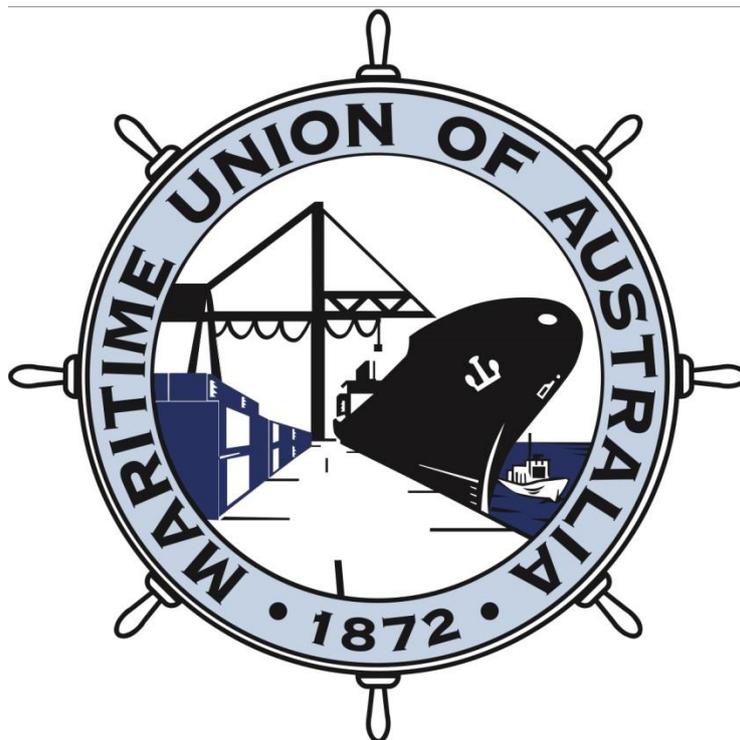


MUA Submission: Inquiry into the prerequisites for nuclear energy in Australia



16 September 2019

Standing Committee on the Environment and Energy

Submitted by email: Environment.Reps@aph.gov.au

**Paddy Crumlin, National Secretary,
Maritime Union of Australia
A Division of the Construction, Forestry, Maritime, Mining and Energy Union**
365 Sussex St, Level 2,
Sydney, NSW, 2000

For inquiries contact: 

Website: www.mua.org.au

Introduction

This submission has been prepared by Maritime Union of Australia (MUA). The MUA is a Division of the 120,000-member Construction, Forestry, Maritime, Mining and Energy Union and an affiliate of the 20-million-member International Transport Workers' Federation (ITF).

The MUA represents approximately 14,000 workers in the shipping, offshore oil and gas, stevedoring, port services and commercial diving sectors of the Australian maritime industry.

Other submissions

The MUA supports the joint civil society statement on nuclear power.

We recommend to the Committee the submission of the Electrical Trades Union. In our view it is essential for the Committee to call them as witnesses as they are the key union representing workers in Australia's electricity system.

We recommend to the Committee the joint submission of the Friends of the Earth Australia The Australian Conservation Foundation, and other state and national environment groups and conservation councils. The Committee should also call them as witnesses. For decades these organisations have played a key role in working with affected communities and key stakeholders, and in supporting people in remote Aboriginal communities dealing with the immediate impacts of uranium mining and potential impacts of the storage of nuclear waste.

Recommendations

The MUA welcomes the discussion about how to maintain and rebuild our fragmented and privatised electricity system in order to address the climate crisis and move to zero net emissions by 2050. As part of this discussion, the MUA recommends that the Government:

1. Reject the development of nuclear power generation in Australia.
2. Retain the nuclear prohibitions contained in existing environmental legislation and expand the provisions to prevent the opening of new uranium mines.
3. Legislate the staged closure of all uranium mines in Australia.
4. Introduce stronger regulation for the proper rehabilitation of uranium mines.
5. End its efforts to establish a remote national radioactive waste dump in Australia.

6. Transition away from the production of nuclear medicines using a nuclear reactor at Lucas Heights towards production through non-nuclear reactor based means like cyclotrons. The MUA is concerned about the importation of nuclear fuel assemblies for Lucas Heights and opposes the export of spent fuel for reprocessing.
7. Initiate an independent inquiry into nuclear waste production and all options of waste management. Intermediate level waste currently being produced at Lucas Heights should be stored onsite pending this inquiry.
8. The variability of renewable energy can be managed with investment in energy storage, an improved system of interconnectors and transmission, and more coordinated public planning, investment and ownership of the system. Nuclear power is not necessary.
9. Ensure that any energy transition includes a Just Transition of the workforce and communities, including a job guarantee and the establishment of a Transition Authority.
10. Reject the proposition of civilian nuclear powered vessels in Australia. Reject the processes for the Australian Maritime Safety Authority (AMSA) to approve nuclear reactor installations, conduct nuclear safety assessments, and issue safety certificates for civilian Australian registered nuclear powered vessels which are contained in the draft of Marine Order 31, issued under s. s.342 of the *Navigation Act 2012 (C'wlth)*.¹

Nuclear Power in Australia

The MUA and its predecessor unions (the Seamen's Union of Australia and the Waterside Workers' Federation) have long opposed the development of nuclear power in Australia. This was discussed at our most recent Quadrennial National Conference of Members in 2016, which unanimously passed a strong resolution against the development of nuclear power, and the risk that all aspects of the nuclear industry pose to the environment, local communities, and workers involved in mining, transportation and handling of radioactive materials (appendix 1).

Recent attempts to put nuclear power back on the agenda were further discussed at the MUA's most recent National Council in July 2019, and again were unanimously opposed.

The MUA's National Council has also rejected the suggestion by Industry Super Australia (ISA) that nuclear power should be considered as part of a future energy system in Australia.² The ISA report contained unfounded assumptions on the amount of energy storage required in a renewable energy system. The ISA report does not refer to the available peer-reviewed and published modelling and simulations on storage requirements

¹ The draft Marine Order 31 is available on the website of AMSA here: <https://www.amsa.gov.au/news-community/consultations/consultation-draft-marine-order-31-solas-and-vessel-safety?page=103>.

² Industry Super Australia, *Modernising Electricity Sectors: A guide to long-run investment decisions*.

in an Australian renewable energy system.³ It makes an assumption that storage is required for a full 1.5 days of electricity use (7,200 GWh) without providing any reference for this. It is this assumption that leads the paper to call for nuclear power to fill the gap. Certainly energy storage and new grid interconnectors are needed to deal with renewable energy, and large investments will be required for this. But ISA should have considered the available research and evidence in preparing the report and giving its advice.

Finally, we are concerned that the cost estimates given in the ISA report for building new nuclear power stations are based on projected costs from industry advocates, rather than actual costs for current stations that have been subject to very significant overruns. The report says that “A single reactor would be a relatively small investment.” The Hinkley Point C nuclear reactor presently under construction in the UK is estimated to cost £37 billion (\$66 billion AUD), for two reactors.⁴

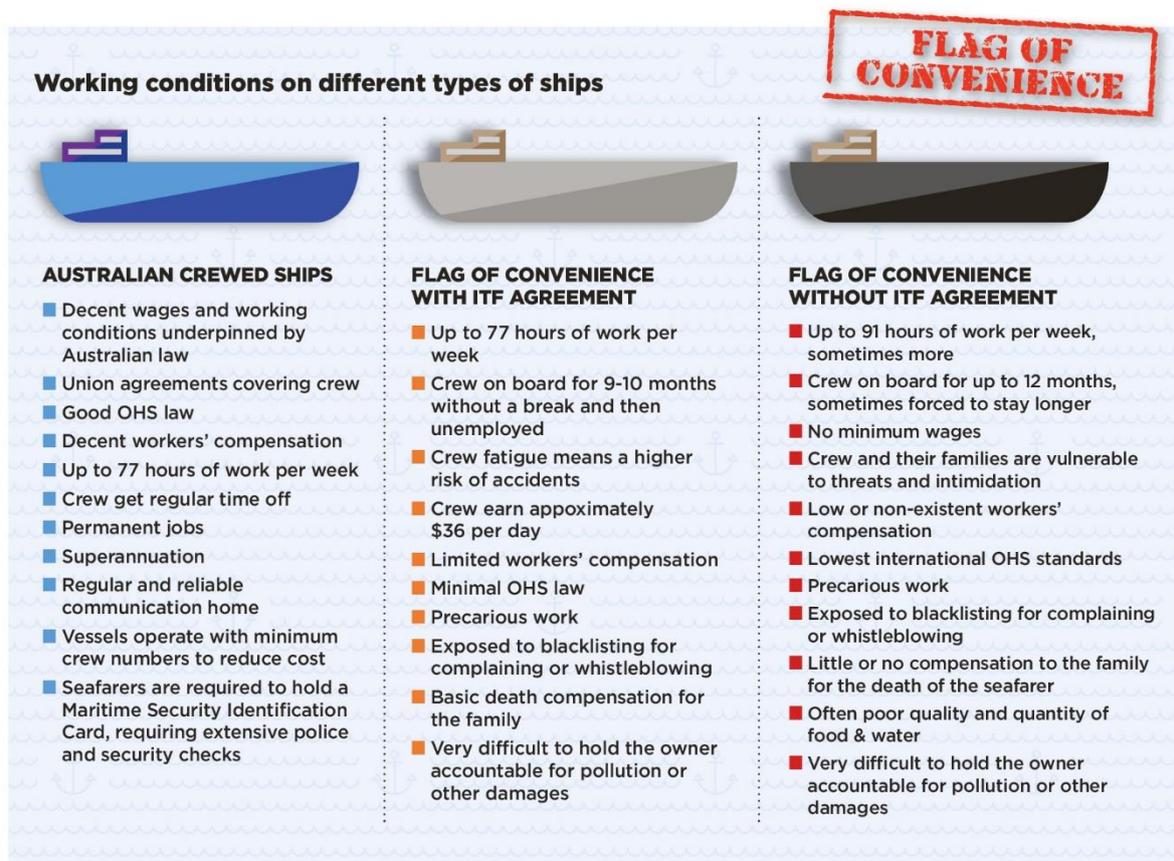
Transportation of nuclear material

Uranium mining and the nuclear industry involves the transportation of uranium and nuclear waste by ship. Given the safety risks of nuclear fuel and level of political controversy, most Australians would probably assume that transport of nuclear materials would take place on vessels of the highest standards. This is very unfortunately not the case, with nuclear shipments in 2015 and 2018 taking place on vessels with records much worse than the usual standard of Flag of Convenience shipping (Figure 1).

³ Ben Elliston, Jenny Riesz, Iain MacGill. What cost for more renewables? ‘The incremental cost of renewable generation: An Australian National Electricity Market case study.’ *Renewable Energy*, 95 (2016) 127-139. Andrew Blakers, Bin Lu, Matthew Stocks, ‘100% renewable electricity in Australia,’ *Energy*, 133 (2017), 471-482. Rutovitz, J., James, G., Teske, S., Mpofu, S., Usher, J, Morris, T., and Alexander, D., *Storage Requirements for Reliable Electricity in Australia*, 2017, prepared for the Australian Council of Learned Societies at the request of Australia’s Chief Scientist.

⁴ Terry Mcalister, Estimated cost of Hinkley Point C nuclear plant rises to £37bn *The Guardian*, 8 July 2016

Figure 1: A comparison of working conditions on Australian and international ships.



Source: Maritime Union of Australia and International Transport Workers Federation

In July 2018, spent nuclear was carried from Lucas Heights to Port Kembla to be shipped to France, reprocessed, and returned to Australia. The nuclear material was loaded onto the BBC Austria, owned by Brise Schiffart, a company with a terrible safety record. The company has been caught leaking oil, losing cargo, and not following basic navigation rules. In 2015, the BCC Shanghai was chartered to bring reprocessed fuel waste from France to Australia. This was despite the ship being recently detained in Australia and Spain, and banned from carrying government cargo in the United States for failing safety inspections.⁵ It is clear that we do not have sufficient safety measures and standards in place for the current small scale of the nuclear industry in Australia. This must not be expanded.

Remote waste facilities

Dealing with the nuclear waste from Australia's small reactor at Lucas Heights is already expensive, complex and controversial. Generating electricity from nuclear energy would generate far more waste, and the Australian government has not been find anywhere to put it that does not generate considerable anxiety and opposition from Traditional Owners and

⁵ Natalie Wasley, 2018, Responsibility overboard: the shocking record of the company shipping nuclear waste to Australia, *Online opinion: Australia's e-journal of social and political debate*, 14 August 2018. The safety records of ships are available on the commercial database run by IHS Fairplay.

community members. The attempts of successive federal government to construct a nuclear waste facility have been thwarted by persistent community campaigns and legal actions. Nominated sites in South Australia (1998-2004) and the Northern Territory (2005-2014) were dropped by the federal government after years of hard fought campaigning.

Significant government resources are currently being thrown at advancing the assessment of three shortlisted sites in South Australia - one on Adnyamathanha country in the Flinders Ranges and two in the Kimba region of the Eyre Peninsula. The SA waste dump plan has caused great anxiety and stress for Traditional Owners and local community members near the sites. The MUA supports the community campaigns against those sites being used as nuclear waste facilities.

Adnyamathanha Traditional Owner Regina McKenzie describes the Flinders Ranges as "arngurla yarta" (spiritual land), and describes how "the proposed dumpsite contains thousands of Aboriginal artefacts. Our ancestors are buried there. We don't want a nuclear waste dump here on our country and worry that if the waste comes here it will harm our environment and muda (our lore, creation)." Communities - including many of Regina's extended family - have campaigned for decades to stop uranium mining and nuclear waste dumps and to fight for compensation for people affected by nuclear bomb tests conducted in the 1950s and 1960s.

The MUA opposes attempts to find a remote nuclear waste facility on Aboriginal land, or any location contested by the local community.

Civilian nuclear powered vessels

Much to the surprise of the MUA, in July 2019, AMSA released a proposed *draft Marine Order 31 (SOLAS and vessel safety certification) 2019* that introduces substantial new provisions for AMSA to approve reactor installations, safety assessments, and issue safety certificates for civilian Australian registered nuclear powered vessels (sections 30 and 31).⁶ It also stipulates reporting procedures for international civilian nuclear powered vessels visiting Australia, and for Australian nuclear vessels visiting international ports (all sections in Appendix 2). Marine Orders are regulations issued under s. s.342 of the *Navigation Act 2012 (C'wlth)*.

The version of Marine Order 31 which is now in force does not include these provisions. AMSA say that they want to bring the new Marine Order by 1 October 2019, although we understand this has been delayed until early 2020.

The MUA opposes the inclusion of all the new sections related to civilian Australian registered nuclear powered vessels. It is of great concern to us that AMSA is seeking to introduce measures to facilitate the use of nuclear power in Australian civilian vessels, and

⁶ The Navigation Act 2012 and associated Marine Orders only apply to vessels that are not navy vessels or warships.

to facilitate the visits of civilian nuclear powered ships to Australia, with minimal public debate.

Significant drafting work has been done by AMSA to bring in these new measures, which would facilitate the introduction of such vessels to Australia. Measures to regulate nuclear powered vessels in Australia should only be introduced after a rigorous public discussion of the merits of doing so. The MUA is opposed to the introduction of nuclear powered vessels to Australia.

In relation to international civilian nuclear powered vessels visiting Australia, section 27 requires them to report a copy of the vessel's safety assessment to the Australian government 'as soon as possible' before the vessel arrives in Australia. This is insufficient and does not provide enough time for a proper safety assessment to take place or management plan to be developed. International vessels must provide a copy of the vessel's safety assessment in enough time for AMSA and other government agencies to read, understand and potentially reject the vessel before it arrives in Australian waters. Any such visit should also be made public well in advance.

Appendix 1: 2016 MUA Quadrennial National Conference resolution

Nuclear Issues

The National Conference of Members resolves the following:

- The Maritime Union Of Australia recognises the unique threat the nuclear industry poses to the environment, local communities and workers involved in mining, transportation and handling of radioactive materials.
- The Maritime Union Of Australia will work to ensure that its members are not exposed to the hazards of radioactive and nuclear materials. This exposure can occur through the movement of radioactive cargoes or through exposure to contaminated cargo and shipping as some members experienced in the aftermath of the Fukushima nuclear incident.
- The Maritime Union Of Australia recognises the ongoing disaster at the Fukushima Dai-ichi nuclear plant in Japan and acknowledges that uranium mined in Australia was present in all of the crippled reactors.
- The Maritime Union Of Australia is unequivocally opposed to the mining and transportation of uranium.
- The Maritime Union Of Australia also strongly opposes attempts by nuclear industry advocates to paint nuclear power as a 'clean' technology that can mitigate climate change and will campaign against development of a nuclear power industry in Australia.

Nuclear waste

- The Maritime Union Of Australia opposes consistent attempts by the Commonwealth government over the past two decades to establish a remote national radioactive waste dump in Australia.
- The Maritime Union Of Australia calls for a transition away from the production of nuclear medicines using a nuclear reactor at Lucas Heights towards production through non-nuclear reactor based means like cyclotrons. We oppose the importation of nuclear fuel assemblies for Lucas Heights and the export of spent fuel for reprocessing.
- The Maritime Union Of Australia calls on the government to initiate an independent inquiry into waste production and all options of waste management. Intermediate level waste currently being produced at Lucas Heights should be stored onsite pending this inquiry.
- Maritime Union Of Australia notes with deep concern the recent 'Tentative Findings' of the SA Royal Commission that recommends importation of international high-level nuclear waste for storage and final disposal. The Maritime Union Of Australia has long-standing opposition to importing nuclear waste from overseas. Maritime Union Of Australia welcomes the Federal ALP's clear opposition to importation of international radioactive waste, and urges Federal Labor to clearly and actively oppose any move to change this policy.

Nuclear weapons

- The Maritime Union Of Australia recognizes the deadly threat of nuclear weapons and the necessity for complete global disarmament.
- The Maritime Union Of Australia acknowledges that export of uranium from Australia can further nuclear insecurity as seen by the debate over uranium sales to India and other nuclear weapons states.

Solidarity

- The Maritime Union Of Australia will support and act in solidarity with workers and communities opposing nuclear projects in Australia, including Traditional Owners across Australia on the frontline of resisting projects.

The Maritime Union Of Australia will actively support moves by workers or communities to resist the expansion or further development of the nuclear industry in Australia including through provision of financial or in-kind advocacy and campaign support.

Appendix 2: Nuclear powered vessels

Provisions in current Marine Order 31 (Vessel surveys and certification) 2015

nuclear vessel means a vessel that has a nuclear power plant.

6 Application

- (1) This Order applies to a regulated Australian vessel.
- (2) This Order applies to a foreign vessel as set out in Division 2.
- (3) This Order does not apply to a nuclear vessel to the extent that this Order is inconsistent with Chapter VIII of SOLAS.

Provisions in the proposed draft Marine Order 31 (SOLAS and vessel safety certification) 2019

- (2) A SOLAS certificate remains in force for the period mentioned in the following table for the kind of certificate mentioned unless:
 - (a) a shorter period is specified in the certificate; or
 - (b) the certificate ceases to be in force in accordance with Regulation 14 of Chapter I, or Regulation 10 of Chapter VIII, of SOLAS.

Kind of certificate (SOLAS)	Maximum duration
Passenger Ship Safety Certificate	1 year
Cargo Ship Safety Construction Certificate	5 years
Cargo Ship Safety Equipment Certificate	5 years
Cargo Ship Safety Radio Certificate	5 years
Cargo Ship Safety Certificate	5 years
Nuclear Passenger Ship Safety Certificate	1 year
Nuclear Cargo Ship Safety Certificate	1 year

27 Reporting by vessel that is nuclear vessel

(SOLAS, Chapter VIII, Regulation 7(b))

- (1) The owner or master of a regulated Australian vessel to which Chapter VIII of SOLAS applies must provide to the government of a country that it is to visit a copy of the vessel's safety assessment as soon as possible before the arrival of the vessel.

Penalty: 50 penalty units.

- (2) The owner or master of a foreign vessel to which Chapter VIII of SOLAS applies must provide to AMSA as soon as possible a copy of the vessel's safety assessment before the arrival of the vessel in its first port in Australia.

Penalty: 50 penalty units.

- (3) An offence against subsection (1) or (2) is a strict liability offence.
- (4) A person is liable to a civil penalty if the person contravenes subsection (1) or (2).

Civil penalty: 50 penalty units.

30 Approval of reactor installations for nuclear vessels

- (1) An owner of a regulated Australian vessel may apply for approval of a reactor installation in accordance with *Marine Order 1 (Administration) 2013*.
- (2) AMSA may approve a reactor installation for a nuclear vessel if satisfied of the matters mentioned in Regulation 4 of Chapter VIII of SOLAS.

31 Approval of safety assessments for nuclear vessels

- (1) An owner of a regulated Australian vessel may apply for an approval of a safety assessment in accordance with *Marine Order 1 (Administration) 2013*.
- (2) AMSA may approve a safety assessment for a nuclear vessel if satisfied of the matters mentioned in paragraph 7(a) of Chapter VIII of SOLAS.

1.6 Nuclear Passenger Ship Safety Certificate

Criteria	Conditions
The vessel: <ol style="list-style-type: none"> (a) has an approved reactor installation; and (b) has an approved safety assessment; and (c) has been surveyed in accordance with Regulation 10(b) of Chapter VIII of SOLAS and <i>Survey Guidelines under the Harmonised System of Survey and Certification</i>, as amended; and 	<ol style="list-style-type: none"> (1) The vessel and its equipment and appliances are maintained to comply with the Marine Orders mentioned in column 1. (2) Each survey of the vessel that is required in accordance with Regulation 7 or 10 of Chapter I of SOLAS is completed in accordance with that regulation and <i>Survey Guidelines under the Harmonised System of Survey and Certification</i>, as amended.

<p>(d) complies with the following Marine Orders:</p> <p>(i) <i>Marine Order 12 (Construction — subdivision and stability, machinery and electrical installations) 2016;</i></p> <p>(ii) <i>Marine Order 15 (Construction — fire protection, fire detection and fire extinction) 2014;</i></p> <p>(iii) <i>Marine Order 21 (Safety and emergency arrangements) 2016;</i></p> <p>(iv) <i>Marine Order 25 (Equipment — lifesaving) 2014;</i></p> <p>(v) <i>Marine Order 27 (Safety of navigation and radio equipment) 2016;</i></p> <p>(vi) <i>Marine Order 30 (Prevention of collisions) 2016.</i></p>	<p>(3) After the survey mentioned in Regulation 10(b) of Chapter VIII of SOLAS has been completed, any change to the structure, equipment, systems, fittings, arrangements or material covered by the survey, other than the direct replacement of equipment or fittings, is approved by AMSA.</p>
---	--

1.7 Nuclear Cargo Ship Safety Certificate

Criteria	Conditions
<p>The vessel:</p> <p>(a) has an approved reactor installation; and</p> <p>(b) has an approved safety assessment; and</p> <p>(c) has been surveyed in accordance with Regulation 10(c) of Chapter VIII of SOLAS and <i>Survey Guidelines under the Harmonised System of Survey and Certification</i>, as amended; and</p> <p>(d) complies with the following Marine Orders:</p> <p>(i) <i>Marine Order 12 (Construction — subdivision and stability, machinery and electrical installations) 2016;</i></p> <p>(ii) <i>Marine Order 15 (Construction — fire protection, fire detection and fire extinction) 2014;</i></p> <p>(iii) <i>Marine Order 21 (Safety and emergency arrangements) 2016;</i></p>	<p>(1) The vessel and its equipment and appliances are maintained to comply with the Marine Orders mentioned in column 1.</p> <p>(2) Each survey of the vessel that is required in accordance with Regulation 8, 9 or 10 of Chapter I of SOLAS is completed in accordance with that regulation and <i>Survey Guidelines under the Harmonised System of Survey and Certification</i>, as amended.</p> <p>(3) After the survey mentioned in Regulation 10(c) of Chapter VIII of SOLAS has been completed, any change to the structure, equipment, systems, fittings, arrangements or material covered by the survey, other than the direct replacement of</p>
<p>(iv) <i>Marine Order 25 (Equipment — lifesaving) 2014;</i></p> <p>(v) <i>Marine Order 27 (Safety of navigation and radio equipment) 2016;</i></p> <p>(vi) <i>Marine Order 30 (Prevention of collisions) 2016.</i></p>	<p>equipment or fittings, is approved by AMSA.</p>