

22 July 2021

To: Parliamentary Standing Committee on Public Works

Inquiry: "ANSTO Intermediate Level Solid Waste Storage Facility Lucas Heights, NSW"

Public Submission by David J Noonan B.Sc., M.Env.St.

**RE: Extended storage of ANSTO's ILW on-site at Lucas Heights is warranted until availability of a final disposal option. The *indefinite* Store for ANSTO nuclear fuel waste & ILW in SA is untenable.**

Dear Secretary

Please consider this Submission with five Recommendations (see p.4), the Reports and further info sought from ANSTO, and my request to provide evidence as a Witness in a PWC Inquiry Hearing.

I raise public interest matters for the Public Works Committee (PWC) to consider and to report on to the Houses of Parliament (see Contents p.4). In accordance with requirements in the [Public Works Committee Act 1969](#) Section 17 Functions of the Committee, and having regard to Sec.17(2) for "*alterations to the proposals for the work that ... are necessary or desirable to ensure the most effective use*" of public works in this case.

**Recommendation 1:** ANSTO's proposed public works on Intermediate Level Waste (ILW) storage must be altered to provide for the necessary and proper Contingency to retain ILW on-site in safe and secure extended storage at Lucas Heights "*until the availability of a final disposal option*".

The proponent entity ANSTO's proposed public works and Submission No.1 do not reflect the agency's *duty* to provide for the necessary and proper Contingency in safe and secure on-site management of ILW at Lucas Heights up to the availability of a final (off-site) disposal option.

The ARPANSA CEO stated in relevant evidence (June 2020) to a Senate Inquiry on the NRWMF Amendment Bill 2020, that: "*Waste can be safely stored at Lucas Heights for decades to come.*"

ANSTO's "Interim Waste Store" Operating Licence (2015) was approved by ARPANSA with a Contingency to store reprocessed nuclear fuel wastes "*until the availability of a final disposal option*" (see p.10-13). That key License "*is not time limited*" with an approval to operate for over 40 years.

ARPANSA cite this long-standing required Contingency for "*Retention of the returned residues at ANSTO until the availability of a final disposal option*" in [ARPANSA's Submission No.86](#) (Sept 2020, p.4) to the Senate Standing Economics Legislation Committee of Inquiry on the *NRWMF Bill 2020*.

ANSTO has a *duty* to manage ILW in accordance with the same standard of Contingency required by ARPANSA for the provision of safe and secure on-site storage of nuclear fuel waste at Lucas Heights.

Both ANSTO's ILW and the highly hazardous nuclear fuel wastes accrued at Lucas Heights operations are stated by the regulator ARPANSA to require radiation shielding, safe handling and security, and to require isolation from people and from the environment for over 10 000 years (see p.19).

In contrast, the ANSTO proposed public works extend ILW storage capacity by a decade toward 2037 and are il-advisably premised on transfer of ANSTO's ILW to an interim above ground Store in SA.

These matters, and the questionable credibility of ANSTO's premise. go to ANSTO's duties and activities under Sec.17(4): "*the Committee shall have regard to the functions, powers and duties of the authority ... in relation to the activities of the authority concerned.*"

In accordance with Sec.17(3)(e) *“the present and prospective public value of the work”* will be maximised by the PWC requiring that ANSTO public works are fully compatibility with the necessary Contingency to retain ILW on-site until availability of a final disposal option.

**Recommendation 2:** ANSTO must not pre-empt ARPANSA Licensing decisions. ANSTO must plan for the valid Contingency that an ARPANSA Approval for *indefinite* duration above ground nuclear fuel waste and ILW storage in SA may not be granted.

ANSTO’s overarching assumption to transfer ILW to an interim above ground Store in SA - an event which may never occur – may compromise the stated *purpose* of works and the *suitability* of works.

This matter goes to Sec.17(3) *“In considering and reporting on a public work, the Committee shall have regard to: (a) the stated purpose of the work and its suitability for that purpose.”*

**Recommendation 3:** The PWC must require and confirm the *suitability* of any assented ANSTO public works to provide for - and comply with - the necessary Contingency to retain ILW on-site at Lucas Heights until a final disposal option is available.

The PWC should take note that ARPANSA have said they expect separate License Applications for the proposed NRWML Low-Level Waste disposal facility in SA; AND for the proposed *indefinite* duration above ground nuclear fuel waste and ILW storage in regional SA.

This PWC Inquiry must consider the fact that ARPANSA Approval may not be granted for proposed *indefinite* duration above ground nuclear fuel waste and ILW storage in SA - irrespective of whether-or-not ARPANSA Approval is granted for proposed Low Level Waste disposal in SA.

**Recommendation 4:** Transparency requires ANSTO must release key ILW Reports and further information to provide an adequate basis for informed decision making in consideration by the PWC and to facilitate informed public interest input to this Inquiry. **Including:** Two ANSTO Intermediate Level nuclear waste Reports required as part of ARPANSA Licensing Conditions and due to the regulator by 30 June 2020, AND the formal response(s) by ARPANSA.

These important Reports were requested to be released during the 2020 Senate Inquiry (see p.5).

I request Transparency from ANSTO and present Questions for the proponent to answer (see p.6).

**Recommendation 5:** The PWC Inquiry should consider proposed *indefinite storage* of ANSTO nuclear fuel waste and ILW in SA is untenable and compromises safety and security in SA.

ANSTO’s premise to transfer ILW into *indefinite storage* in SA is contrary to International Best Practice (IBP) and does not comply with ARPANSA Committee advice (see p.8-9).

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

ARPANSA stated in 2015 that the NRWML plan *“will have the provision for ILW storage above ground for approximately 100 years”* – effectively *indefinitely* - which is not consistent with IBP (see p.19).

ARPANSA’s Nuclear Safety Committee (NSC, Nov 2013) provided advise to the CEO that dual handling transport for interim storage *“does not represent International Best Practice”*, and importantly: *“also has implications for security”*.

The NSC (Nov 2016) advised the CEO that it was “essential” to engage communities along waste transport routes (see p.20). In 5 years of targeting SA for required shipping of ANSTO nuclear fuel waste through an SA Port and for trucking ILW across SA, this has not been done.

The fact that a pending UK shipment of reprocessed ANSTO nuclear fuel waste and associated ILW due in 2022 is to go into ANSTO’s existing “Interim Waste Store” at Lucas Heights (see p.5), safety rated by ARPANSA out to 2055, provides further evidence the proposed Store in SA is *unnecessary*.

Federal Labor question ARWA and why ILW should be moved from one temporary store to another.

Imposition of a nuclear waste dump will be an issue in the March 2022 SA Election (see p.14-16).

The import, transport, storage and disposal of ANSTO irradiated nuclear fuel wastes and ILW was prohibited in SA legislation under the leadership of Liberal Premier John Olsen AO in 2000 (see p.17).

In 2017 Premier Jay Weatherill called for an Indigenous right of veto over any federal nuclear waste dump siting on their lands in SA (see attached Letter to Hon Prime Minister Malcom Turnbull MP).

The SA Labor Deputy Leader Susan Close MP has said “*We are utterly opposed to the (NRWMF) process*” (25 Oct 2019) and stated in Sept 2020 that SA Labor are: “*committed to traditional owners having a right of veto over any nuclear waste sites*” and “*the federal government has shown no respect to the local Aboriginal people.*” (see p.18)

The Barnngarla People oppose a nuclear waste dump on their country and will take [legal action](#).

**In Conclusion: Extended storage of ANSTO’s ILW on-site at Lucas Heights is a warranted public interest measure and a necessary Contingency until availability of a final disposal option.**

**ANSTO’s public works are premised on an il-considered, unassured and arguably untenable transfer of ILW into *indefinite storage* of ANSTO nuclear fuel waste and ILW in regional SA.**

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 dump in SA - over 1998 to 2004 – a flawed process that had to be abandoned.

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

I have engaged formal processes throughout these issues and made submissions to the federal Minister on NRWMF nuclear waste storage issues in May 2017 & Nov 2018, to Senate Inquiry’s on NRWMF Site Selection in April 2018 and on the *NRWMF Bill 2020* in Feb & August 2020.

I have provided a range of public Briefing materials, for instance: “*Nuclear Waste Store siting at Napandee also targets the Port of Whyalla*” (see p.21-22), and media commentary.

**Note:** I request an opportunity to provide evidence as a Witness in a Hearing of this PWC Inquiry.

Please feel free for the PWC Secretariat, Members of this Public Works Committee and staff, to make contact regarding any aspect of this public submission, by Mobile, Text or E-Mail.

Yours sincerely

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A ‘Voice’ of the [No Dump Alliance](#)

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## Recommendations to the Public Works Committee Inquiry:

**Recommendation 1:** ANSTO's proposed public works on Intermediate Level Waste (ILW) storage must be altered to provide for the necessary and proper Contingency to retain ILW on-site in safe and secure extended storage at Lucas Heights "*until the availability of a final disposal option*".

**Recommendation 2:** ANSTO must not pre-empt ARPANSA Licensing decisions. ANSTO must plan for the valid Contingency that an ARPANSA Approval for proposed *indefinite* duration above ground nuclear fuel waste and ILW storage in SA may not be granted.

**Recommendation 3:** The PWC must require and confirm the *suitability* of any assented ANSTO public works to provide for - and comply with - the necessary Contingency to retain ILW on-site at Lucas Heights until a final disposal option is available.

**Recommendation 4:** Transparency requires ANSTO must release key ILW Reports and further information to provide an adequate basis for informed decision making in consideration by the PWC and to facilitate informed public interest input to this Inquiry. Including: Two ANSTO Intermediate Level nuclear waste Reports required as part of ARPANSA Licensing Conditions and due to the regulator by 30 June 2020, AND the formal response(s) by ARPANSA.

**Recommendation 5:** The PWC Inquiry should consider that proposed *indefinite storage* of ANSTO nuclear fuel waste and ILW in SA is untenable and compromises safety and security in SA. ANSTO's premise to transfer ILW into *indefinite storage* in regional SA is contrary to International Best Practice (IBP) and does not comply with ARPANSA Committee advice.

## **Transparency: Request release of two key ANSTO Reports on ILW to ARPANSA**

Transparency requires ANSTO's timely release of two key ANSTO Reports on ILW due to the regulator ARPANSA, as set in Licensing Conditions and due by 30 June 2020. This Inquiry should scrutinise Contingencies, safety and security, and implications for ILW covered in these Reports.

Informed decision making in PWC consideration on ANSTO public works, and the purpose and suitability of works, requires the proponent disclose an adequate basis of relevant information.

Proper public scrutiny is a necessary part of PWC Inquiries. Public interest input to this Inquiry and scrutiny of ANSTO's public works will be facilitated by ANSTO's timely release of these key Reports.

### **The PWC must also publicly release ARPANSA's formal response to the two ANSTO ILW Reports.**

The ANSTO ILW Reports were discussed in the Senate Standing Economics Legislation Committee Inquiry: "NRWMF Bill 2020". Their public release was requested by David Noonan in Sub.No.6.1.

ARPANSA's 2020 [Submission No.86](#) to that Inquiry discussed "Implications of ILW generation and storage at Lucas Heights for the NRWMF" in regard to the two key ANSTO Reports on ILW issues.

ARPANSA's submission (at p.4) raised the necessary Contingency measure in the medium term for:

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

The requested Reports are understood to expand on the regulator's evidence for feasible continued safe and secure extended storage of ANSTO ILW at Lucas Heights, see Sub.No.86 p.4:

*"ARPANSA is aware that some stakeholders have interpreted ARPANSA's decisions regarding the IWS as a requirement for relocation of the waste stored in the IWS, even suggesting that there is an urgent need for relocation. This is not correct. ARPANSA has not raised safety concerns regarding storage of waste at the IWS."*

The fact Lucas Heights is due to receive a UK reprocessed nuclear waste shipment in 2022, shows an above ground Store in regional SA for Nuclear Fuel Wastes & ILW is an *unnecessary* imposition:

*"Additional ILW remains in the UK from reprocessing of HIFAR spent fuel, and is planned to be returned to Australia in 2022. Should the shipment take place at that time, the NRWMF will (again) not be available, which in all likelihood leaves Lucas Heights as the preferred (by ANSTO) option, and possibly the only feasible destination."*

Extract ARPANSA Submission No.86, heading: "The Interim Waste Store Facility" p.3-4.

The regulator ARPANSA has given a clear expectation to receive separate License Applications, for the ILW Storage and for the Low-Level Disposal Facility, with potentially different decision outcomes.

The proposed NRWMF is in fact two different proposed facilities with different safety, security and Best Practice requirements, and with different likelihoods of going ahead - or not.

Release of these Reports will facilitate PWC consideration of the safe and secure Contingency in retaining nuclear fuel wastes and Long-Lived ILW in extended storage at Lucas Heights, until a scientifically defensible and public acceptable final ILW disposal option and siting is available.

## **Public interest Questions to ANSTO on the proposed ILW public works:**

### **Re: Explanation of ANSTO cited 2030 timeline for transfer of ILW into *indefinite storage* in SA**

**Q 1:** ANSTO must explain how they derived the cited 2030 timeline for transfer of ILW from safe and secure underground storage at Lucas Heights to above ground *indefinite storage* in regional SA?

### **Re: ANSTO compliance – or not – with Contingency to retain ILW until final disposal is available**

**Q 2:** ANSTO should state whether-or-not the Agency accepts and acts in accordance with the necessary Contingency to retain ILW at Lucas Heights until a final disposal option is available?

**Q 3:** ANSTO must disclose and explain whether-or-not the proposed public works are fully consistent with works requirements in-line with the necessary Contingency to retain ILW at Lucas Heights until a final disposal option is available?

### **Re: Influence of increased isotope exports on ILW storage capacity periods at Lucas Heights**

**Q 4:** In stating that existing ILW storage has capacity till approx. 2027 “*for certain waste streams*” (p.2), and proposed public works add “*at least 10 years to 2037*” (p.3) of ILSW storage capacity:

ANSTO should explain how the projected timelines are influenced and determined by the significant increase in ILW production consequent to the proposed increase in export of isotopes?

**Q 5:** What is the full array of ILW streams held at and accruing at Lucas Heights, and what is the status of and projected periods of storage capacity across all those ILW streams?

AND: How is that influenced and determined by the intended significant increase in ILW production consequent to the proposed increase in export of isotopes?

### **Re: ANSTO capacity to condition legacy liquid ILW into a solid form ILW**

**Q 6:** Is the liquid ILW accrued during the earlier period of HIFAR reactor and isotope operations suitable - or not - for treatment into a solid form by the new Synroc ILW treatment facility?

If not, what plan and costings has ANSTO to treat that earlier form liquid ILW into a solid form ILW?

### **Re: ANSTO plans and preparations – or lack thereof - for final disposal of ILW**

**Q 7:** In accruing ILW at Lucas Heights for over 60 years, what plan and preparations has ANSTO undertaken for conditioning and packaging of ILW to be suitable for final disposal?

**Q 8:** In design and operations of the new Synroc ILW treatment facility, what provision has been made for conditioning / treatment / encapsulation / packaging of ILW suitable for final disposal?

**Q 9:** Are ANSTO developing a common cask / packaging system for storage and disposal of ILW?

### **Re: ANSTO’s unfunded liability cost for conditioning and packaging existing ILW**

**Q 10:** What is ANSTO’s projected approx. liability cost to condition and package the over 496 cubic metres of ILW that ANSTO currently holds (p.3) for proposed transfer into *indefinite storage* at an NRWMF Store, AND what is the further approx. cost to make this ILW suitable for final disposal?

## **Federal Labor Questions: Why should ILW be moved? And the lack of ILW disposal plans:**

The federal ALP has repeatedly expressed concern over the lack of plans for permanent disposal of ILW, and in the absence of such plans, questioned why ILW should be moved from one temporary storage facility site to another. **Senator Watt, re NRWMF Bill 2020, [Hansard p.20-21, 21 June 2021](#):**

*“... Labor will act in accordance with scientific evidence and with full transparency, broad public input and best-practice technical and consultative standards, taking into account the views of traditional owners, to progress responsible radioactive waste management. ...*

***Labor is concerned that, to date, the government has been unable to provide any assurances on progress towards establishing a permanent facility for intermediate-level waste. We note that the community will expect a clear plan for a permanent facility to safely secure intermediate waste. It is hard to understand why, to date, so few resources have been allocated to the creation of a permanent, intermediate-level waste storage facility.***

*In the absence of such resources or planning, **the government should explain why the existing intermediate-level waste should be moved from one temporary storage facility to another. Labor will continue to hold the government to account and press for the department to explain how it plans to establish a permanent underground repository for waste of this nature.**”* (Emphasis added)

ARPANSA has stated an independent statutory non-corporate Commonwealth entity will be created through legislation by 1 July 2022, the Australian Radioactive Waste Agency (ARWA), to manage Australia’s radioactive waste in accordance with international regulations and best practice (see: [“Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management, National Report of the Commonwealth of Australia”](#), 27 Oct 2020, p.58). ARPANSA states ARWA is intended to develop national policy, strategy and ultimately an ILW disposal facility.

**However:** The Department of Industry had only established a branded ‘ARWA’ office in July 2020, largely staffed by re-badging NRWMF personnel and only undertaking existing NRWMF activities.

The federal Minister has said ‘ARWA’ *will not start* to address policy, strategy, plans and capacity for final disposal of ILW *until after* NRWMF siting is complete – with a Site License to finalise in 2023?

Since 2013 the federal government has compromised any timely consideration of ILW final disposal.

And since 2015 has prevented proper comparative appraisal of safe and secure Extended Storage of ILW at Lucas Heights, with proposed *indefinite storage* of ILW in an above ground fancy shed in SA.

**ALP Assistant Shadow Minister for the Environment Josh Wilson MP** has [stated](#) in a speech “Social license missing from Coalition’s nuclear push” to Parliament (11 June 2020):

***“But where is the evidence that there is any problem with the intermediate-level waste staying where it is, as it should do, until the government of Australia identifies and resources an appropriate permanent disposal site for intermediate-level waste? ...***

*But the claims that the government and government members in this place have made that intermediate-level storage needs to go to South Australia because there’s no room for it and that there are health and safety concerns about where it is currently are rubbish. **And so it should stay where it is** as a spur to the government to get on with the process, which currently hasn’t even started, of finding and resourcing a permanent-level disposal site. That is not occurring. ...*

*They need to immediately start and resource the process of a permanent disposal site for intermediate-level waste. **They should commit to maintaining that waste where it is currently stored...**”* (Emphasis added)



## **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) 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](http://www.arpansa.gov.au/pubs/rhsac/waste_report_RHSAC.pdf)

The ARPANSA Nuclear Safety Committee 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](http://www.arpansa.gov.au/pubs/nsc/nsc_iwsadvice.rtf)

**This PWC Inquiry must recognize that ANSTO's assumed transfer of ILW into *indefinite storage* 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 malpractice of nuclear waste production without a disposal capacity for decades to come through the OPAL reactor Operating License up to 2057.



## **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 in a way that clearly predicates against proposed *indefinite storage* of ANSTO irradiated nuclear fuel waste and long-lived Intermediate Level nuclear wastes in regional SA.

The 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](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 and ILW at Lucas Heights.**

ANSTO must take responsibility for its own nuclear waste and keep it safe and secure on-site at Lucas Heights until a final disposal option is available.

## **Nuclear Waste Storage in SA is unnecessary given ANSTO's capacity for Extended Storage:**

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 UK waste which is intended to be shipped in 2022.

The UK shipment of reprocessed nuclear fuel waste will also go in to the existing IWS at Lucas Heights.

Both the UK and French reprocessed nuclear fuel wastes from ANSTO HIFAR reactor operations can be safely managed in Extended Storage in an existing IWS 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 ILW 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 no technical reason why ANSTO can-not conduct Extended Storage of ILW on-site, at least through-out the period of ongoing OPAL reactor licensed waste production operations to 2057.

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

ARPANSA made a submission (23 Feb 2018), to a Nuclear Inquiry "*Reprocessing nuclear fuel - France*" by the Joint Standing Committee on Treaties (JSCT), 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 nuclear waste storage in SA other than a flawed federal agenda.

ANSTO's highly hazardous nuclear fuel wastes and long-lived ILW should be retained on-site at Lucas Heights until a scientifically defensible and publicly acceptable final disposal option is available.

**There is no manifest need for a nuclear waste Store in SA - other than a 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 did 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 was 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 and prudent for the federal gov. and ANSTO to prepare Contingencies:**

- In the arguably likely case that the proposed NRWMF nuclear fuel waste and ILW storage in regional SA does not eventuate (just as such a proposed facility did not arise 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 nuclear waste storage 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 to retain ILW at Lucas Heights until a disposal option is available:**

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 nuclear store site in SA.

Arguably either or both 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 but only to 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 m<sup>3</sup> 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 Waste Disposal in a Spanish style engineered above ground *El Cabil* design basis:

*“Construct NRWMF with 100 years capacity for both legacy and future Low-Level Waste 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>

**Contingency Options to responsibly manage OPAL reactor nuclear wastes through viable on-site Extended Storage of ILW at by far the best resourced and most secure nuclear facility in Australia – ANSTO's Lucas Heights, have featured in the federal system since 2014.**

## **Summary – Safety and Security in SA are *compromised* by the flawed NRWMF plan:**

Since April 2016 the NRWMF process has solely targeted SA in a political agenda to impose an above ground *indefinite* duration nuclear fuel waste & ILW Store - along with an associated required 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 previous SA Liberal State gov. in 2000.

This *unlawful* Store is primarily for ANSTO nuclear fuel wastes and ILW and is intended to be *co-located* at a proposed Low-Level Waste disposal facility site on Eyre Peninsula in regional SA.

ANSTO irresponsibly intends to *double* their stockpile of long-lived Intermediate Level reactor wastes without any waste disposal capacity, while the small inventory of States and Territories ILW are reported as '*largely historical with only minor projected future arising*'.

A decision to co-locate a Nuclear Fuel Waste Store in SA, made or confirmed at Cabinet level in 2018, is unnecessary and flawed and unacceptably *floats* International Best Practice (see p.8-9).

Lucas Heights is by far the best resourced and secure facility to responsibly manage ANSTO irradiated nuclear fuel waste and ILW over the long-term and until a scientifically defensible and publicly acceptable final disposal option may be arrived at.

An analogous proposed co-location of a Nuclear Fuel Waste Store in SA was foregone by the Howard government over Feb 2001 to mid-2004, when the "National Radioactive Waste Repository" to take 'Low-Level' (300 year) Wastes to be sited near Woomera also had to be abandoned.

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

This Nuclear Safety Committee advice goes to two fundamental issues. Firstly: this is a key SA state level stakeholder issue and must be effectively addressed at that level by federal dump proponents.

Secondly, that it is "*essential*" for regional communities in named targeted nuclear waste Port cities and along ILW transport routes must be effectively engaged throughout the NRWMF process.

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

A nuclear waste port has always been a core requirement of siting a NRWM Nuclear Store in SA, see the Brief "*Nuclear Waste Store siting at Napandee also targets Whyalla Port*" (at p.21-22).

In July 2018 the Federal gov. named Whyalla or Port Pirie as required nuclear waste ports facing decades of shipments of ANSTO reprocessed nuclear fuel waste imports to SA: with 2 shipments stated to be intended within the first 2 years of operations, including a shipment from the UK in the early 2020's and a shipment from Lucas Heights, then multiple future shipments direct from France.

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 Councils and State MP's.

I broke this news to SA regional communities in lead story's on Southern Cross TV (6<sup>th</sup> Aug 2018) and in the Whyalla News (9<sup>th</sup> Aug 2018) - with the **Whyalla Mayor** saying Federal gov. plans to use Whyalla's port for nuclear waste: "*would require significant community consultation*", noting:

*"In the past Whyalla has opposed any nuclear or radioactive shipping in this region".*

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 7<sup>th</sup> Aug 2018).

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

Communities across SA also have a public interest right to be engaged on the federal reports that in the first 4 years of intended Store operations one hundred B-double truckloads of ILW, primarily ANSTO reactor wastes, are to be trucked into and across SA to a Nuclear Store site at Napandee.

The site selection process has failed to engage SA communities or to answer Safety and Security Questions in transport of ANSTO irradiated nuclear fuel wastes to regional SA.

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.

The NRWMF process still has to 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 and for Eyre Peninsula agricultural exports.

The NRWM Facility plan for "*indefinite storage*" of ANSTO nuclear fuel wastes and ILW is not consistent with longstanding advice of the ARPANSA's Radiation Health & Safety Advisory Council and of the Nuclear Safety Committee on International Best Practice.

The Nuclear Safety Committee has advised that *dual handling* transport for *interim storage* "*does not represent International Best Practice*" and "*also has implications for security*".

Acting against International Best Practice, ANSTO has produced irradiated nuclear fuel wastes and ILW at Lucas Heights for 60 years without any nuclear waste disposal capacity and intends to continue this malpractice for decades under an OPAL Reactor Operating License 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 & ILW requires waste isolation from the environment for over 10,000 years.

Safety & Security in SA is unacceptably compromised by the NRWMF plan to import and *indefinitely* store irradiated nuclear fuel waste without any waste disposal capacity. A nuclear waste store in regional SA is also unnecessary given the viable option of Extended Storage at Lucas Heights.

ANSTO must retain nuclear wastes in viable responsible Extended Storage at Lucas Heights while determining a final disposal pathway in accordance with International Best Practice.

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 will take the UK waste due in 2022.



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

The ARPANSA CEO formally addressed the “*Safety and Effectiveness of the Current Storage Facility*” in Feb 2018, 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 agenda, and there is no Safety, Licensing or Technical reason to bring these hazardous nuclear wastes to SA.

Further, the Department of Industry (2014) reports Options for Lucas Heights to receive and retain decades of shipments of ANSTO reprocessed nuclear fuel wastes & ILW from France, 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 outcome, that a NRWMF eventually proceeds to take Low-Level Waste AND the proposed above ground co-located nuclear waste store doesn’t proceed.

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

**There will be consequences** if the federal Minister imposes a NRWMF onto unwilling community in SA and declares a fancy shed at Napandee on Eyre Peninsula an *indefinite* nuclear waste store:

- all South Australian’s have a right to have a Say and will take action to protect SA’s clean green reputation and organise to support an array of impacted communities.
- federal imposition of a nuclear waste dump onto SA will be a public interest issue in the March 2022 SA State Election.
- this untenable nuclear waste storage plan will arguably go on to likely fail over time – just as prior federal nuclear waste dump programs have had to be abandoned.
- any claimed benefits of a NRWM ‘Low-Level’ Waste disposal facility may again be forfeit, **due to an overall lack of due process**, and be again undone by linkage to an il-considered federal agenda for an untenable nuclear fuel waste & ILW Store.
- ANSTO will likely be caught out having premised public works for ILW storage on an il-considered linkage to assumed transfer of ILW to a Store site in SA that never arises.
- South Australians will reject the federal dump agenda’s inherent proposition to **over-ride** key SA Legislation and public interest protections in the *SA Nuclear Waste Storage (Prohibition) Act 2000*.

South Australians will organise to protect SA’s rights and interests from a federal gov.’s unfair **imposition** of an unlawful, unnecessary, and unsafe nuclear fuel waste and ILW dump on our State.

## **Federal *imposition* of an *unlawful* nuclear waste store is contrary to Democratic Rights and Interests in SA:**

Strong South Australian Legislation put in place by both sides of politics prohibits nuclear fuel wastes and ILW in SA and is key evidence that the proposed NRWMF nuclear waste store is untenable.

Storage of nuclear wastes compromises the safety and affects the welfare of the people of South Australia – *that is why* it is prohibited by the ***Nuclear Waste Storage (Prohibition) Act 2000***.

The import, transport, storage and disposal of ANSTO irradiated nuclear fuel wastes and ILW was prohibited in SA under the political leadership of Liberal Premier John Olsen AO in 2000.

*Objects* of this Act cover key public interest 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 and rejected an analogous Store in 2000.

“Nuclear waste” that is derived from the operations or decommissioning of a nuclear reactor, or a radioisotope production facility, or conditioning or reprocessing of spent nuclear fuel is prohibited.

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

**The fact the proposed NRWM Store is *illegal* in SA is effective proof of federal *imposition* of a nuclear waste dump on to the people of SA at state, regional and local community levels.**

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

*Imposition* over an array of due State (and potentially federal) public interest legislative protections is *inherent* in the *NRWM Act 2012* and in the federal site selection process to date.

This constitutes key evidence that the Store exposes SA rights and interests to risks and 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 SA Parliament and the people.

**The *NRWMF Act 2012* seeks to over-ride SA law and is an affront to democratic rights in SA.**

The federal gov. has an obligation to learn the lessons from experience in failure of prior nuclear waste projects in Australia and Internationally and must not deny serious community concerns in SA or try to override key public interest protections written into SA Law.

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.

**The PWC Inquiry should investigate and report on the reliance in ANSTO public works on the premise to transfer ILW to an *unlawful* Store for nuclear fuel waste and ILW in SA.**

## SA Labor supports an Indigenous veto over federal nuclear waste dump siting:

**This PWC Inquiry must recognise ANSTO's works premise to transfer ILW to SA lacks Aboriginal People's consent** – which is a core part of any credible claim to “*broad community support*”.

In 2017 Premier Jay Weatherill called for an Aboriginal 'right of veto' over any federal nuclear waste dump siting in SA. The Premier wrote to then Prime Minister Malcolm Turnbull on 24 Oct 2017 calling for an Aboriginal right of veto over proposed siting of any federal nuclear dump in SA.

Premier Weatherill's letter (see Attachment 1. to this Submission) was reported in The Australian in an [article](#) “*Bernardi's bid to lift nuke bans*” (13 Nov 2017), with the relevant extract stating:

*“... 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.*

*... Mr Weatherill has written to the Prime Minister about the federal government's plans to establish a national low-to-medium-level dump for domestic nuclear waste, with three SA sites under consideration: two near Kimba and one near Hawker.*

*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”.*

**Premier Weatherill went on to give a State Election commitment in Feb 2018 to support an Indigenous 'Right of Veto' over any federal nuclear dump siting in SA**, at “*Our Future SA*” an Environment SA Election Public Forum in Adelaide hosted by Conservation SA (which I attended).

Regarding an SA Labor decision to oppose federal dump plans: “[Kimba site selection process flawed, waste dump plans must be scrapped](#)” (15 Sept 2020), Deputy Leader Susan Close MP states:

*South Australian Labor is calling on the Federal Government to halt its plans to dump nuclear waste at Kimba. ...*

*SA Labor has consistently expressed its concerns about the site selection process and the lack of consultation with native title holders. ...*

*This was a dreadful process from start to finish, resulting in fractures within the local community over the dump.*

*The SA ALP has committed to traditional owners having a right of veto over any nuclear waste sites, yet the federal government has shown no respect to the local Aboriginal people.*

Deputy Leader Susan Close MP stated in 2019: “**We are utterly opposed to the process**”, In: [Deputy Opposition leader slams federal government's nuclear waste site selection process | The Transcontinental | Port Augusta, SA](#) (25 Oct 2019).

In planning to impose an ILW Store on Barngarla People's country, ANSTO are failing to honour the federal government's claimed commitment to: “*not impose a facility on an unwilling community*”.

## **The Nuclear Store in SA is to operate “above ground for approx. 100 years” with ANSTO ILW that requires 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, in 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 License” (May 2015), at 3. Reasons for my Decision (p.14, a summary of the CEO’s considerations on evidence before him) cites ANSTO’s Contingency for 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 and ILW require isolation for 10,000 years:**

The 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>

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

Despite having been named by the federal gov. as a required nuclear waste port in mid-2018, the Whyalla City Council's stated at a Council meeting ([Minutes 17<sup>th</sup> Feb 2020](#)) in response to public questions on proposed use of Whyalla Port for handling of nuclear waste and ILW:

***"At this time Council has had no advice from Federal / State government agencies as to how or when this process may commence."***

The Nuclear Safety Committee (NSC) of ARPANSA provided [advice to the CEO in Nov 2016](#) on the plan for the NRWM Facility – "*essential*" advice which the Federal gov. has still failed to implement to date and has thereby compromised the site selection process.

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

- "*Essential*" engagement with all stakeholders, including those along transport routes;
- Transparency in decision making regarding the NRWMF.

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.**

The specified Napandee site is matched with core required nuclear waste Ports, with Whyalla and Port Pirie named in July 2018, and consequent 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 near 5 years of solely targeting SA postcodes.

**Targeted nuclear waste Port communities, the wider Eyre Peninsula community, and SA State-wide community have a right to be engaged - and to Say No - to a Ministerial site declaration.**

This important NSC advice to the CEO of ARPANSA includes the following:

*"...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."*** (Emphasis added)

## Nuclear waste store siting at Napandee also targets the Port of Whyalla:

**Nuclear Brief (Feb 2020) by David Noonan, *Independent Environment Campaigner***

Amidst rising controversy, in 2020 federal Minister Canavan nominated Napandee on Eyre Peninsula as a nuclear waste store to take ANSTO nuclear fuel wastes and long-lived ILW from Lucas Heights.

The "[Site Characterisation Technical Report: Napandee](#)" (DIIS, July 2018, *Proximity to ports* p.150) named Whyalla Port to take shipments of nuclear fuel wastes, in the event Napandee is named as a Nuclear Store. Two shipments of reprocessed nuclear fuel wastes, in 130 tonne TN-81 casks, are intended within the first two years of operations of a Nuclear Waste Store at Napandee (p.152).

Some 100 x B-double 50 tonne loads of Intermediate Level Wastes (ILW) are also intended in the first four years of Nuclear Store operations at Napandee (p.152). The Report (p.157-158) states:

*"It may be possible to have these containers shipped from Port Kembla to ports such as Whyalla"*

However, the federal gov. has conspicuously failed to consult the SA community on plans to impose multiple shipments of nuclear waste across SA, including potentially through the Port of Whyalla.

This flawed practice 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*, stating:

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

Eyre Peninsula, Whyalla and transport route communities have so far been denied a Say on these federal nuclear waste plans and now face potential serious reputational risks and material impacts.

The [Australian Radioactive Waste Management Framework](#) (DIIS, April 2018, p.4) reports total ILW at 1,770 m<sup>3</sup> - with 95% (by volume) arising as federal government wastes.

The federal government plans to more than double ILW to produce a further 1,960 m<sup>3</sup> over next 40 years, with 1,850 m<sup>3</sup> (95%) of that arising from ANSTO Lucas Heights operations.

All these nuclear wastes are intended to go to Napandee for up to 100 years above ground storage.

Proposed *indefinite storage* of nuclear fuel wastes at Napandee compromises safety and security in SA and contravenes Nuclear Safety Committee advice. [The NSC has stated](#) dual handling in transport associated with interim storage *"does not represent international best practice"* and raises *"implications for security"*. These federal nuclear plans are also *illegal* in SA.

The previous SA State Liberal government *prohibited* the import, transport, storage and disposal of nuclear fuel wastes and reprocessed 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."*

ARPANSA states these nuclear wastes require isolation from the environment for 10 000 years.

## **Nuclear waste can pose serious Safety, Accident and Security Risks:**

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

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

Key questions on safety and security in nuclear fuel waste transport and storage remain unanswered (see [D Noonan submission to Minister Canavan](#), p.11-12). These 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. That belated debate is yet to be heard in SA.

**SA is arguable unprepared for the consequences of nuclear waste accidents or security events.**

[Hundreds of Police were required for security](#) at a 2018 nuclear waste shipment [out of Port Kembla](#).

Whyalla is targeted for nuclear waste shipments and should have a right to refuse untenable plans.

In “[Nuclear port potential](#)” (Whyalla News, 3<sup>rd</sup> August 2018, p.1) the Mayor said Federal gov. plans to use Whyalla’s port for nuclear waste: “*would require significant community consultation*”, noting:

*“In the past Whyalla has opposed any nuclear or radioactive shipping in this region”.*

DIIS’s Napandee Site Characterisation Report refers to potential “*occurrences of complete shutdown*” (p.154) in Iron Triangle Cities during nuclear waste shipments. This is unacceptable.

These are fundamentally State public interest issues: all South Australians have a right to have a Say, and the SA public have not given consent to proposed nuclear waste transport and storage.

Under the leadership of Premier Steven Marshall, the State Liberal government has a responsibility to protect the public interest and a duty to uphold nuclear waste prohibition’s law in our State.

The Marshall gov. must protect SA regional communities and reject a nuclear waste store in SA.

**For further Information, see:** <https://nuclear.foe.org.au/waste>