



Western Australia

Nuclear Power and Regional Development Bill 2019

Explanatory Memorandum

The Nuclear Power and Regional Development bill 2019 establishes nuclear power as a prominent energy source for metropolitan and regional areas throughout Western Australia. This is in conjunction with meeting obligations under greenhouse gas emissions agreements such as the Paris Agreement by supplying Australia's population with a clean, reliable and safe energy source. According to current trends, Australia is unlikely to meet its Paris carbon emission reduction target of 26-28% by 2030 (UN report 2018). In 2008, electricity production made up approximately 25% of Australia's CO₂e (Carbon dioxide and equivalent). Reducing the carbon dioxide output of electrical production is essential. Nuclear power is the only large-scale energy-producing technology that takes full responsibility for all its waste and fully costs this into the product.

By retracting the existing constraints on uranium mining, WA will reap various economic benefits and will not only be able to export the resource, but also convert it into electrical energy to power the state. Although uranium is the most popular fuel for nuclear power plants, it is by no means the only one. The WANEA will spearhead research into alternative fuel sources such as thorium, in which there is already an abundant supply of it in Western Australia.

There are various environmental benefits associated with nuclear energy including that it releases less radiation into the environment than any other energy source. Electricity production from nuclear energy is highly efficient: for instance, one kilogram of refined uranium can produce as much energy as 20 000 kg of coal, meaning a decrease in mining impacts and an increase in energy production. Furthermore, nuclear energy operates at a much higher capacity factor than renewable energy or fossil fuels; in 2016, over 20% of electricity in the United States was generated by nuclear power plants which had an average capacity factor of 92.3%, meaning that they operated at full power on 336 out of 365 days per year (the other 29 days they were taken off the grid due to maintenance). Comparatively, hydroelectric systems in the United States delivered a mere 38.2% of the time (138 days per year), wind turbines 34.5% of the time (127 days per year) and solar electricity only 25.1% of the time (92 days per year.) Plants powered with non-renewable resources such as coal or natural gas only generated electricity about half the time due to factors such as fuel costs and seasonal and nocturnal fluctuations in demand.

Nuclear power currently provides about 13.5% of the world's electricity. In the 34 countries represented by the Organisation for Economic Co-operation and Development (OECD), nuclear's share of power generation is 24%. In the European Union, it's 34%.

By introducing new uranium and thorium mining opportunities in Western Australia we will allow our economy to grow even further. In the 2017-2018 financial year 85% of Western Australia's exports were from the mining and petroleum industries, with these industries employing over 110,000 people in the same time period. The value of these industries is in excess of \$115 billion.

The ability to mine uranium would allow new mines to open, creating new jobs and growing the industry. The most important aspect of The Nuclear Power and Regional Development bill 2019 is that the construction of these new mines will benefit rural and regional Western Australia.



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Western Australia

A bill for —

An act to legalise and create a regulatory framework for the establishment and operation of nuclear power plants for domestic energy use in Western Australia in order to benefit Regional Western Australia.

Part 1 — Preliminary

1. Short title

This bill may be cited as the *Nuclear Power and Regional Development bill 2019*.

2. Commencement

This bill commences on the day on which this bill receives Royal Assent.

3. Interpretation

In this bill, unless the contrary intention appears —

“**IAEA**” means an abbreviation for the International Atomic Energy Agency;

“**Regional**” means outside the Perth metropolitan area;

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“**WANEA**” means an abbreviation for Western Australian Nuclear Energy Agency;

“**EPA**” means an abbreviation for the Environmental Protection Authority of Western Australia;

“**Capacity factor**” is a measure of what percentage of the time a power plant billually produces energy.

Part 2 — Retraction of Existing Constraints

4. Legalisation of Uranium Mining

The Passage of this bill retracts the ban on uranium mining in Western Australia.

Part 3 — Establishment of The Western Australian Nuclear Energy Agency

5. Western Australian Nuclear Energy Agency

- (1) Western Australian Nuclear Energy Agency (WANEA) is to be established.
- (2) The WANEA will be an independent statutory body with perpetual succession.
- (3) The WANEA will be an agent of the State and have the status, immunities and privileges of the State.
- (4) Proceedings may be taken by or against the WANEA in its statutory name

6. Composition of the WANEA

- (1) The WANEA shall be comprised of employees of the State subject to the requirements of the Public Sector Management bill (1994)
- (2) The WANEA shall be administered separately from existing Governmental Departments

7. Leadership of the WANEA – Commissioner

- (1) The WANEA shall be headed by a commissioner
- (2) The Commissioner shall communicate with and bill on the advice of a board of directors
- (3) The Commissioner shall be appointed through fair and transparent recruitment methods based on expertise

8. Leadership of the WANEA – Board of Directors

- (1) The Commissioner shall be advised by a Board of Directors
- (2) The Board of Directors shall consist of six (6) members appointed by the Minister for Energy or equivalent

9. Roles of the WANEA

The WANEA will perform the following functions –

- (1) Formulate robust safety requirements for the establishment and operations of nuclear power plants based on the IAEA Convention on Nuclear Safety and international best practise
- (2) Inspect nuclear power plants for compliance with national health and safety requirements including but not limited to the Occupational Health and Safety bill 1984
- (3) Advise the State Government on matters relating to nuclear power plant safety
- (4) Advise the State Government on economic matters in relation to nuclear energy
- (5) Advise the State Government on environmental concerns relating to nuclear power plants, and uranium and thorium mining, in conjunction with the Environmental Protection Agency.
- (6) Facilitate the establishment of nuclear power plants through referrals to the Environmental Protection Authority, local Indigenous Elders and Landgate.

10. Powers of the WANEA

WANEA shall –

- (1) Have the power to conduct unannounced audits and inspections of nuclear facilities;
- (2) Have the ability to freely obtain the information and data relating to the operation of a nuclear facility;
- (3) Review and refer matters of non-compliance with safety, health and environmental regulations to the Director of Public Prosecutions;
- (4) Declare an emergency situation regarding a nuclear facility warranting rapid action; and
- (5) Liaise with relevant international bodies to establish guidelines for auditing, monitoring and emergency response.

Part 4 — Establishment and Operations of Plants

Division 1 — Establishing a Nuclear Power Plant

11. Consultation with local Indigenous People

Prospective nuclear power plant owners and operators must –

- (a) Consult with local Indigenous Peoples in accordance with guidelines from the Department of Mines, Industry Regulation and Safety and local government entity requirements
- (b) Obtain approval from relevant Indigenous stakeholders prior to the commencement of building a nuclear facility
- (c) Respect the Native Title of Indigenous Communities
- (d) Arrange for the employment of Indigenous Peoples in accordance with negotiations, including training opportunities where relevant
- (e) Honour any agreements made with the respective Indigenous communities.

12. Environmental Impact

Prospective nuclear power plant owners and operators must –

- (a) Cooperate with the EPA in conducting environmental assessments of proposals
- (b) Comply with EPA requirement and regulations
- (c) Take reasonable steps to mitigate environmental impacts in planning stages, in accordance with EPA requirements and IAEA standards.

13. Occupational Health and Safety

Prospective nuclear power plant owners and operators must –

- (a) Comply with industry occupational health and safety regulations in establishing nuclear power plants

- (b) Take reasonable steps to mitigate risk to occupational health and safety in the establishment of nuclear facilities, in accordance with industry regulations and IAEA standards

14. Public Health and Safety

Prospective nuclear power plant owners and operators must –

- (a) Submit plans for compliance with public health and safety requirements prior to approval
- (b) Take reasonable steps to mitigate risks to public health and safety during the establishment phase

15. Approval

Prospective nuclear power plant owners and operators of nuclear power plants must obtain approval from the WANEA and the EPA prior to commencing building operations.

Division 2 — Operation of Nuclear Power Plants

16. Approval

A nuclear power plant shall not operate without approval from the WANEA or the EPA.

17. Audits and Inspections

Members of the WANEA, IAEA or other international agencies approved by the WANEA shall, from time to time, freely audit and inspect nuclear facilities within their mandate without fear of prosecution.

18. Environmental

- (1) The EPA shall, from time to time, freely audit and inspect nuclear facilities on matters within their mandate without fear of prosecution
- (2) Nuclear power plants must consistently comply with environmental requirements during and post-operation
- (3) EPA approval must be obtained prior to any expansion billivities
- (4) Temporary and permanent shutdown procedures must be in accordance with the requirements of the EPA and the IAEA

19. Occupational Health and Safety

- (1) Nuclear power plants shall operate in accordance with industry and WANEA occupational health and safety requirements
- (2) In accordance with Part 4, Division 2, subsection 2 of this bill, the WANEA and IAEA, and other international agencies approved by the WANEA, shall, from time to time, audit and inspect nuclear facilities for compliance with industry and WANEA requirements for occupational health and safety.
- (3) Owners and operators shall take all reasonable steps to mitigate risk to employees and others on site

20. Public Health and Safety

- (1) Nuclear power plants shall operate in accordance with WANEA public health and safety requirements
- (2) In accordance with Part 4, Division 2, subsection 2 of this bill, the WANEA and IAEA, and other international agencies approved by the WANEA, shall, from time to time, audit and inspect nuclear facilities for compliance with industry and WANEA requirements for occupational health and safety.

21. Waste Disposal

The WANEA and EPA shall determine requirements for safe waste disposal in accordance with:

- (a) IAEA guidelines;

- (b) consideration for environmental impacts; and
 - (c) occupational and public health and safety.
- (2) The WANEA and EPA will conduct reviews to ensure efficiency of waste disposal to limit potential:
- (a) Adversity to human population;
 - (b) Environmental harm pertaining to flora and fauna; and
 - (c) Contamination of major bodies of water.

22. Emergency Situations

An emergency situation shall be declared by the WANEA in accordance with IAEA guidelines in the event of –

- (a) Natural disaster causing significant damage to facilities, management, expertise or required resources including but not limited to water supply, as determined by the WANEA, or
- (b) An attack on facilities or resources used by facilities causing major damage or disruption to operations, as determined by the WANEA, and
- (c) Management is not deemed capable of addressing the emergency situation satisfactorily, as determined by the WANEA

23. Emergency situations response

In the event of a declaration of an emergency situation by the WANEA, and the inability of management to address the situation satisfactorily, in accordance to Part 4, Division 2, Sub-Section 6 of this bill –

- (a) WANEA shall assume direct control of the nuclear facility for the duration of the emergency situation,
- (b) WANEA shall mitigate and redress, as far as practicable, the emergency situation

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- (c) WANEA shall seek the assistance of State and National bodies, and international agencies, including but not limited to the IAEA, in mitigating and redressing the emergency situation
- (d) WANEA shall determine whether or not, and the circumstances under which, operations may be restarted, and management handed back to owners and operators.

24. Non-compliance

The WANEA shall have the power to refer cases to the Director of Public Prosecutions in the event of major violations of –

- (a) Environmental protections requirements,
- (b) Occupational health and safety requirements
- (c) Public health and safety requirements

25. Liquidation and Related

In the event of liquidation, the WANEA will appoint an administrator with powers to engage services to secure and make any hazardous materials.

Division 3 — Closure of Nuclear Power Plants

26. Circumstances for closure

A nuclear power plant will be closed if the WANEA determines that it must be, and one or more of the following has occurred

- (a) Gross mismanagement of nuclear facilities threatening financial viability
- (b) Significant health and safety violations have occurred
- (c) Significant structural damage of the infrastructure
- (d) The facility cannot acquire the necessary resources for safe and effective operation.

27. Closure requirements

In the event that the WANEA determines that a nuclear facility must be closed –

- (a) Owners and operators must terminate all billive operations, if safe to do so
 - (2) The WANEA must carry out inspections and monitoring from time to time to ensure compliance with closure requirements
- (b) The WANEA will monitor the site until such time as it determines that monitoring is no longer necessary
- (c) The WANEA will appoint an administrator with powers to engage services to secure and make safe any hazardous materials.

Part 5 — Regional Outcomes

28. Tendering

The WANEA will give preference in tendering to companies which demonstrate strategies with which to –

- (a) Hire a considerable portion of employees locally, regionally and within West Australia,
- (b) Introduce training and development programs to address local skills shortages,
- (c) Share development opportunities and benefits with the local community, and
- (d) Operate using sustainable practises, particularly with regards to water security, waste disposal and land use.

Part 6 — Review Clause

29. Review Period

- (1) A review of the Nuclear Power and Regional Development bill 2019 by the WANEA is to commence five (5) years from the day on which this bill receives royal assent
- (2) A timeframe for subsequent reviews will be determined by the WANEA during the course of the review
- (3) The WANEA will submit a report for the Minister for Energy within six (6) months of the conclusion of each review.

30. Review Content

The WANEA will be responsible for reviewing the progress, efficiency and effectiveness of the Nuclear Power and Regional Development bill 2019 and its various provisions, with regard to –

- (a) The robustness of standards for protecting the environment, health and safety
- (b) The effectiveness of protections and rights for indigenous communities involved
- (c) The effectiveness of schemes relating to nuclear power intended to contribute to rural and regional development

31. Review of WANEA

The Ministry for Energy will conduct a triennial review into the WANEA considering several criteria including but not limited to:

- (a) Effectiveness
- (b) Efficiency
- (c) Accountability
- (d) Responsiveness
- (e) Adaptability