural exports from Eyre Peninsula if Kimba is selected, and for tourism in our iconic Flinders Ranges if Hawker is selected.

The NRWMF plan for "*indefinite storage*" of ANSTO nuclear fuel wastes & Intermediate Level reactor wastes is not consistent with longstanding advice of the ARPANSA Radiation Health & Safety Advisory Council and of the Nuclear Safety Committee on International Best Practice (p.13).

ANSTO has produced irradiated nuclear fuel wastes & Intermediate Level Wastes at Lucas Heights for 60 years without any nuclear waste disposal capacity (or even a program to do so) and intends to continue this mal-practice for another 40 years under an OPAL reactor Operating License up to 2057.

It is an **untenable fact** that the proposed nuclear fuel waste Store in SA is intended to operate "*above ground for approx. 100 years*", however responsible management of ANSTO irradiated nuclear fuel wastes requires isolation from the environment for over 10,000 years (p.14).

Safety & Security in SA is unacceptably compromised by this NRWMF process in importation and *indefinite* storage of irradiated nuclear fuel waste without any waste disposal capacity. A Store in SA is also *unnecessary* given the viable option of Extended Storage at Lucas Heights (p.15).

In 2015 ANSTO purpose-built an “*Interim Waste Store*” (IWS) at Lucas Heights with a conservative design operating life of 40 years to take reprocessed nuclear fuel waste shipments from both France & the UK. The IWS received the French waste in Dec 2015 and can take the UK waste due in 2020-21.

The Operating Licence for this Store at Lucas Heights “*is not time-limited*” and was approved by ARPANSA with a Contingency plan for this Store to operate for longer than 40 years, and potentially to store reprocessed nuclear fuel wastes “*until the availability of a final disposal option*”.

The ARPANSA CEO (Feb 2018) has formally addressed the “*Safety and Effectiveness of the Current Storage Facility*”, stating: “*ARPANSA has a high degree of confidence in the safety of this facility which is underpinned by an inspection and compliance monitoring program.*”

There is no manifest need for a nuclear waste Store in SA - other than a flawed Federal gov. agenda, and there is no Safety, Licensing or technical reason to bring these hazardous nuclear wastes to SA.

ANSTO should and can retain nuclear wastes in viable responsible Extended Storage at Lucas Heights while determining a final disposal pathway in accordance with International Best Practice (p.16-17).

Further, the Department of Industry (2014) reports Options for Lucas Heights to receive & retain decades of shipments of ANSTO reprocessed nuclear fuel wastes from France (p.18), with:

“Intermediate Level Wastes to remain at ANSTO until policy and technological solution for permanent disposal ILW are determined.”

Contingency Option 1 is that the NRWMF does not proceed (a continuation of the practice over the last few decades). Option 2 b is a more likely Option that a NRWMF eventually proceeds to only take Low Level waste AND the proposed above ground co-located nuclear waste Store does-not proceed.

These Contingency Options to responsibly manage OPAL reactor nuclear waste have routine costings and provide for safe Extended Storage of Intermediate level nuclear wastes on-site at by far the best resourced and most secure nuclear facility in Australia – ANSTO’s Lucas Heights.

Pragmatically, there will be consequences if this flawed NRWMF site selection process extends to an untenable Ministerial site selection decision of either Kimba or Hawker, First: this process will go on to likely fail - like prior Federal nuclear waste dump programs which had to be abandoned.

Second: any claimed benefits of a ‘Low Level’ waste disposal stand-alone facility are again forfeit due to *untenable* co-location of a nuclear fuel waste Store AND to ***an overall lack of due process.***

Third: South Australian’s will organise to support an array of directly affected communities and to protect their rights & interests from a Federal gov. imposing a nuclear dump & associated impacts.

Federal plans to ***impose*** a nuclear waste dump onto SA and to ***over-ride*** key SA Legislation in the ***Nuclear Waste Storage (Prohibition) Act 2000*** & the ***Aboriginal Heritage Act 1988*** will be resisted.

In this regard, I commend the SA ALP State Conference passage (13 Oct 2018) of a Motion “***No Nuclear Waste Dump in SA***” (see Attachment 3) and the ***SA ALP Opposition Leader’s*** position for a traditional owners “***right of veto***” over Federal gov. siting of national nuclear waste storage & disposal facilities on their country (p.6, 19-20), as well representing SA public interests and warranting serious consideration by the Federal Minister.

ES – Threat to Indigenous Human & Cultural Rights in a flawed NRWMF process:

NRWMF site selection process in iconic Flinders Ranges on Adnyamathanha country at Hawker is inappropriate as the waste dump site threatens areas of special cultural heritage significance (p.19).

This site selection process is deeply flawed from its inception through a secretive ‘nomination’ by one party to a parcel of State Crown Land that is held in trust as a lease with-out any rights to change land use , a power held at the legal discretion of the State Environment Minister.

Neighbours & Flinders Ranges Council only found out about this site nomination through the media.

Subsequently, the NRWMF process was changed to require informing neighbours at Kimba sites and to claim that proposed sites have required support or at least acceptance of neighbours.

As the land owner, the State gov. has a fundamental role and responsibility to see that the proposed site near Hawker is not used for nuclear actions that are expressly prohibited under State law.

It is not acceptable for any claimed definition of ‘*broad community support*’ to over-ride Aboriginal people’s rights & interests in special cultural heritage significance and in due protection of values.

Proposed specific sites on a lease near Hawker and the broader area are part of a precedent registered **Story Line** under the protection of the SA **Aboriginal Heritage Act 1988** – lead cultural Indigenous values that must be respected and protected and not over-riden and impacted.

However: the Federal Minister holds a draconian discretion under the *National Radioactive Waste Management Act 2012* (NRWM Act) to over-ride both Federal and State Aboriginal Heritage Acts.

Sections 12 & 13 of the NRWM Act state that: “*the significance of land in the traditions of Indigenous people ... has no effect to the extent that it would regulate, hinder or prevent*” actions that are authorised by Section 11 *Selecting the site for a facility*. This is unacceptable.

Further, an immediate adjoining property to the proposed site near Hawker in the iconic Flinders Ranges is an **Indigenous Protected Area**, a part of the *National Reserve System* held under supposed Federal gov. protection, with continuous Indigenous values across the proposed site lease area.

Premier Jay Weatherill called for traditional owners to have a “**right of veto**” over nuclear waste site selection on their lands (Letter to the Prime Minister, 24 Oct 2017, reported in *The Australian* 31 Nov 2017, see Attachment 4). These matters are of the highest level of SA public interest issues.

I commend **SA ALP Opposition Leader Peter Malinauskas MP** recent position to support and call for a traditional owner’s “**right of veto**” over Federal gov. proposed siting of national nuclear waste storage & disposal facilities on Adnyamathanha people’s country near Hawker in our iconic Flinders Ranges OR on Barngarla people’s country near Kimba on agricultural Eyre Peninsula.

The Federal gov. must not continue to target and to harm Aboriginal communities and to threaten their cultural heritage & their country. To respect Indigenous rights and interests this flawed NRWMF process should stop forthwith.

Federal claims to “not impose a facility on an unwilling community” should exclude sites where the Native Title representative body opposes siting of nuclear waste on their traditional lands.

ES – Imposition of an illegal nuclear waste Store is contrary to Democratic rights in SA:

Strong South Australian Legislation from both sides of politics to prohibit nuclear wastes is key evidence that this proposed NRWMF is fundamentally a State level public interest issue in SA.

Storage of nuclear wastes compromises safety and affects the rights and interests of all South Australians – that's *why* it's prohibited by the *SA Nuclear Waste Storage (Prohibition) Act 2000*.

The import, transport, storage and disposal of ANSTO irradiated nuclear fuel wastes is illegal in SA and was prohibited under the political leadership of **Liberal Premier John Olsen AO** in 2000 (p.26).

The Objects of this Act cover the key issues at stake - to protect our health, safety and welfare:

“The Objects of this Act are to protect the health, safety and welfare of the people of South Australia and to protect the environment in which they live by prohibiting the establishment of certain nuclear waste storage facilities in this State”

The NRWMF Store is *illegal* in SA as Parliament considered & rejected an analogous Store in 2000.

Labor Premier Mike Rann then extended legislative protections to prohibit other radioactive wastes.

The fact proposed NRWMF siting is illegal in SA is effective proof of intended Federal imposition of a nuclear waste dump on to the people of SA at state, regional and local community levels.

The *NRWM Act 2012* (like the prior 2005 Federal legislation) is premised on draconian powers to override an array of State & Federal legislation “*to the extent that it would regulate, hinder or prevent*” actions to authorise selecting a site for a nuclear waste storage or disposal facility.

Imposition over an array of due State & Federal legislative protections is *inherent* in this NRWM Act & site selection process. This is key evidence it exposes key SA rights & interests to risks & impacts.

South Australian's exercised their democratic rights to “*prohibit the establishment of certain nuclear waste storage facilities in this State*” as the express will of the Parliament and of the people.

This NRWMF site selection process seeks to *over-ride* SA law and is an affront to Democratic rights.

The Federal government has an obligation to learn the lessons from experience in failure of prior nuclear waste projects in Australia and internationally (p.10) and not to deny or override key public rights and interests and community concerns in SA.

SA community rightly feel betrayed by continued Federal gov. **imposition** of such a flawed divisive site selection process for an *illegal* nuclear waste dump expressly prohibited under State law.

Federal gov. plans to **impose** a nuclear waste dump onto SA and to **over-ride** key SA Legislation in the ***Nuclear Waste Storage (Prohibition) Act 2000*** will be strongly resisted in the public interest.

The above ground Store in SA is primarily over 95 % for Federal nuclear wastes:

[The Federal gov. is compromising Safety and Security in SA](#) with irradiated nuclear fuel waste intended to be shipped through Whyalla or Port Pirie (see p.21-22 herein) to go on to an *indefinite* (“for approx. 100 years”) above ground nuclear waste Store that is to be imposed on to SA.

Two shipments of nuclear fuel waste are intended in the first 2 years of Store operations.

[Some 100 x B-Double truckloads](#) (see p.179) of Intermediate Level Wastes (ILW) are also to be trucked into SA, primarily from Lucas Heights, in the first 4 years of Store operations in SA.

ANSTO nuclear fuel wastes were *prohibited* by the SA State Liberal gov. in 2000 and ANSTO’s Intermediate Level Wastes (& Low Level wastes) were *prohibited* by the State ALP gov. in 2003.

Imposed illegal transport and indefinite above ground storage of nuclear wastes is untenable:

The Federal nuclear regulator ARPANSA states that nuclear fuel wastes & Intermediate Level reactor wastes require radiation shielding and require isolation from the environment for over 10,000 years.

However, after 60 years ANSTO has no nuclear waste disposal capacity with none foreseeable for multiple decades while nuclear waste production is set to increase to more than double stockpiles.

SA faces decades of nuclear accident and terrorist risks & impacts in ANSTO nuclear waste shipments first from the UK & from Lucas Heights, with the next 40 years of ANSTO nuclear fuel waste to be shipped to SA as reprocessed nuclear wastes from France and potentially direct from Lucas Heights.

The [Australian Radioactive Waste Management Framework](#) (DIIS April 2018, p.4) reports total Intermediate Level Wastes at 1,770 m³ - with 95% (by volume) arising as Federal gov. wastes.

The Federal gov. plans to more than double Intermediate Level Wastes to produce a further 1,960 m³ over next 40 years, with 1,850 m³ (95%) of that arising from ANSTO Lucas Heights operations.

SA faces a total of approx. 210 x B-Double truckloads of Federal Intermediate Level Wastes in an agenda to more than double ANSTO’s 60 year stockpile of ILW over the next 40 years – all to be trucked into SA for *indefinite* above ground storage in regional SA.

In Contrast: States/Territories hold approx. 105 m³ of largely historical Intermediate Level Wastes (ILW), with a [Federal Review in 2014](#) projecting ‘only minor future ILW arising’. S/T’s ILW are set to fall from 5% of existing ILW to under 3% of ILW that is intended to be Stored in SA.

Nuclear Safety Committee advice against dual handling transport for interim storage:

[Nuclear Safety Committee \(NSC\) advice to the CEO of ARPANSA \(Nov 2013\)](#) addresses **Transport** issues a way that clearly predicates against proposed Federal gov. *indefinite* above ground Storage of ANSTO irradiated nuclear fuel waste and Intermediate Level reactor wastes in regional SA.

This NSC advice states that *dual handling* in transport associated with *interim storage* “**does not represent international best practice**”; and **raises implications for both safety and security** noting that “ANSTO already has comprehensive security arrangements in place” at Lucas Heights.

4. Transport

... The criteria of the [Waste Guide](#) “set out **international best practice**” (pp. 11); **this promotes transport of ILW directly to a final storage or disposal facility rather than to interim storage at another facility, as is currently being proposed for the ILW generated from the reprocessing of HIFAR used nuclear fuel.**

Thus, while transport of radioactive material has historically proved to have or present very low risks, **it would appear that the dual handling and transport process associated with interim storage does not represent international best practice.**

The Committee notes that the [SAFETY GUIDE: Safe Transport of Radioactive Material 2008 Radiation Protection Series Publication No. 2.1](#) **recommends contact time with the waste should be kept short.**

Dual handling also has implications for security, pursuant to [RPS 11. Code of Practice for the Security of Radioactive Sources \(2007\)](#). The Committee notes that ANSTO already has comprehensive security arrangements in place at its LHSTC site. (Emphasis added)

In: “Nuclear Safety Committee advice to CEO of ARPANSA regarding safety implications of waste stored in interim storage” (22 Nov 2013), see:
http://www.arpansa.gov.au/pubs/nsc/nsc_iwsadvice.rtf

The Federal gov. must stop compromising safety and security in SA with their *untenable* nuclear waste Storage plan and accept Extended Storage of nuclear fuel waste & ILW at Lucas Heights.

ANSTO has to take responsibility for its own nuclear waste and keep it secure at Lucas Heights.

The NRWMF Low Level disposal site is also 95+ % for Federal – primarily ANSTO waste:

The “National Radioactive Waste Management Facility” (NRWMF) is really **two dumps in one** with near-surface Low Level (LL) radioactive waste disposal site (including wastes that require isolation for up to 300 years) which is also primarily over 95% for Federal gov. wastes.

Existing Federal gov. LL wastes are reported at 4,967 m³. **In Contrast:** States & Territories held 200 m³ of Low Level radioactive waste (estimate. [2014](#), p.12) at 5% of total Low Level wastes.

Low Level radioactive wastes are [also to double](#) (p.4) with a further 4.843 m³ of Federal LL waste over 40 years - with 4,685 m³ (97%) to arise from ANSTO Lucas Heights operations.

Many hundreds of truckloads of ANSTO Low Level radioactive wastes are also to be dumped in SA.

An initial approx. 277 truckloads of existing ANSTO LL waste will come in to SA, reported at 10 m³ of LL waste per truckload, with a further approx. 468 truckloads over next 40 yrs of ANSTO operations.

In Total: Toward 1,000 truckloads of ANSTO wastes could be dumped in SA (including de-commissioning waste from HIFAR reactor circa 2024 & from the OPAL reactor - after 2057).

Contrary to essential Nuclear Safety Committee advice: Federal gov. has failed to engage Stakeholders at targeted nuclear waste Port Cities & along nuclear transport routes:

The Nuclear Safety Committee (NSC) of ARPANSA provided important advice to the CEO in Nov 2016 on the plan for the NRWMF – “essential” advice which the Federal gov. has still failed to implement to date and has thereby compromised the site selection process (see Appendix 2, p.23-24).

This important NSC advice, recommendations and stated requirements cover three key areas:

- Essential engagement with all stakeholders, including those along transport routes;
- Transparency in decision making regarding the NRWMF;
- Continued engagement with stakeholders at the frequency, locations, and in the form appropriate throughout the NRWMF project.

Nuclear Safety Committee advice states it is “essential” to clearly and effectively engage all stakeholders, including along transport routes “*at the frequency, locations, and in the form appropriate to specific issues throughout the duration of this national long term project*”.

Transparency in decision making regarding the NRWMF is essential but has been seriously lacking.

Any decision to site at Kimba, or at Hawker, is matched with proposed core required nuclear waste Ports, with Whyalla & Port Pirie named in July, & associated waste transport route communities.

However, the Federal gov. has systematically failed to comply with NSC advice that it is “essential” to engage with these SA communities throughout the 2 ½ years since solely targeting SA postcodes.

Targeted nuclear waste port communities, the wider Eyre Peninsula community, and the SA State-wide community must be effectively engaged *before* a Ministerial site selection decision is made.

This important NSC advice to the CEO of ARPANSA includes the following (emphasis added):

*“...the Committee identified several components of this plan that will require ongoing focussed resources for successful engagement. **Such engagement is essential** if ARPANSA is to be effective in developing and maintaining the confidence of stakeholders as a trusted regulator. The components include but are not limited to:*

The ongoing requirement to clearly and effectively engage all stakeholders, including those along transport routes. The purpose of this engagement is to communicate the role of ARPANSA as the independent regulator and to be transparent in the reasoning for future decisions made regarding the NRWMF. Lessons from other industries show that a significant amount of time is required to build a relationship of trust with such a wide range of stakeholders. The objective is to allow stakeholders to consider the regulator as independent and to allow ARPANSA to identify, understand, and address the range of potential concerns raised by stakeholders;

...however, it is not clear that ARPANSA is adequately resourced to develop and maintain a capability so that ARPANSA is able to learn the lessons from Australian and overseas experience...

...Given the recognised examples where similar projects have failed both in Australia and internationally.”

Safety & Security Questions over ANSTO nuclear waste Shipments to a Port in SA:

After 2 ½ years of targeting regional communities in SA, the flawed NRWFM site selection process has failed to inform, engage and consult relevant communities on the potential impacts of nuclear waste storage & transport - including key public interest Safety & Security and Reputational Risks.

Federal gov. should have to properly engage all relevant stakeholders, to be transparent and to properly answer a range of key public interest questions on intended multiple shipments of ANSTO nuclear fuel wastes into SA through an SA Port and on proposed *indefinite* above ground storage.

This must cover potential nuclear waste accidents and conceivable terrorist attack risks and impacts.

“In the event of a major nuclear accident, adverse impacts on the tourism, agriculture and property sectors could potentially be profound.”

SA Nuclear Royal Commission: ***Tentative Findings, Risks and Challenges, [Impacts on other Sectors](#)*** (Feb 2016, p.28)

The SA Nuclear Fuel Cycle Royal Commission (SA NFCRC) raised and considered potential Nuclear Accidents and Safety & Security issues in the transport of nuclear fuel wastes, with **the Final Report, Appendix L Transport Risk Analysis, Conclusion**, stating:

“...if a cask was lost at sea and was irrecoverable, there is a potential for some members of the public consuming locally sourced seafood to receive a very small dose of radiation”;

Further, the Final Report concluded that terrorist attack scenarios are conceivable during the transport of nuclear fuel wastes. With the potential scenario for rocket attack on the transport of nuclear fuel waste reported as having the greatest potential to cause a release of radiation (see NFCRC Final Report, May 2016, [Appendix L - Transport risk analysis](#) Conclusion, p.312).

A further Jacobs MCM desk top Report (15 April 2016, p.50) to the SA NFCRC assessed Safety and Risks in the transport of radioactive material to Australia also **Concluded** that radioactivity that escapes from an unrecovered and degrading nuclear fuel waste cask is expected:

“to be diluted in thousands of cubic kilometres of seawater”

see "[Safety and risks in the transportation of radioactive material to and from Australia](#)"

Q 1: What are the comparable marine contamination risks in this case of a co-located nuclear fuel waste Store in SA with intended required requisition of use of a Port in SA for multiple shipments of ANSTO nuclear fuel wastes from circa 2020-21 over decades through to the 2060's, which corresponds to reported **marine contamination risks** cited in:

- Conclusions of the SA NFC Royal Commission Final Report [Appendix L - Transport risk analysis](#) Conclusion (May 2016, p.312)?
- AND cited in Conclusions of the Jacobs MCM Report to the NFCRC "[Safety and risks in the transportation of radioactive material to and from Australia](#)" (15 April 2016, p.50)?

Q 2: What are the wider implications for the Eyre Peninsula - including on the reputation of agricultural export industries, in the Federal gov plan to requisition a Port on Eyre Peninsula for multiple shipments of ANSTO nuclear fuel wastes from circa 2020-21 over decades through to the 2060's AND in proposed *indefinite* above ground Storage of nuclear fuel wastes at Kimba?

Q 3: In the event of a major nuclear waste accident during the period & stages of proposed NRWFM Store operations in SA what are the scale and type of potential adverse impacts on SA and on sectors in SA, which correspond to the reported potentially "*profound*" adverse impacts cited in:

- Findings of the SA Nuclear Royal Commission: *Tentative Findings, Risks and Challenges, Impacts on other Sectors* (Feb 2016, p.28)?

Q 4: What are the conceivable terrorist attack scenarios in this case of a co-located nuclear fuel waste Store at a NRWFM site in SA, and associated intended required requisition of use of a Port in SA & consequent nuclear waste transport onto a NRWFM site in regional SA, which correspond to reported conceivable terrorist attack scenarios cited in:

- Conclusions of the SA NFC Royal Commission Final Report [Appendix L - Transport risk analysis](#) Conclusion (May 2016, p.312)?

Q 5: What the potential impacts on SA of the occurrence of conceivable terrorist attack scenarios in the period & stages of proposed NRWFM Store operations in SA, including in:

- Shipping of ANSTO nuclear waste off SA waters & through SA waters including the Gulf;
- Intended decades of nuclear waste Port operations in SA, with Port Pirie, Whyalla and Port Lincoln named as potentially required ports in Federal gov. reports in July 2018;
- Transport of ANSTO nuclear waste by road or rail from a requisitioned SA Port to a irradiated / reprocessed nuclear fuel waste Store in regional SA;
- And in intended *indefinite* above ground storage of ANSTO irradiated / reprocessed nuclear fuel wastes at either Kimba or Hawker?

Q 6: What type and scale and coverage of nuclear accident & terrorist attack scenario Insurance (if any) does the Federal government intend to provide to cover South Australia and to cover third parties for potential impacts & losses, in and associated with:

- Intended multiple shipments of irradiated / reprocessed nuclear fuel wastes into an SA Port;
- Transport of nuclear waste by road or rail from an SA Port onto a nuclear fuel waste Store in regional SA at either Kimba or Hawker;
- Intended *indefinite* above ground nuclear fuel waste storage operations at a NRWFM Store?

Q 7: What type and scale and coverage of nuclear accident & terrorist attack scenario Insurance (if any) did the Federal government provide for:

- The July 2018 shipment of ANSTO nuclear fuel waste out of Port Kembla in NSW to France;
- The Dec 2015 shipment of French reprocessed nuclear fuel waste to and through Port Kembla and on to the ANSTO facility at Lucas Heights?

**Indefinite Storage of ANSTO nuclear fuel wastes in SA flouts long standing
ARPANSA advice on International Best Practice:**

The ARPANSA Radiation Health and Safety Advisory Council (RHSAC, April 2010) have provided advice to the CEO that International Best Practice requires a strategy for ultimate disposal of waste and concludes that Australia's policy for *indefinite storage* of waste is not consistent, stating:

*"Hence, the overall picture of international best practice is that countries should have a policy and strategy for management of radioactive waste, in which storage has a legitimate temporary role **provided there is a further strategy for ultimate disposal of the waste.**"*

This also leads to the conclusion that Australia's current policy of indefinite storage for intermediate level waste does not appear to be consistent with international best practice.

In developing a national strategy it is necessary to ensure an appropriate infrastructure is in place to manage radioactive waste." (Emphasis added)

In: "COUNCIL ADVICE TO CEO REGARDING A REVIEW OF ISSUES RELATED TO THE MANAGEMENT OF INTERMEDIATE LEVEL RADIOACTIVE WASTE IN AUSTRALIA - APRIL 2010" (p.22) http://www.arpansa.gov.au/pubs/rhsac/waste_report_RHSAC.pdf

The ARPANSA Nuclear Safety Committee has also provided similar more recent advice to the CEO:

"2. Final Waste Management Prior to Activities Commencing

International best practice points to the need to have in place a policy and infrastructure for final management and ultimate disposal of waste before activities generating waste commence. Currently, there is no infrastructure for final disposal within Australia.

New facilities ANSTO proposes to construct at its LHSTC will generate additional waste requiring long-term storage or disposal. Approval may be granted to conduct activities generating waste provided adequate contingencies are in place. ...

The Committee, therefore, recommends that establishing a long-term storage and disposal facility prior to waste-generating activities commencing continues to be considered the preferred option for any licence application." (Emphasis added)

In: "Nuclear Safety Committee advice to CEO of ARPANSA regarding safety implications of waste stored in interim storage, 22 Nov 2013, http://www.arpansa.gov.au/pubs/nsc/nsc_iwsadvice.rtf

The Federal Minister should recognize that the NRWMF process and plan for *indefinite* above ground Storage of ANSTO irradiated nuclear fuel wastes & Intermediate Level reactor wastes in SA is not consistent with ARPANSA Radiation Health and Safety Advisory Council advice & Nuclear Safety Committee advice on required International Best Practice.

ANSTO has produced irradiated nuclear fuel wastes & Intermediate Level reactor wastes at Lucas Heights for 60 years without any nuclear waste disposal capacity (or even a program to do so) and intends to continue this mal-practice of nuclear waste production without a disposal capacity for decades to come under the OPAL reactor Operating License up to 2057.

The Store to operate “above ground for approx. 100 years” compromises Safety & Security in SA as ANSTO nuclear wastes require isolation for 10,000 years

A range of ARPANSA & ANSTO documents from 2015 on make clear the **untenable fact** that the proposed nuclear fuel waste Store in SA is intended to operate “for approx. 100 years” - effectively indefinitely, for nuclear wastes that require isolation from the environment for 10,000 years.

For instance, documentation on the ANSTO “Interim Waste Storage Facility” (IWS) at Lucas Heights which is already storing reprocessed nuclear fuel waste shipped in from France in Dec 2015.

The ARPANSA “Regulatory Assessment Report – Operating” for the IWS (May 2015, p.42) states:

“Noting that the Government is currently inviting nominations of sites for the NRWMF, possibly involving co-location of a near surface disposal facility for Low Level Waste (LLW) and an above ground store for Intermediate Level Waste (ILW) it is feasible that the NRWMF will cater for the long term above ground storage (approximately 100 years) of Intermediate Level Waste including the waste reprocessed in France and the United Kingdom. ...

ANSTO refers to the Government’s planning for siting and construction of the NRWMF which will be a near surface disposal repository for low level waste (LLW), co-located with an above ground store for ILW. This plan will have the provision for ILW storage above ground for approximately 100 years.” (Emphasis added)

The ARPANSA “CEO’s Statement of Reasons for the IWS operating licence” (May 2015), at 3.Reasons for my Decision (p.14, a summary of the CEO’s considerations of the evidence before him) accepts ANSTO’s Contingency planning, including the NRWMF plan for an above ground Store for ILW:

“This plan will have the provision for ILW storage above ground for approximately 100 years.”

See: “Interim Waste Store” <http://www.arpansa.gov.au/regulation/ReturnofWaste/index.cfm>

And: “CEO’s Decision - ANSTO Interim Waste Store”

<http://www.arpansa.gov.au/regulation/ReturnofWaste/iwsdecision.cfm>

ANSTO nuclear fuel waste & Intermediate Level Wastes require isolation for 10,000 years:

The current ARPANSA draft Code for Disposal of Radioactive Waste (Dec 2017), among many official documents, makes clear that both nuclear fuel wastes & ILW require isolation for circa 10,000 years:

Based on international best practice, an applicant needs to undertake a safety assessment ... over the very long timescales that are deemed appropriate by the Relevant Regulatory Authority (e.g. 10,000 years for disposal of intermediate level waste); (p.51)

The proponent may impose a time cut-off in the assessment of passive safety ... based on expectations from international best practice, for disposal of intermediate level waste should not be less than 10,000 years. (p.53)

See <https://www.arpansa.gov.au/code-disposal-solid-radioactive-waste-rps-c-3>

A Store in SA is unnecessary given Extended Storage facilities at Lucas Heights:

In 2015 ANSTO purpose-built an “*Interim Waste Store*” (IWS) at Lucas Heights with a conservative design operating life of 40 years to take reprocessed nuclear fuel waste shipments from both France and from the UK (equivalent to HIFAR reactor nuclear fuel wastes previously sent overseas).

This Store is operating at Lucas Heights, having received the French waste late in 2015, with a plan for its operations to accommodate the waste intended to be returned from the UK circa 2020-21.

This intended UK shipment of reprocessed nuclear fuel waste can also go to Lucas Heights rather than continuing to target communities in SA - including through the requisition of an SA Port City.

Both the UK and French reprocessed nuclear fuel wastes from ANSTO HIFAR reactor operations can be safely managed in Extended Storage in an existing facility at Lucas Heights for 40+ years.

The Operating Licence for the existing Store at Lucas Heights “*is not time-limited*”, was approved by ARPANSA with a Contingency plan for this Store to operate for longer than 40 years, and potentially to store reprocessed nuclear fuel wastes “*until the availability of a final disposal option*”.

Further, the Federal Industry Department (2014, in consultation with ANSTO & ARPANSA) reported an “*Initial Business Case*” for the NRWMF, with Contingency Options:

- for ANSTO nuclear fuel wastes and ILW to “*remain at ANSTO until policy and technological options for permanent disposal of ILW are determined*”;
- AND with potential additional nuclear fuel waste Stores to be built at Lucas Heights for future shipments of OPAL reactor reprocessed nuclear fuel wastes on return from France.

ANSTO’s Lucas Heights is by far the best resourced and secure facility to responsibly manage the Extended Storage of all of Australia’s nuclear fuel waste including the intended accruals of OPAL reactor nuclear fuel waste and Intermediate Level waste production through to the 2050’s.

Equally, ANSTO can manage OPAL reactor nuclear fuel wastes in Extended Storage at Lucas Heights rather than seek to impose these nuclear wastes onto un-willing communities in SA.

There is arguably no technical reason why ANSTO can-not also conduct Extended Storage of OPAL reactor nuclear wastes, at least through-out the period of ongoing reactor waste production on-site.

ARPANSA evidence for viable Extended Storage of ANSTO nuclear wastes at Lucas Heights:

ARPANSA has made a submission (23 Feb 2018), to a Nuclear Inquiry “*Reprocessing nuclear fuel - France*” by Joint Standing Committee on Treaties, regarding the “*safety and effectiveness of the current storage facility*” for nuclear fuel wastes at Lucas Heights, stating (at p.2):

“ARPANSA has a high degree of confidence in the safety of this facility which is underpinned by an inspection and compliance monitoring program.”

In: <https://www.aph.gov.au/DocumentStore.ashx?id=0739bc51-9403-4490-b0ce-c8cc6ed074a2&subId=563939>

There is no manifest need for a nuclear waste Store in SA other than a flawed Federal agenda:

The ARPANSA “**Regulatory Assessment Report – Operating**” (May 2015) for the IWS states at p.43:

“ANSTO’s application is predicated on a 40 year operating life for the IWS. ...

If the NRWMF were to be delayed beyond the 40 years, ANSTO would undertake actions to support an extension of the facility and container, or the safe transfer to another approved dual usage container.

... Conclusion:

It appears there are some uncertainties regarding establishment of the NRWMF. ...

The ARPANSA assessor notes that though the (IWS) facility is for interim storage, the licence is not time-limited.”

The ARPANSA “**CEO’s Statement of Reasons for the IWS operating licence**” (May 2015) states:

“3.1.1 Purpose of the facility

*The purpose of the IWS Facility is to store radioactive waste resulting from reprocessing of fuel that has been used in the now permanently shut down High Flux Australian Reactor (HIFAR). **The application concerns spent fuel that was shipped to France (La Hague) and to the UK (Dounreay) under agreements with AREVA and UKAEA to reprocess the fuel and to return the radioactive waste resulting from the reprocessing...***

General characteristics of the returned waste

*... In addition, **the waste to be returned from the UK may be required to be stored temporarily at the IWS Facility.** This will only happen if the NRWMF is not available when the waste is returned. The return of the waste from the UK is planned to take place around the year 2020.*

... I consider it appropriate that ANSTO dimension the IWS Facility and plan for its operations so that it may accommodate the waste returned from the UK.

Further, the ARPANSA “**Regulatory Assessment Report – Operating**” (May 2015) considered ANSTO Contingency Planning for the IWS to operate for longer than 40 years and importantly to potentially store reprocessed nuclear fuel waste on-site “**until the availability of a final disposal option**”:

“3.2 ANSTO Contingency Plan 3.2.1 Lifetime and future use of the IWS Facility

... The conservative design life considered is 40 years. ...

3.2.2 Long term storage of waste and final disposal

ANSTO considers that in the unlikely event that the NRWMF is not built within 40 years, ANSTO would make a submission to ARPANSA to amend the licence to extend it for a defined period of time. ... ANSTO also considered reloading the waste into a new TN81 cask, and the reloading operation will be undertaken in a purpose-built facility subject to regulatory approval.

... ANSTO states that a final disposal strategy will be subject to Australian Government policy including monitoring of best practice disposal for such waste worldwide.

3.2.3 Contingency options

In the scenario of the unavailability of the NRWMF, ANSTO has identified the following options for contingency. ...

3.2.3.2 Retention of the returned residues at ANSTO until the availability of a final disposal option

... This (NRWMF) plan will have the provision for ILW storage above ground for approximately 100 years. The Government will continue to explore final disposal options including geological disposal over this period taking into account international best practice of disposal of such waste."

The ARPANSA "**CEO's Decision - ANSTO Interim Waste Store**" (May 2015) imposes a relevant Condition (see <http://www.arpansa.gov.au/pubs/regulatory/ansto/SOR-IWS.doc> p.25) that:

*"The licence is not limited in time; however, the purpose of the facility is temporary storage of the waste, pending solution for its final management. **The length of storage is contingent on the establishment of the NRWMF, or any alternative final management solution that may be considered in the future.** It is therefore reasonable to request, at appropriate times, updated information as regards the performance of the IWS Facility, and projections for the future. I have therefore included the following licence condition:*

The licence holder must submit to the CEO, no later than 30 June 2020 and in a form acceptable to the CEO, plans for the removal of waste stored in the facility."

However: The ARPANSA CEO's Condition does not require removal of the waste by June 2020 only *projections* of future plans for removal, subject to fruition - or not - of the proposed NRWMF.

This is confirmed in the ARPANSA submission to the JSCT Inquiry which addresses this issue:

"In addition, under condition 5 of the Interim Waste Store Licence, ANSTO must submit a plan, by no later than June 2020, for removal of the waste stored in the facility. The contents of the plan will be contingent on the progress made by the Department in establishing a NRWMF and establishing a final disposal pathway for Australia's Intermediate level waste.

*... However the NRWMF has not been established ... **ARPANSA would be the responsible regulator ... but is unable to pre-empt any regulatory decision or provide any estimate of timelines of when this may occur.**"* (Emphasis added)

It would be realistic & prudent for the Federal gov. and ARPANSA to prepare Contingencies:

- In the arguably likely case that the proposed co-located Store does not eventuate (just as it has not in preceding decades – without discernible impact on Lucas Heights operations);
- AND to provide for Extended Storage of nuclear wastes at Lucas Heights – while determining a final disposal pathway for nuclear wastes in accordance with International Best Practice.

There is no manifest need for a nuclear waste Store in SA other than a flawed Federal agenda.

See relevant ARPANSA public documentation and information available at: "**Interim Waste Store**" <http://www.arpansa.gov.au/regulation/ReturnofWaste/index.cfm>

And at: "**CEO's Decision - ANSTO Interim Waste Store**"

<http://www.arpansa.gov.au/regulation/ReturnofWaste/iwsdecision.cfm>

Business Case Option for Intermediate Level reactor waste to stay at Lucas Heights:

The ANSTO agenda for the OPAL reactor is premised on reprocessing of five decades of OPAL reactor nuclear fuel waste in France AND on proposed 'return' of these wastes to a NRWMF Store site in SA.

Arguably either or both of these agency preferences may fail to eventuate and leave OPAL stranded.

The Federal Department of Industry in consultation with ANSTO & ARPANSA produced a Business Case for the *Long Term Management of Australia's Radioactive Waste* (Jacobs SKM, April 2014) which set out two arguable more likely and more credible Contingency options:

- For shipments of ANSTO reprocessed nuclear fuel wastes from France to go to Lucas Heights
- And for ***"Intermediate Level Waste to remain at ANSTO until policy and technological solution for permanent disposal of ILW are determined"***.

In **Option 1** the NRWMF does not proceed (a continuation of the practice over the last few decades), and in **Option 2 b** the NRWMF proceeds to only take Low Level waste AND the proposed co-located above ground nuclear waste Store does not proceed.

"Table 14 List of options to meet the criteria:

Option 1 Business as Usual ("Do nothing"):

Continue as at present without long term radioactive waste management arrangements in place and operate via a series of interim storage measures for both the Commonwealth and the States and Territories (via ARPANSA-approved "contingency measures").

Propose separate ILW stores to be delivered at ANSTO prior to each separate delivery of OPAL Spent Fuel (to the design of the current IWS with a delivery cost of \$8M each) and a 1,000 m³ capacity LLW store to be constructed in 2016 and each decade thereafter (\$1M each) with associated operating expenses. (Emphasis added)

Further, **"Option 2 b"** also has ANSTO reprocessed nuclear fuel wastes returned to Lucas Heights in (an arguably likely) Contingency that if a NRWMF eventually proceeds it will only provide for Low Level (LL) waste Disposal in a Spanish style engineered above ground *El Cabil* design basis:

"Construct NRWMF with 100 years capacity for both legacy and future LLW at (remote) site in accordance with the NRWM Act 2012 and ARPANSA Guidance.

ILW to remain at ANSTO until policy and technological solution for permanent disposal of ILW are determined. ... ILW storage to continue at ANSTO with foreseeable capital and operating costs as for the ILW element of the BAU. (Emphasis added)

In: *Long Term Management of Australia's Radioactive Waste, Initial Business Case (REVISED)*, Jacobs SKM report to the Federal Department of Industry, April 2014, Table 14, p.34.

See <http://www.radioactivewaste.gov.au/files/files/IBC%20revised%20FINAL.pdf>

These Contingency Options to responsibly manage OPAL reactor nuclear waste have routine costings and provide for viable Extended Storage of Intermediate Level nuclear wastes on-site at by far the best resourced and most secure nuclear facility in Australia – ANSTO's Lucas Heights.

To respect Indigenous rights & interests this flawed NRWMF process must stop:

The broad Australian community have an obligation to respect and to protect Aboriginal cultural heritage. This must be reflected in any NRWMF site selection decision by the Minister.

NRWMF siting near Hawker in our iconic Flinders Ranges on Adnyamathanha country is clearly inappropriate as the proposed site expressly threatens special cultural heritage significance.

Proposed specific sites on a lease near Hawker and the broader area are part of a precedent registered **Story Line** under the protection of the SA **Aboriginal Heritage Act 1988** – lead cultural Indigenous values that must be respected and protected and not over-riden and impacted.

Further, an immediate adjoining property to the proposed NRWMF site near Hawker is an **Indigenous Protected Area**, a part of the *National Reserve System* under Federal protection.

However: the Federal Minister holds a draconian discretion under the *National Radioactive Waste Management Act 2012* (NRWMA) to over-ride both Federal and State Aboriginal Heritage Acts.

Sections 12 & 13 of the NRWMA state that: *“the significance of land in the traditions of Indigenous people ... has no effect to the extent that it would regulate, hinder or prevent”* actions that are authorised by Section 11 *Selecting the site for a facility*.

It is not appropriate for any claimed definition of *‘broad community support’* to over-ride Aboriginal people’s rights and interests in special cultural heritage significance and in due protection of values.

This NRWMF threat to Indigenous cultural heritage cuts to the core of high level SA public interests.

SA Premier Weatherill called for a traditional owners *“right of veto”* in a letter to the Prime Minister (24 Oct 2017, as reported in *The Australian* on 31 Nov 2017):

South Australian Premier Jay Weatherill has asked Malcolm Turnbull to give Aborigines the “final right of veto” over any site chosen by the federal government for the planned national radioactive waste dump. ...

In the letter obtained by The Australian, Mr Weatherill said Aboriginal leaders were deeply concerned about the Hawker proposal and urged the commonwealth to commit to “provide a local Aboriginal community with a final right of veto over any future facility proposed on their lands”.

<http://www.theaustralian.com.au/news/nation/bernardi-seeks-to-lift-ban-on-nukes/news-story/06ef1d96c74c833146722aaeb88c3248>

The Premier wrote to the PM (see Letter 2 pages at Attachment 5) regarding the NRWMF to convey the Adnyamathanha community’s expressed *“deep concern about the proposed site at Hawker, and potential impacts on Adnyamathanha Cultural Heritage”*.

The Premier raised the SA Nuclear Fuel Cycle Royal Commission, the Final Report’s statement that broad social consent was required to successfully deliver such a facility, and the response of the SA Government in a community engagement process, stating:

“This engagement process was insightful and highlighted the need for a bigger conversation about how Aboriginal people want to be seen, valued and recognised, and on unfinished business from the past.

In particular, Aboriginal people’s history with the nuclear industry demonstrates a need for significant healing.

In recognition, the South Australian Government committed to provide a local community with a final right of veto over any future facility proposed on their lands.

I recommend that the Commonwealth Government now consider adopting a similar policy position as part the National Radioactive Waste Management Facility process.

I would be happy to discuss this with you in greater detail.”

I commend **SA ALP Opposition Leader Peter Malinauskas MP** recent position to also support and call for a traditional owner’s “*right of veto*” over Federal gov. proposed siting of national nuclear waste storage & disposal facilities on Adnyamathanha people’s country near Hawker in our iconic Flinders Ranges OR on Barngarla people’s country near Kimba on agricultural Eyre Peninsula.

For instance, the Adnyamathanha Traditional Lands Association (ATLA, the Adnyamathanha Native Title Committee) has repeatedly said “NO” to proposed NRWMF siting on their people’s country.

The Federal gov. must not continue to target and harm Aboriginal communities and to threaten their cultural heritage rights and interests through this flawed NRWMF site selection process.

Premier Weatherill had earlier committed to provide Aboriginal communities a right of veto over any proposed International nuclear waste facilities (Jay Weatherill *The Advertiser*, Nov 18, 2016):

“...local Aboriginal people would be given a final right of veto on any future facility.

“A key finding of the citizens’ jury was the importance of listening to local Aboriginal communities. Their evidence to the jury was compelling.

“This final right of veto would exist if a proposed facility would affect their lands and would not be overridden by the broader community.

“Their voice must be heard and their consent is essential.”

The Federal Minister must recognise that Aboriginal people’s ‘*voice must be heard and their consent is essential*’ as a core part of any required credible claim to “*broad community consent*” and/or to honour the commitment to “*not impose a facility on an unwilling community*”.

The flawed Federal gov. NRWMF process that is being imposed in SA should stop forthwith so as to respect Indigenous rights and interests and to put a stop to the continuing difficulties that this process is causing Indigenous communities.

Federal gov. names SA Ports to impose nuclear waste shipments

Nuclear Brief (1st August 2018) by David Noonan, *Independent Environment Campaigner*

Amidst rising controversy, the Federal Industry Department (DIIS) has named proposed Ports in SA that may have to take shipments of irradiated nuclear fuel wastes to go on to a Federal dump site.

[DIIS reports \(p.179\)](#) two intended shipments of reprocessed nuclear fuel wastes into SA within the first 2 years of operations of a proposed National Radioactive Waste Management Facility (NRWMF).

A shipment of nuclear waste is due from Sellafield in UK and a shipment out of Port Kembla is planned from the ANSTO Lucas Heights reactor of nuclear waste received from France in 2015.

After years of secrecy over intended nuclear waste shipments to an SA Port, DIIS has now named Whyalla, Port Pirie, a new Eyre Peninsula commodities port (if built) and even Port Lincoln, as potential nuclear waste ports, in three "[Site Characterisation, Technical Reports](#)" released in July.

However, all of these ill-considered plans for nuclear waste ports face an array of serious obstacles.

These targeted port communities are denied a say in Minister Canavan's pending decision on siting a Federal dump in SA, they haven't been consulted on use of their ports, and are *excluded* from 'votes' in the Hawker & Kimba districts over Aug-Sept on whether or not to locate a NRWMF in those areas.

The Federal gov. is in continued breach of [advice of the Nuclear Safety Committee](#) (NSC) to the nuclear regulator ARPANSA (Nov 2016) on the NRWMF, on *transparency in decisions*, and for:

"The ongoing requirement to clearly and effectively engage all stakeholders, including those along transport routes." With the NSC stating that: "Such engagement is essential..."

[Proposed indefinite above ground storage](#) of nuclear fuel wastes *compromises safety*, is *illegal* in SA, and must not be allowed now. ARPANSA states these wastes require isolation for 10 000 years.

This was recognised by the previous SA State Liberal gov. that *prohibited* the import, transport, storage and disposal of nuclear fuel wastes under the *Nuclear Waste Storage (Prohibition) Act 2000*.

"The Objects of this Act are to protect the health, safety and welfare of the people of South Australia and to protect the environment in which they live by prohibiting the establishment of certain nuclear waste storage facilities in this State."

The new SA State Liberal gov. under the leadership of Premier Marshall has a key responsibility to protect the public interest and to uphold the law in our State. These are fundamentally State issues.

The Howard Federal gov. targeted SA for nuclear dumping over 1998 – 2004 but had to *abandon* that "National Store Project" & associated shipping and transport of nuclear waste across SA.

This Federal dump plan poses reputational risks and material impacts to the Kimba & Eyre Peninsula agricultural region, to the iconic Flinders Ranges tourism region, and now to targeted Ports in SA.

Nuclear waste can pose serious Accident & Security Risks and Impacts:

“In the event of a major nuclear accident, adverse impacts on the tourism, agriculture and property sectors could potentially be profound.”

SA Nuclear Royal Commission: *Tentative Findings, Risks and Challenges, [Impacts on other Sectors](#)* (Feb 2016, p.28)

Key questions on safety & security in nuclear fuel waste transport and storage remain unanswered (see [D Noonan submission to Senate Inquiry, p.10](#)). Nuclear fuel wastes must not be allowed into SA.

The UK Nuclear Free Local Authorities “[Briefing: Nuclear security concerns – how secure is the UK civil nuclear sector?](#)” (NFLA, May 2016) highlights key security threats including the risks from potential malicious attack on a nuclear waste transport or on a nuclear waste storage site.

NFLA (p.8) cites the views of nuclear engineer Dr John Large on safety as at the heart of its concerns:

“Movement of nuclear materials is inherently risky both in terms of severe accident and terrorist attack. Not all accident scenarios and accident severities can be foreseen; it is only possible to maintain a limited security cordon around the flask and its consignment; ... terrorists are able to seek out and exploit vulnerabilities in the transport arrangements and localities on the route; and emergency planning is difficult to maintain over the entire route.”

NFLA Recommendations (p.15) call for real discussion on the aftermath of a nuclear security incident given the major emergency response issues that arise. **SA is unprepared for any such consequences.**

Any use of SA Ports for nuclear waste poses significant logistical & other constraints:

The DIIS “*Site Characterisation, Technical Report - Wallerberdina*” for a proposed Federal nuclear dump site near Hawker, [Section 4.1 Transport \(p.174-186\)](#), at “*Proximity to Ports*” (p.177) states:

“There is potential to have waste shipped from Port Kembla, NSW to key port locations such as Whyalla and Port Pirie. From here waste would either be shipped via road or rail to the site.”

[Hundreds of Police were required for security](#) at July nuclear waste shipment [out of Port Kembla](#).

Use of Port Pirie to road would lock down the National Highway to Port Augusta with 130 tonne Nuclear Canisters on over dimension & over-mass special vehicles. To rail would require waste transfer onto national gauge alongside Port Pirie and a second transfer on to State gauge in Port Augusta, with rehabilitation of the disused Cotabena Railway (p.177 & 186), to go on to the Flinders.

Use of the Port of Whyalla to road would require upgrade of Yorkeys Crossing to bypass the Port Augusta Bridge and to try “*to avoid occurrences of complete shutdown*” (p.181) in Port Augusta.

The Iron Triangle cities of Whyalla, Port Augusta and Port Pirie are now openly targeted for nuclear fuel waste transport and should have a right to refuse these *untenable* Federal gov. nuclear plans.

Influential Port Lincoln may be able to defend itself: other Port communities shouldn't have to do so.

The Marshall gov must protect all SA regional communities and reject a Federal nuclear dump in SA.

Attachment 2:

Our Reference: R16/12918

4 November 2016

Dr Carl-Magnus Larsson
Chief Executive Officer
ARPANSA
PO Box 655
Miranda NSW 1490, Australia

Nuclear Safety Committee

Advice to the CEO of ARPANSA

Dear Dr Larsson

I refer to Agenda Item 2.2 of the Nuclear Safety Committee (NSC) meeting held on the 18 March 2016 where the Committee provided you with their advice and recommendations relating to the ARPANSA Communication Strategy and Plan for the National Radioactive Waste Management Facility (NRWMF). The Committee discussed this topic further at the 17 June 2016 NSC meeting as additional information regarding project timeframes and progress was presented to the Committee.

The Committee considers the ARPANSA Communication Strategy and Plan for the NRWMF to be well developed and to contain elements that are required to manage the regulatory process and community expectations successfully. However, in both meetings, the Committee identified several components of this plan that will require ongoing focussed resources for successful engagement. Such engagement is essential if ARPANSA is to be effective in developing and maintaining the confidence of stakeholders as a trusted regulator. The components identified by the Committee are generally consistent with those identified by ARPANSA and include but are not limited to:

- The ongoing requirement to clearly and effectively engage all stakeholders, including those along transport routes. The purpose of this engagement is to communicate the role of ARPANSA as the independent regulator and to be transparent in the reasoning for future decisions made regarding the NRWMF. Lessons from other industries show that a significant amount of time is required to build a relationship of trust with such a wide range of stakeholders. The objective is to allow stakeholders to consider the regulator as independent and to allow ARPANSA to identify, understand, and address the range of potential concerns raised by stakeholders.
- The continued need for ARPANSA to be aware of, and informed by, case studies for similar scale projects in Australia and internationally. These case studies provide a range of examples of both successful and unsuccessful communication of technical and non-technical risks with stakeholders. The Committee discussed several case studies, highlighting the importance of identifying, understanding and managing technical, social, and economic

concerns raised by stakeholders. Those concerns are likely to vary between stakeholder groups and stakeholder concerns are likely to change over the course of such a long-term project. ARPANSA will need to be able to respond effectively and promptly to such changing concerns.

- The importance of integrating learnings and experience derived from effective stakeholder engagement in other industries and in the international nuclear community into the plan, and the requirement for the plan to be responsive and flexible for the duration of the project.
- The Committee emphasised the need to continue to engage with, rather than to just inform, stakeholders.
- The wide range of tools available for facilitating communication between stakeholders and ARPANSA was discussed with the recognition that ARPANSA will need to identify those tools that are considered most effective for reaching the wide range of stakeholders, and to develop an approach to the consistent and moderated use of such tools.

The Committee notes that ARPANSA has included the above in the ARPANSA Communication Strategy and Plan for the NRWMF; however, it is not clear that ARPANSA is adequately resourced to develop and maintain a capability so that ARPANSA is able to learn the lessons from Australian and overseas experience of the concerns stakeholders are likely to raise in connection with technological processes they are unfamiliar with. Experience from overseas and from other industries strongly suggests ARPANSA will need an ongoing capacity in this area.

Given the recognised examples where similar projects have failed both in Australia and internationally, the Committee requests further information from ARPANSA to confirm that sufficient resources are available within the organisation for continued and independent engagement with stakeholders at the frequency, locations, and in the form appropriate to specific issues throughout the duration of this nationally important and long term project.

Yours sincerely

<SIGNED>

Dr Tamie Weaver
Chair of the Nuclear Safety Committee

Attachment 3

SA ALP State Conference

Saturday 13 October 2018

Motion 148: MUA/CEPU/NUW/RTBU/CFMEU/AMIEU/HSU

No Nuclear Waste Dump in South Australia

State Convention acknowledges that radioactive waste management is a complex policy challenge that requires the highest level of transparency and evidence and that the current federal approach to site a national waste facility in regional South Australia is strongly contested.

- Supports Traditional Owners and community members in the Flinders Ranges and Kimba regions of South Australia in their current struggle to prevent a nuclear waste facility being constructed in their region.
- Calls for full transparency, broad public input and best practice technical and consultative standards during the current site nomination and selection process.
- Expresses concern at the federal government's continuing focus on finding a single remote site for radioactive waste to be disposed (low level) and stored (intermediate level) to the exclusion of all other waste management options.
- Reaffirms its support for the civil society call for the extended interim storage of federal wastes at federal sites pending a broad independent inquiry that examines all options for future responsible radioactive waste, transport and storage and management.
- Commits to support communities opposing the nomination of their lands or region for a dump site, and any workers who refuse to facilitate the construction and operation or transport and handling of radioactive waste material destined for any contested facility or sites including South Australian Port communities.

Attachment 4: 28 May 2017

To: Senator The Hon Matthew Canavan
The Minister for Resources and Northern Australia

c/o The Department of Industry, Innovation and Science
National Radioactive Waste Section
radioactivewaste@industry.gov.au

RE: Proposed Federal government imposition onto community in South Australia of an illegal “100 year” Store for ANSTO’s “10 000 year” irradiated Nuclear Fuel Wastes.

Dear Minister

Storage of nuclear wastes affects the rights, interests and safety of all South Australians and is prohibited in our State under the *Nuclear Waste Storage (Prohibition) Act 2000*.

Proposed imposition of ANSTO reactor nuclear wastes is a major public interest concern in SA and detracts from public trust and confidence in the Federal government, in ARPANSA and in ANSTO.

The National Radioactive Waste Management Facility (NRWMF) comprises two co-located waste management facilities: an above ground 100 year Store for wastes that ARPANSA states require isolation for 10 000 years, AND a Disposal Facility for wastes requiring isolation for up to 300 years.

This submission focuses on the proposed imposition of the illegal Store & consequences thereof.

The Store is primarily for ANSTO irradiated Nuclear Fuel Wastes (NFW) and other existing and proposed reactor wastes, with only minor projected future arising’s of Intermediate Level Wastes (ILW) from States & Territories or from other Commonwealth agencies.

ARPANSA’s CEO (May 2015) has formally considered the proposed NRWMF Store and stated:

“This plan will have the provision for ILW storage above ground for approximately 100 years.”

This *indefinite* storage plan compromises safety in importing nuclear waste to SA without a waste disposal capacity or even a requisite program for disposal of NFW and ILW.

ARPANSA’s Radiation Health and Safety Advisory Council (April 2010) has provided formal advice which concluded: *“that Australia’s current policy of indefinite storage for intermediate level waste does not appear to be consistent with International best practice.”*

The import, transport, storage and disposal of ANSTO irradiated Nuclear Fuel Wastes is illegal in SA and was prohibited under the leadership of Liberal Premier John Olsen in 2000:

“The Objects of this Act are to protect the health, safety and welfare of the people of South Australia and to protect the environment in which they live by prohibiting the establishment of certain nuclear waste storage facilities in this State”

Since April 2016 the NRWMF project has *exclusively* targeted community and environment in SA in an attempt to again impose an illegal Store for ANSTO’s irradiated Nuclear Fuel Waste in our State.

The Minister's release "*Kimba 90-day consultation begins*" (20 March 2017) invited submissions on potential approval under the *National Radioactive Waste Management Act 2012* of two nominated sites near Kimba for assessment as potential sites for the proposed NRWM Facility.

This is in-parallel with the Federal government targeting the iconic Flinders Ranges on the country of the Adnyamathanha people in a serious threat to their human rights and cultural interests.

These are fundamentally State level public interest issues and represent a multi-generational threat to community in SA: including intended Federal requisition of an as yet unnamed SA port for imposition of decades of irradiated Nuclear Fuel Wastes imports, along with affected stakeholders on transport routes, in addition to the rights & interests of community around a potential Store site.

The Federal government has unacceptably failed to take up the recent Advice of the ARPANSA Nuclear Safety Committee (4 Nov 2016) for transparency and for the essential "*ongoing requirement to clearly and effectively engage all stakeholders, including those along transport routes*".

This Store also exposes SA to unresolved security and potential terrorist risks in shipping, transport and indefinite above ground storage of irradiated Nuclear Fuel Wastes and other reactor wastes.

However, Lucas Heights is Australia's best placed institution and facility to responsibly manage ANSTO's Nuclear Fuel Wastes and can do so through-out the operating period of the Opal reactor.

An "Interim Waste Store" built at Lucas Heights in 2015 has a design life of 40 years and an approved purpose to take *both* the Nuclear Fuel Waste from France (NFW received Dec. 2015) and NFW to be received from the UK in circa 2020. The ARPANSA license for this Store "*is not time limited*" and has Contingency options to retain these NFW's at ANSTO "*until the availability of a final disposal option*".

The policy agenda to impose a NFW Store in SA is a flawed, unnecessary, contested and unsafe plan.

A broad public interest campaign protected SA rights and interests from prior Federal government attempts to impose nuclear waste facilities onto our State over 1998 to 2004 - and can do so again.

That "National Store Project" was *abandoned* - just as this NRWMF Store will have to be set aside.

Further, the Federal government's flawed policy agenda for *imposition* of nuclear waste effectively precludes a long term resolution to Australia's "low level" radioactive waste responsibilities.

The Minister has an obligation to learn the lessons from experience in failure of prior projects in Australia and internationally and not to deny or override key public interest community concerns.

My background includes experience as an Australian Conservation Foundation (ACF) Campaigner over 1996 to 2011 based in Adelaide. Please feel free to contact to discuss this public submission.

Yours sincerely

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