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Energy White Paper Taskforce
Department of Industry
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To Whom It May Concern

Energy White Paper

The Association of Mining and Exploration Companies (AMEC) appreciates the opportunity of providing input into the Australian Government's Energy White Paper (EWP).

The AMEC is the largest peak industry body for mineral exploration and mining companies within Australia. AMEC's membership base comprises hundreds of exploration, mining and service industry companies.

If you have any specific queries in respect of the submission please do not hesitate to contact me.

Yours sincerely

A handwritten signature in red ink, appearing to read "Simon Bennison".

Simon Bennison
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Submission to:

Energy White Paper Taskforce, Department of Industry

Energy White Paper

ASSOCIATION OF MINING AND EXPLORATION COMPANIES

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Introduction

The Association of Mining and Exploration Companies (AMEC) is the largest peak industry body for mineral exploration and mining companies within Australia. AMEC's membership base comprises hundreds of exploration, mining and service industry companies.

AMEC appreciates the opportunity of providing input into the Australian Government's Energy White Paper (EWP).

Executive Summary

As a producer and user of energy resources, Australia's minerals mining and exploration industry has a considerable stake in energy policy in Australia.

Australia will face many future challenges to ensure its own energy security and all options should be under consideration in the context of a long term vision. Therefore a domestic nuclear energy industry should not be dismissed outright, especially with significant domestic reserves of uranium and thorium.

Australia has an active uranium mining industry and a number of exploration companies with projects across Australia. While only a relatively small industry, the uranium industry provides much needed diversification of the mining industry and is responsible for approximately a third of Australia's energy exports by peta joules (PJ's). Despite historically low prices, the fundamentals for continued and sustained demand for uranium still exist. It is therefore important that the uranium industry is permitted to meet this demand with the fewest regulatory barriers as possible. At the moment there are a number of such barriers that need to be removed, especially the need for 'mining and milling' to be assessed under the Environment Protection and Biodiversity Conservation Act 1999. In addition the provision of further exporting ports would improve Australia's ability to ensure security of supply to the market.

The Australian minerals mining and exploration industry is heavily reliant on diesel fuel as a power source; although where access to the energy grid is available this is utilised. Nonetheless, diesel fuel is still and will remain the fuel of choice for powering mining equipment, predominantly due to the remoteness of projects and the lack of energy infrastructure. Therefore it is important that the Government has robust policies in place to ensure a continual and stable supply of diesel fuel to the mining industry. Furthermore, given diesel fuel is a critical business input for the mining industry, reducing the diesel fuel tax credit would only serve to dampen economic activity from the mining industry.

Recommendations

AMEC recommends:

1. Fully acknowledging the high social and political barriers, the Australian Government should give consideration, on strategic energy security grounds, to the future establishment of a domestic nuclear power industry;
2. "Uranium mining and milling" be removed from the definition of 'nuclear action' in the Environment Protection and Biodiversity Conservation Act 1999;
3. Australian governments revisit the policy to restrict uranium exports to two ports;

4. The Government implement policies to manage disruptions that may impact on the supply of liquid fossil fuels;
5. The Government maintains the amount of the diesel fuel tax credit at the full rate available to the mining and exploration industry;
6. The Government continues its policy of environmental approval reform; and
7. The Government continues its deregulation reform program.

Nuclear Energy

Australian domestic nuclear industry

All sources of future energy for Australia and the world need to be considered. Tough energy decisions that will be unpalatable to some sections of the community will need to be made by Governments in the interests of the entire Australian community. Therefore AMEC is pleased to note the White Paper's support of the Australian uranium industry to supply energy to global markets.

Uranium mining fulfils two roles for Australia. Firstly, uranium mining diversifies Australia's mining industry base and creates wealth for Australians. The Australian uranium industry has considerable potential to expand in order to meet growing global demand. While there are only 3 operational mines, there are a number of advanced projects and exploration activities currently underway. Secondly, uranium exports results in Australia being an important supplier of energy to global markets.

AMEC considers that Governments should not dismiss, on strategic energy security grounds, an Australian domestic nuclear industry in the future. A domestic industry would be able to utilise Australia's considerable resources of uranium and thorium and not rely on imported energy. However, AMEC recognises there are high social and political barriers to be overcome.

Notwithstanding these considerable barriers, AMEC highlights there would be long lead times for plant approval and construction and for development of appropriate regulatory frameworks. This would necessitate a decision to move ahead considerably in advance of expected deployment – development lead times would be at least 10 years, with 15 years more probable. If this were the case, such a decision would need to be taken by the latter part of this decade if deployment was required by 2030 or 2035. Nonetheless, AMEC considers that 2030 or 2035 could be too late to capitalise on opportunities or subvert potential supply issues. Therefore, building the foundations of the regulatory framework for a domestic nuclear industry needs to begin now so that when barriers are removed, projects can begin to be developed immediately without waiting for the regulatory framework to catch-up.

AMEC considers the Government should also assess the opportunities provided by alternative nuclear technology, such as thorium reactors. AMEC welcomes the inclusion in the EWP of thorium as a potential energy source. Thorium mining would further diversify Australia's mining industry. According to Geoscience Australia, Australia is ranked number one globally by total identified resources¹ of thorium. In this context Australia has considerable capacity to supply a domestic power generation industry from its own thorium reserves.

¹ total identified resources are Reasonably Assured Resources (RAR) plus inferred resources of thorium recoverable at less than US\$80 a kilogram

AMEC concedes that this technology is very much in its infancy and several decades away from full scale viability. However, the barriers to investment will not be as high as they could be if Australia has an existing domestic nuclear industry based on uranium. A uranium reactor is different to a thorium reactor and they are not easily interchangeable. That is, the high capital investment required for a uranium fuelled nuclear generator would have to be written off should thorium become the future fuel of choice. The investors of the uranium fuelled nuclear energy will not relinquish their investment easily. A contemporary example of this scenario is that currently faced by coal fuelled power stations. In the absence of major barriers to entry, thorium fuelled nuclear reactors could offer considerable benefit to Australia.

Recommendation

AMEC recommends, fully acknowledging the high social and political barriers, the Australian Government should give consideration, on strategic energy security grounds, to the future establishment of a domestic nuclear power industry.

Removal of uranium “mining and milling” from the Environment Protection and Biodiversity Conservation Act 1999

Australia has about one-third of the world's low cost uranium but only about 11% of the world's uranium market. To achieve a market share commensurate with our endowment, at a time when competitors are expanding production quickly, requires Australia's uranium companies to be able to develop projects more quickly and less expensively.

The recent record of environmental assessment is of at least a three year process. Such a lengthy process is a competitive disadvantage in a period when, for example, Kazakhstan is reaching a goal of supplying 30% of the market. The Canadian government has recently positioned Canada to open up their Indian market. The Greenland parliament has reversed a decade's long ban on uranium mining.

The Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act) provides one such barrier. The EPBC Act states that a ‘nuclear action’ is any of the following:

- a) establishing or significantly modifying a nuclear installation;
- b) transporting spent nuclear fuel or radioactive waste products arising from reprocessing;
- c) establishing or significantly modifying a facility for storing radioactive waste products arising from reprocessing;
- d) mining or milling uranium ore;
- e) establishing or significantly modifying a large-scale disposal facility for radioactive waste;
- f) de-commissioning or rehabilitating any facility or area in which an activity described in paragraph (a), (b), (c), (d) or (e) has been undertaken;
- g) any other action prescribed by the regulations.

The “mining and milling” of uranium does not, of itself, pose an inherent danger to the environment as described by the objectives of the EPBC Act. The objectives of the EPBC Act are:

- a) to provide for the protection of the environment, especially those aspects of the environment that are matters of national environmental significance; and
- b) to promote ecologically sustainable development through the conservation and ecologically sustainable use of natural resources; and
- c) to promote the conservation of biodiversity; and

- d) to promote a co-operative approach to the protection and management of the environment involving governments, the community and land-holders; and
- e) to assist in the co-operative implementation of Australia's international environmental responsibilities.

There is no need for the extraordinary provisions that uniquely apply to uranium 'mining and milling'.

There is no scientific evidence or basis for claims that uranium mining of itself will have a significant impact on the environment and, therefore no basis for the assumption in the EPBC Act that the environment as a whole has to be protected from uranium mining. The EPBC Act provides the appropriate basis for assessment of uranium projects that impact on matters of national environmental significance (MNES).

AMEC however recognises that the Australian Government should maintain Commonwealth regulatory oversight for future consideration of domestic development of nuclear power or waste management facilities.

Regulatory Framework for Managing Uranium activities

The unique feature of uranium - its low level of radioactivity - is subject to existing regulation derived from international policy standards translated into Australian practice via the cooperative processes of Australian Radiation Protection and Nuclear Safety Agency (ARPANSA). The management of the radioactivity of uranium mine sites, uranium ore and uranium oxide during the life of a project and after is a feature of uranium mining expertise.

Despite the treatment under the EPBC Act, the regulatory framework for uranium is 'best practice' as follows:

- Environmental assessment and approval conducted under robust mainstream environmental laws;
- The regulation of exploration for and mining of uranium under State resources industry laws;
- The regulation and management of radiation issues associated with uranium exploration and mining (and other industries) mainly by State laws derived from globally accepted evidence and principles under guidance from the codes promulgated by the ARPANSA;
- State regulation of uranium transport under radiation protection laws, ARPANSA's *Code of Practice for the Safe Transport of Radioactive Materials* and the Commonwealth *Safeguards Act*;
- Public reporting of aspects of uranium industry operational performance under State laws, including reporting requirements associated with environmental approval conditions; and
- The export of uranium only for peaceful purposes under longstanding Commonwealth policy and regulation and adherence to international treaties.

That uranium mining does involve the management of mild radioactivity but this is not a justification for the extraordinary measures imposed on the uranium industry by the EPBC Act. The resources and expertise exist at the State and Territory level to assess the radiation aspects of uranium projects. State authorities can utilise Commonwealth expertise (ARPANSA, the Office of the Supervising Scientist) if further inputs are needed.

Nuclear Controls

Besides the provisions in the EPBC Act governing the development of nuclear installations or facilities, Australia has in place a number of other, arguably more powerful, nuclear controls. Australia meets its Treaty on the Non-Proliferation of Nuclear Weapons (NPT) and Zangger Committee obligations and exercises its commitment to the Nuclear Suppliers Group (NSG) export control guidelines through the following legislation:

- Nuclear Non-Proliferation (Safeguards) Act 1987 - regulates nuclear material in Australia and is administered by the Australian Safeguards and Non-Proliferation Office (ASNO) ;
- Customs Act 1901 (Prohibited Exports) Regulations - prescribes prohibited exports and is administered by the Australian Customs and Border Protection Service; and
- Weapons of Mass Destruction (Prevention and Proliferation) Act 1995 - covers exports not controlled under the Customs Act which may contribute to weapons of mass destruction programs and is administered by the Department of Defence.

These provide significant and appropriate safeguards to the potential impacts of nuclear actions by Australia and other countries that interact with Australia. The management of Australia's nuclear responsibilities through the EPBC Act is inappropriate and unnecessary.

Australia's Uranium Industry – Operating at 'Best Practice'

The record shows that the Australian uranium industry operates at 'best practice' and does not require extraordinary treatment to enhance its performance.

Environmental assessment and approval process. Australian uranium projects have a track record of meeting the highest standards of environmental approval under robust mainstream project assessment and approval processes, with four uranium projects having been approved since 2008. A Gantt chart produced by the Western Australian Department of Mines and Petroleum shows the extensive and required approval steps (including EPBC Act assessment) necessary to operate an uranium mine in that state².

Radiation protection of workers and the public. The uranium industry applies universal radiation protection principles and practice. The record shows that public radiation exposure is one-tenth to one-twentieth of the legislated maximum public dose limit of one millisievert per year; and for workers, one quarter or less than the maximum permitted exposure of 20 millisieverts per year.

Environmental impact of the industry. While there have been unintended and minor environmental incidents from time to time in the industry, none have caused significant environmental, safety or health impacts to workers or the public. As in any other mining operations, few have been serious enough to attract regulatory scrutiny or action, (and none have had material impacts on the environment beyond the mine-site).

Transport of uranium. Over 11,000 container loads of uranium have been transported within Australia over the past 30 years with no incidents involving impacts on public health or the environment.

Leading practice. There is an extensive framework for identifying best practice and for encouraging continuous improvement in the industry's operational performance generally and in

² <http://www.dmp.wa.gov.au/documents/000464.rachel.maiden.pdf>

specific areas of performance available through the Commonwealth Department of Industry, the World Nuclear Association and the International Atomic Energy Agency.

Stakeholder engagement. Australia's uranium businesses engage closely with the communities where deposits are located and with other interested stakeholders. It is an essential part of the industry's effort to acquire and maintain its social license to operate.

The engagement is informed and sensitive, conducted openly and honestly. Traditional Owners of land are among the industry's most important stakeholders and companies strive to and usually succeed in developing amicable and mutually beneficial working relationships. Without such relationships, uranium exploration and mining would not be possible on traditional lands.

Recommendation

AMEC recommends "Uranium mining and milling" be removed from the definition of 'nuclear action' in the Environment Protection and Biodiversity Conservation Act 1999.

Increase the number of Exporting Ports for Uranium

Uranium is a low-volume, high-value product. It has been transported in Australia from mines to ports for export for over 30 years. As the Australian industry grows as a result of the policy changes in Western Australia, New South Wales and Queensland it is crucial that the number of ports uranium can be exported from is increased from the current two.

The two current points of exit are Darwin and Adelaide. Uranium is transported by road from the Ranger mine (Northern Territory) and from the Olympic Dam, Beverley and Honeymoon mines in South Australia to those ports. The transport routes followed are the normal routes for commercial transport. Over 6,800 containers of uranium from Ranger, over 3,600 from Olympic Dam and nearly 600 from Beverley have been transported to ports at Adelaide or Darwin since the early 1980s.

Only two exit points poses a risk to supply continuity.

Firstly, the potential unpredictability of relying on multiple transport options of transporting uranium enormous distances to access a port. These risks include road and rail disruptions due to weather or other unforeseen events.

Secondly if one of the two ports, or both, are closed for some reason, this will obviously impact a company's (and Australia's) ability to supply the market. In a competitive marketplace, supply continuity is paramount.

Transport of uranium is regulated by Commonwealth and State laws in accordance with a transport code created by the Commonwealth's nuclear industry regulator, the Australian Radiation Protection and Nuclear Safety Agency. The safety standards for exporting uranium are now well established.

There are no legislative impediments to the export of uranium from any Australian port that is suitable for uranium export. There are, however, policy barriers imposed by State governments preventing uranium transport from suitable ports. The current options are available at the discretion of shipping companies and the current policy impediments need to be removed so that alternatives are available.

Recommendation

AMEC recommends Australian governments revisit the policy to restrict uranium exports to two ports.

Liquid Fuels

Security of supply of liquid fossil fuels

The mineral and exploration sector is heavily reliant on liquid fossil fuels, principally diesel for the transport component of the industry. Gas use is increasing for electricity generation as it becomes available and sites are connected to the grid. Nonetheless, diesel fuel use for transport accounts for 25-30% of total costs of mining.

AMEC is concerned that the EWP could be understating the vulnerability of the economy, and certain sectors, to supply disruptions (including price spikes) of liquid fuels. Taken as a whole, Australia may be liquid fuel secure; however, in some regions, major disruptions will have national economic ramifications. The minerals exploration and mining sector has a significant presence in a number of key regions with limited entry points for liquid fuels and is therefore vulnerable to supply disruptions. With the resources sector forecast to underpin Australia's economy for many years to come this is an issue of importance.

In light of this the Australian Government will need to have policies in place to be able to manage disruptions (such as wars, conflicts, terrorism and natural disasters) that may impact on the supply side of liquid petroleum fuels, at least until such time as there are feasible alternatives or supply is 100% secure.

Recommendation

AMEC recommends the Government implement policies to manage disruptions that may impact on the supply of liquid fossil fuels.

Diesel Fuel Tax Credit

In the absence of viable fuel alternatives in the short to medium term, policies that seek to discourage the use liquid fossil fuels to assist Australia's response to climate change will only serve to dampen economic activity from the mining industry. The previous Government's Clean Energy package placed Australian mining and exploration industries at a significant disadvantage to global competitors. For the exploration and mining industry it was a financial penalty without any meaningful opportunity to contribute to Australia's response to climate change.

The industry has two liquid fuels options, fossil fuels or biodiesel. Biofuels and specifically biodiesel will not be a readily available fuel substitute for large scale use by the mining and mineral exploration industry for three major reasons:

- Supply limitations: it is estimated that Australia's biodiesel production will be around 609 million litres in 2015. Extrapolating the 2005-06 Australian Taxation Office statistics on the volume of diesel subject to diesel fuel credit claims made by the mining industry would suggest that around 5 billion litres will be required in 2015 (assuming 3% growth). That is, biodiesel could perceivably replace 12% of the industry's needs. However, this does not factor into account other sector's needs.

- Supply availability: while Australia's biodiesel production capacity is centred in the eastern states, its major mining provinces are in the remote north and west.
- Use in engines: diesel engine manufacturers recommend that the diesel contains no more than 20% biodiesel (so-called B20 fuels), meaning there will still be a significant demand for diesel. Significant infrastructure will be required to raise the prospects of biodiesel for the minerals exploration and mining sector. There remains the important question of who will develop such infrastructure.

Related to this are uninformed policies aimed at fast tracking improved energy efficiency in the industry by artificially increasing the cost of diesel fuel, for example, reducing the amount of the fuel tax credit. AMEC would strongly argue that improving fuel efficiency is in fact already happening in response to increasing prices for diesel and does not require any government intervention to do so. It must be noted that miners are constrained by the manufacturers of vehicles and power plants in their ability to improve their fuel efficiency.

Recommendation

AMEC recommends the Government maintains the amount of the fuel tax credit at the full rate available to the mining and exploration industry.

Environmental approval reform program

For several years AMEC has advocated that the Federal Government should delegate its assessment and approval powers under the Environment Protection and Biodiversity Conservation Act to accredited state and territory governments through the bi-lateral agreements process.

During 2012, the Council of Australian Governments (COAG) acknowledged that considerable Federal Government resources could be saved by such a delegation of powers, and that this would have the effect of creating a single point of contact for environmental approvals.

A consultation process commenced in 2012 but ceased in late 2013.

AMEC is extremely supportive of the incoming Coalition Government's commitment to create a 'one stop shop' for environmental approvals, and the fact that it is on track to sign on all states and territories within 12 months and fast track the eradication of red and green tape for environmental approvals.

This initiative should remove the current significant duplications and additional layers of approval required by the EPBC Act, whilst maintaining high environmental standards.

Recommendation

AMEC recommends the Government continues its policy of environmental approval reform.

Deregulation reform program

AMEC is fully supportive of the Government's deregulation reform program which seeks to eliminate excessive regulation and red tape, such as the repeal of redundant or unnecessary legislation. This includes reduction of regulation that impedes Australia's ability to bring energy and resource projects on line in internationally competitive timelines.

AMEC understands that the Government intends to release details of an omnibus red tape reduction bill and a series of specific deregulation bills on 10th March 2014.

Pending release of further details, AMEC has publicly advocated for the repeal of the 'water trigger' amendment to the Environment Protection and Biodiversity Conservation (EPBC) Act which was passed in July 2013, as it is another symptom of over-regulation and duplication imposed on industry, without any additional environmental benefits.

Recommendation

AMEC recommends the Government continues its deregulation reform program.