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Look forward

Committee Secretary
Senate Standing Committees on Environment and Communications
PO Box 6100
Parliament House
Canberra ACT 2600

April 10th 2017

To the Committee Secretary,

Please accept this submission on behalf of the Conservation Council of WA, the States peak environment group, representing over 100 environment groups. Our submission outlines the deficiencies with the WA Mining Rehabilitation Fund (MRF) as a means to advocate for Federal intervention.

The overarching issue when it comes to mine rehabilitation is 1 – how do we clean up existing abandoned mine sites and 2 – how do we ensure the rehabilitation of existing mine sites and avoid the creation of new abandoned mine sites.

In addition to the issues surrounding the MRF the submission below highlights the importance of incentives for rehabilitation. The submission also outlines the specific problems of uranium mine closure where there is Federal assessment and oversight.

In brief, we make the following points

- The MRF levy system does not provide an adequate incentive for rehabilitation and can, and already has, led to new abandoned mine sites and seriously reduced the States financial capacity to meet the liability of mine rehabilitation.
- Uranium mining is different, and there is no example of a rehabilitated uranium mine site. Uranium mines have the potential to completely undermine the MRF and the WA Abandoned Mines Program.
- Federal powers to ensure bonds are applied should be retained and used where the State system fails to adequately secure funds for mine rehabilitation.
- Securing the full cost of rehabilitation, through 100% mine closure bonds or guarantees, is the best proven way to ensure that the funds are available to adequately remediate mine sites. 100% bonds should be applied universally across all mines – accepting there will be a large variability between sites.
- There are a number of sites governed by State Agreement Acts which have no bonds and for which the MRF cannot be applied in the event of abandonment. This needs to be addressed as it represents an un-costed liability to the state with significant risks to public health and the environment.

We look forward to the outcome of the inquiry and will watch with interest.

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Introduction

Western Australia has over 11,000 abandoned mine sites[1], including shafts, tailings, pits, addits and processing facilities. A *White Paper* released in 2003 identified the scale of the problem and need for policy initiatives to address environmentally and unsafe abandoned mine sites.

Across Australia these sites are referred to as orphan mines, abandoned mines or derelict mines, in WA the preferred term is 'abandoned mines' these typically refer to sites where the company no longer exists, is untraceable or has been absolved of responsibility. For the purpose of this paper the term abandoned mine will be used, though others use the term 'mining legacies' which is used as an umbrella term to define *"land which has been mined and is now being used for another purpose, or is orphaned, abandoned or derelict and in need of remedial work"*[2] and allows for an incorporation of sites with ongoing legacy issues where there is still an owner or accountable party.

The abandoned mine legacy in WA represents both an environmental, public safety and financial liability to the West Australian Government and tax payers.

Some sites are relatively benign while others are a source of ongoing environmental pollution and pose a public safety risk. For mining affected communities including Traditional Owners and pastoralists the impacts vary greatly, from loss of cattle in open pits, to groundwater contamination, dust pollution, lack of access to country, poisoning of bush foods and health hazards.[3]

For the industry there are a different set of impacts from abandoned mines. The legacy of abandoned mines has generated a lack of confidence in many parts of society.[4] In some areas this is creating a financial cost to industry through protest and delays. In WA this can occur through long assessment periods with public submissions, increased conditions and scrutiny, political lobbying, appeals[5] and complaints through the warden's court[6]. Some in the industry are now talking about managing environmental risk and mine closure as a way of managing public outrage and protecting their interests.[7]

Abandoned mines are not a unique problem to Western Australia. Australia has roughly 50,000 legacy sites[8]. There have been different policy approaches to address the issue of rehabilitating legacy sites in Australia with varying but limited success. There are two core issues that policies on mine closure and legacy mines have sought to address. One

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1 White Paper White Paper Field Inventory of Abandoned Mine Sites in Western Australia
2 R.Worrall, D.Neil, D.Brereton, D.R Mulligan, 2009. *Towards a sustainability criteria and indicators framework for legacy mine land,* Journal of Cleaner Production, 17:1426–1434.
3 M. Pepper, C. Roche, G. Mudd. *Mining Legacies – Understanding Life of Mine across time and space.* Life of Mine Conference June 2014
4 B. Harvey. *Extractive Companies, Development and Environmental Agendas*. Life of Mine Conference June 2014.
5 Environmental Defenders Office of Western Australia Inc. Fact Sheet 5 Environmental Assessment in Western Australia http://www.edowa.org.au/files/factsheets/pdc_eiawa.pdf
6 Environmental Defenders Office of Western Australia Inc. *Fact Sheet 36 Mining Law*. http://www.edowa.org.au/files/factsheets/me_mining.pdf
7 P. Mulvey, A. Baker, P. Scott. *Mine Closure and Waste – Responsibilities and Liabilities*. Environmental Earth Sciences, Discussion Paper September 2012, http://www.environmentalearthsciences.com.au/wp-content/uploads/2013/01/Mine-Closure-Paper.pdf
8 C Unger, A.M Lechner, V. Glenn, M. Edraki, D.R. Mulligan. *Mining and Prioritising Rehabilitation of Abandoned Mines in Australia*, Life of Mine Conference 2012.

is how to fund the rehabilitation of abandoned mines where companies have dissolved or been absolved of responsibility, the second issue is how do we avoid new mines being abandoned.

"Almost 70 per cent of the mines that have closed over the past 25 years in Australia have had unexpected and unplanned closures..."[9]

It is important to consider the various factors that cause mines to close prematurely such as changes in commodity price, high operating costs, lower than expected ore grades, flooding of the market, regulatory breaches, change in policy or Government, changes in demand and social or community pressure[10].

The factors that make mines vulnerable to early or premature closure have not changed and are unlikely to. At the same time we have to find new ways to generate revenue to deal with the abandoned mines we have already inherited.

The Mining Rehabilitation Fund Act 2012

"The main purpose of the Fund is to provide a source of funding for the rehabilitation of abandoned mine sites and other land affected by mining operations carried out in, on or under those sites."[11]

In 2012 the West Australian Government introduced the Mining Rehabilitation Fund Act 2012[12] (MRF) a new approach to addressing the financial liability of abandoned mine rehabilitation. The MRF requires all mine operators to pay an annual levy which is based on risk and area of disturbed land. This fund is then invested; interest raised from the investments will later be used for the rehabilitation of abandoned mines.

The fund itself can only be used to fund the rehabilitation of any new abandoned mines, only interest raised from investing the fund can be used for the rehabilitation of existing legacy mines.[13]

The MRF came into action on a voluntary basis in July 2013 and became compulsory in July 2014. It is administered by the Department of Mines and Petroleum (DMP) under the responsibility of the Minster for Mines and Petroleum and is advised by the Mining Rehabilitation Fund Advisory Panel – appointed by the CEO under the Act.

Changes to Mining Securities under the Mining Act 1978

"The Mining Rehabilitation Fund Act 2012 does not limit the powers under the Mining Act 1978 to require unconditional performance bonds to be lodged. However, it is intended that unconditional bonds will not be required in the majority of cases."[14]

The levy has replaced the requirement for Unconditional Performance Bonds (UPB), which have been used as an incentive for mining companies to fulfil their rehabilitation

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9 Ibid.
10 Australian Government, Department of Industry, Tourism and Resources. *Mine Closure and Completion.* October 2006.
11 Ibid.
12 Mining Rehabilitation Fund Act 2012, http://www.austlii.edu.au/au/legis/wa/consol_act/mrfa2012251/
13 Ibid.
14 Government of Western Australia, Department of Mines and Petroleum. *The Administration of mining securities for mine sites regulated by the Department of Mines and Petroleum.* June 2014 Fact Sheet http://www.dmp.wa.gov.au/documents/Administration_of_Mining_Securities_June_14.pdf

commitments and or that there will be funds available to rehabilitate if the company is unable to fulfil these requirements. UPBs may still be applied to a project at the discretion of the Minister but the intention is to not require UPBs.

One of the critical catalysts for the new system, described by the DMP, was because the UPBs were not providing sufficient surety for mine closure. For example in 2005 the DMP identified that the bonds held by the Department represented just 25% of the total liability.[15] The DMP accounted for $1.5 billion held in bonds but suggested the liability of existing mines is somewhere between $4 and $6 billion dollars. They also concede there is no accounting for this liability as companies are not required to lodge an estimated liability to the DMP.[16] This changed with the introduction of new Mine Closure Planning Guidelines in May 2015 which now require a summary of mine closure costing in the Mine Closure Plan including methodology, assumptions and financial processes.[17] It is not clear how effective this new requirement is in accounting for the liability is. Mine Closure Plans are not publicly available on the Governments data portal MINEDEX and it is unclear if this is applied consistently for all active mine sites.

Before the MRF UPBs varied greatly between different mining projects in WA for example one mine may have a bond representing 25% of the liability or 30% or 50%. In other jurisdictions in Australia there is a growing trend towards equivalent bonds systems requiring a 100% of the estimated rehabilitation cost, annually reviewed and adjusted.

The WA Government has discredited the 100% bond approach stating that "*increasing bonds to cover the full rehabilitation costs would impose a significant financial impact on the Western Australian mining industry... Bonds discourage investment by tying up significant funds that could be used for developing a mining project.*"[18]

This statement highlights the DMP and the previous WA Governments struggle to find the balance between corporate interests and meeting community expectations and environmental obligations. The policy goal is not to encourage mining investment in new mines but to provide funds to rehabilitate legacy mine sites and protect against future abandoned sites. Removing the bonds system based on the reasoning above is at odds with policy development in other jurisdictions in Australia on this issue and has led to an imbalance in securities for rehabilitation and has reduced the incentive to rehabilitate.

Other approaches to abandoned mines

The Australian Government report titled "Mine Closure and Completion" in 2006 identified similar issues to the DMP about the shortfall of bonds meeting the real costs of closure. Rather than abandoning the approach which provides a strong incentive for companies to rehabilitate as opposed to dissolving the company, they identified opportunities to adjust and accurately calculate bonds.

Other States and Territories have relied on a bonds system to prevent new legacy sites.

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15 M.L. Leybourne, *Ensuring Rehabilitation into the Future – The Western Australian Mining Rehabilitation Fund.* Life of Mine Conference June 2014.

16 Ibid

17 Guidelines for Preparing Mine Closure Plans, May 2015 http://www.dmp.wa.gov.au/Documents/Environment/ENV-MEB-121.pdf

18 Western Australia Government, Department of Mines and Petroleum. *Mining Rehabilitation Fund*, 2013. http://www.dmp.wa.gov.au/15822.aspx#18475

First introduced in NSW in 1974 bonds have been seen as an effective prevention method evidenced by the comparatively small number of abandoned sites in NSW of 573 as opposed to 11,000 in WA, 15,000 in Qld, 4,000 in Tas, 3,000 SA and 19,000 Vic.[19]

In the Northern Territory the Mines Department has also introduced a Mining Levy to raise funds for the rehabilitation of abandoned mines, but have retained their requirements for 100% mine closure bonds. The Northern Territory system may have the greatest potential to meet the two core issues of rehabilitating abandoned mines and prevention.

Results of the MRF so far

The MRF is still in its very early stages of implementation. There is no data on the success of the levy maturing and ability to fund rehabilitation. There are no case studies or examples of a legacy mine that has been rehabilitated under this scheme so there is no benchmark or evidence. These key indicators may be decades away.

The DMP has suggested that *"If there are no early calls on the capital, the fund will grow to over $200 million within ten years,"*[20] whether or not the DMP can meet this goal remains to be seen. It is also yet to be revealed what the financial liability of existing abandoned mines is and how much impact $200 million could have on rehabilitating the 11,000 sites or a percentage of those that are priority sites.

The positive aspects of the MRF

The benefits of the MRF is in reporting and data. In the MRF updates which are published online[21] there is useful information about the area of land disturbed, the area of land under rehabilitation and more. Much of this information is captured in other online systems and reporting by the DMP and while there are many gaps and issues in accessibility to the general public it is better than other states and territories.

MRF and the UPBs discussion – early warning signs

On the bigger questions about the effectiveness of raising funds by introducing a levy and retiring bonds, there are some early warning signs. If we look at the figures on how much money has been raised through the levy and how much was paid back by retiring bonds there is an alarming difference.

Recent figures released by the MRF show that in transitioning from the UPBs to the MRF $1,049,146,275 has been released in UPBs as of 30th June 2016. In contrast – as of September 2016 the MRF generated just $85.15 million.[22] If this trend continues with an increase of around $25 million a year it will take until 2057 to recover the $1 + billion of relinquished UPBs, which represents less than 25% of the liability. In the MRF data release it is also noted that the DMP still holds *"UPBs to the value of $142,036,392 by the end of the 2015-16 period, of which $106,772,632 related to entities not subject to*

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[19] M. Pepper, C. Roche, G. Mudd. *Mining Legacies – Understanding Life of Mine across time and space*. Life of Mine Conference June 2014

[20] Western Australia Government, Department of Mines and Petroleum. Mining Rehabilitation Fund, 2013. http://www.dmp.wa.gov.au/15822.aspx#18475

[21] MRF Documents and data release http://www.dmp.wa.gov.au/Environment/What-is-the-MRF-19522.aspx#toc_12271

[22] MRF Data Release 2016 http://www.dmp.wa.gov.au/Documents/Environment/Mining_Rehabilitation_Fund_(MRF)_Yearly_Report_2016.pdf

the MRF (e.g. operating under State Agreements) (Figure 6)."[23]

The State of WA is now in a position where there is an bigger deficit for funding the liability of the current operating mines than before the introduction of the MRF. This liability is significant.

While there is now additional $85 million to be invested for the funding of legacy sites that didn't previously exist, it is unclear if generating this huge gap in securities and guarantees to protect against the rehabilitation liability was an expected outcome and how it is being managed.

There is also no clear time frame described for the maturity of the fund and while we are seeing some trial projects it is still unclear on what the cost of some of the most problematic mines will be and when the fund will be able to be used to address those sites.

State Agreement Act – outside the MRF

A number of mines governed by early State Agreement Acts do not come under the MRF and do not any rehabilitation bonds in place. This presents a significant liability to the State, particularly the coal mines in Collie which are economically struggling and near their end of life. The Government cannot access the MRF to fund the rehabilitation of these mines under early State Agreement Acts and so represent a significant liability to the State. Some estimates of the rehabilitation cost of the coal mines in Collie are put between $100 - $500 million. There are also some compliance concerns with current rehabilitation requirements for these mines.

Risk of levies without bonds – WA example

There have been a few examples that demonstrates the risk of retiring bonds.

Perhaps the best example is the Ellendale diamond mine in the Kimberley. The Ellendale case is heralded by the DMP as a success, and indeed there was some good work by the DMP to secure the site, however the policy scenario that led to the abandonment of Ellendale exposes the deep flaws of the MRF system without a bonds system.

In 2013 Kimberley Diamonds, owner and operator of the Ellendale Diamond Mine, had $12 million relinquished to them under the MRF. The company then failed to pay royalties ($1.5 million), and tenement rental fees ($200,000). The company was threatened by the DMP to forfeit the tenement, and the company then paid a $3,087 fine.[24]

In July 2015 Kimberley Diamonds went into administration and creditors voted to liquidate the company. In November 2015 the DMP declared Ellendale an abandoned mine site – so that they could access the MRF to secure the site before the wet season. After securing the site the DMP then auctioned the plant and equipment. They have contracted work to rehabilitate some aspects of the mine but state they will not fully

[23] ibid
[24] Cole Latimer, October 21, 2015 "Ellendale may be handed back to the state" Australian Mining https://www.australianmining.com.au/news/ellendale-may-be-handed-back-to-the-state/

remediate the site as it remains to be a viable resource.[25] As of 30th June 2016 $148,000 was spent through the Abandoned Mines Program on securing the site. It is important to note that it cost $148,000 just to secure the site, not to rehabilitate the site and the DMP do not intend to rehabilitate the site – but rather sell it for future mining.

The issue here is that Kimberley Diamonds went into administration and left Ellendale as an abandoned mine site with ease under WA regulations. Had there been a bond the company and its executives may have had a greater incentive to be financially responsible, avoided going into administration. Failing corporate responsibility, the Government would have had access to $12 million to secure and remediate the site, rather than drawing down on the MRF which is still in its early stages of establishment and represents just 2% (approx.) of the total liability of mining in the state.

A similar case occurred just months earlier with GMK Exploration (GMKE) who entered the voluntary period of the MRF in the first week of July 2013 and had approximately $3 million in UPBs retired[26] for the Meekatharra Gold Mine. By the 16th of August 2013 GMKE owner and operator of the Meekatharra Gold Mine went into voluntary administration. Fortunately, the mine has since been sold to Metals X27 who intend to progress with mining operations avoiding the situation experienced at Ellendale, but these two cases identify a number of risks and issues.

1. abandonment is outside the control of Government
2. companies will behave irresponsibly, without warning, and could lead to the companies dissolving and mine sites being abandoned
3. that the current regulatory framework is not sufficient to protect against abandonment
4. without a financial incentive to rehabilitate it is apparent that the MRF alone will not be able to fulfil the important goal of preventing new abandoned mines

Other relevant Acts for Mine Rehabilitation

Other relevant Acts include the;

Mining Act 1978 - in particular Section 84 which requires all new mines to include a Mine Closure Plan and Section 114B which states the tenement holder may retain liability for environmental impacts caused by the project after the tenement has been relinquished.[28]

Contaminated Sites Act 2003 - in particular Section 25 which stipulates (1) A person is responsible for remediation of a site to the extent that the person caused, or contributed to, the contamination of the site after the commencement of this Act and Section 31(1) (c) on relinquishment of contaminated site.

Mines Safety and Inspection Act 1994 – in particular Sections 42 – 'Commencement or Suspension of Mining' and Section 88 'Plans for Abandonment or Suspension'. These sections do not specify any penalty or recovery of costs or expectations on rehabilitation or closure. They simply specify that the operator must notify the District

[25] DMP Ellendale page: http://www.dmp.wa.gov.au/Environment/Ellendale-Diamond-Mine-19526.aspx
[26] Reed Resources ASX Statement 9th July 2014. http://www.reedresources.com/reports/452-1236102.pdf
[27] Metals X ASC statement 14th May 2014. http://www.metalsx.com.au/system/announcements/550/20140509_Meekatharra_Acquisition_(Final).pdf
[28] Department of Mines and Petroluem Draft Guidelines for Preparing Mine Closure Plans, June 2011. http://www.dmp.wa.gov.au/documents/Mine_Closure(2).pdf

Inspector.

Mine Closure Guidelines May 2015 - The guidelines are based on principles of progressive rehabilitation and early planning. There have been strong recommendations to incorporate progressive rehabilitation into the policy mix. This will be a compatible tool with the levy system as the annual levy calculator is based on area of land disturbance, this disturbance area can be reduced by progressive rehabilitation and lower the cost of the levy – creating a good incentive for progressive rehabilitation.[29] However these will be assessed by the DMP not the EPA who should have carriage of such an environmentally significant assessment and aspect of mining as the EPA have legislative powers to enforce environmental conditions where the DMP do not.[30]

These new guidelines require the proponent to provide closure cost estimates and for regular updating of costs, as mentioned earlier this cost will not be represented by bonds or securities. The DMP and the Minister have powers to apply bonds it has been the intention not to apply those. We strongly urge the Federal Government to work with the new State Government to introduce a strong bonds system which will creative a strong financial and legally enforceable incentive to miners to rehabilitate, a buttress the positive aspects of the MRF.

MRF Discussion

The emphasis from the DMP, under direction from the previous WA Government, on cultivating a better investment environment for mining companies by removing UPBs rather than the emphasis on incentivising rehabilitation for better environmental outcomes raises concerns about the implementation of the MRF.

The MRF alone has a number of positive outcomes to date and has some potential in delivering the much needed funds to rehabilitate WA's 11,000 odd abandoned mines. However the removal of UPBs has the potential to undermine the ability of the MRF to generate new funds for rehabilitation and the potential to encourage new abandoned mines.

Other policy and legislation relating the mine closure do not adequately address the causes of early closure or protect against early closure. Strict penalties for non-compliance in WA is recommended as financial incentives, when strong and well designed, can be effective.

Uranium Mining in WA

Uranium mining presents a unique problem in relation to mine closure and rehabilitation. While some aspects of a uranium mine can be rehabilitated as any other mine, the tailings, cannot, they present a long term management issue like no other and must be treated differently to other minerals tailings.

Below is some background information and current costing of mine closure for uranium

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[29] M.L. Leybourne, Ensuring Rehabilitation into the Future – The Western Australian Mining Rehabilitation Fund. Life of Mine Conference June 2014.

[30] Department of Mines and Petroluem Draft Guidelines for Preparing Mine Closure Plans, June 2011. http://www.dmp.wa.gov.au/documents/Mine_Closure(2).pdf

mines in Australia, we explore some of the conversations had at political and regulatory level on the issue and we propose that uranium projects in addition to a 1% levy to the MRF should have a 100% of mine closure costs held in bonds or bank guarantees.

Uranium tailings

International Atomic Energy Agency

The unique problems of uranium mine tailings are noted in the Management of Radioactive Waste from the Mining and Milling of Ores (IAEA, 2002a) it states *"Of the different waste streams produced by mining and milling operations, tailings represent the greatest challenge, particularly in terms of long-term management, because of the large volumes produced and their content of very long lived radionuclides and heavy metals".*

The International Atomic Energy Agency also make the following comment – as noted by the Uranium Advisory Group *"Concepts for the acceptable isolation of uranium mill tailings must, in view of the very long time frame involved, accept the inevitability of interactions between the tailings pile and its containment with the natural environment".*

The Barnett Government

Any future uranium mines in WA would need ongoing work, management and monitoring beyond the life of the mine, beyond the life of the rehabilitation program and beyond the life of the company. In 2012 the then Minister for Mines and Petroleum the Hon. Norman Moore amended and passed a motion on uranium mine closure that reflects the long term management issues presented by mining uranium, the final motion reads:

That this House recommend that should the Government proceed with its intention to licence uranium mining in Western Australia, that it adopts the equivalent or better minimum environmental management regulatory requirements for any future uranium mine in Western Australia as exists under Commonwealth and Northern Territory legislation for the operation of Ranger Uranium Mine in the Northern Territory with regard to disposal of radioactive tailings, including the requirements that:

(a) the tailings are physically isolated from the environment for at least 10,000 years; and

(b) any contaminants arising from the tailings will not result in any detrimental environmental impacts for at least 10,000 years.

Barnett Government and the MRF

The Barnett Government at various times has, in defense of its policy to allow uranium mining, committed to a 100 per cent mine closure bond for uranium projects – specifically for the Toro Energy Wiluna proposal.

Wednesday, 26 September 2012 – extract from Hansard on the matter of the Mining Rehabilitation Fund the Premier said this *"The Minister for Mines and Petroleum has already made the decision that Toro Energy will be required to have a 100 per cent*

performance bond for mine rehabilitation. That is obviously seen as a higher risk mining activity compared with others; and therefore that will apply. Ultimately, it may come under the levy system, but at this stage it will be under a 100 per cent bond."

In this comment the Premier has identified that uranium is a higher risk activity that requires a higher level of bonding. He concedes that uranium may come under the levy system. Whether or not uranium comes under the MRF levy system or not what is clear is that it is a higher risk activity and this should be reflected in bonds or a levy. The fact is uranium is different, its closure issues are unique, and there is a poor history of successful rehabilitation. To proceed under any other assumptions could be costly, is an unnecessary burden on the MRF and would allow or encourage companies to avoid responsibility.

Uranium Advisory Group

The Former Minister for Mines – Norman Moore initiated the Uranium Advisory Group who was charged with the job of benchmarking WA's regulations for uranium mining with world best practice. They made a number of significant observations about the unique issues with uranium tailings and identified that the DMP's tailings guidelines need to be updated which is yet to occur. In the final report to the DMP in relation to bonds they said this "*Bonds should reflect the maximum, full third party costs of closure and rehabilitation. While this requirement may not be that onerous for true ISR operations, when applied to conventional mining operations (where TSFs and waste rock dumps have to be rehabilitated), the costs could be extremely high. Nevertheless, this requirement is entirely appropriate and should be retained."* (*We have not discussed In Situ Recovery (ISR) separately here – but we would not expect ISR and conventional mining of uranium to be treated differently from one another as the both present the same long term risks and management issues with radioactive mine waste).

The Uranium Advisory Group did an extensive search into this matter and their assessment on bonds is one the Conservation Council of WA agrees with, based on principles of corporate accountability and social license.

Uranium tailings and mine rehabilitation history in Australia

(Information taken from G. Mudd and P. Waggitt.)
It is evident that none of the closed uranium mines in Australia have been rehabilitated successfully, a hypothesis tried and tested by leading academic from Monash University Dr Gavin Mudd. Dr Mudd has shown that each and every former uranium mine requires ongoing monitoring and works to manage and contain the radioactive mine wastes, heavy metals and or acid mine drainage, to varying degrees.

Operating mines:

Olympic Dam Uranium mine is an example where the bonds for the remediation of the site are well below estimated costs for closure and rehabilitation.

P. Waggit from the Office of the Supervising Scientist writes on Olympic Dam Mine;

"the remediation plan has been drawn up and is reviewed and re-costed annually. Each year money is placed in the remediation fund which currently stands at A$14 million. The 2003 estimate of the remediation costs was A$130 million of which the remediation of the tailings had been estimated to cost A$65 million."

The Switkowski report from 2006 states *"Greater certainty in the long-term planning at Olympic Dam is desirable, coupled with guaranteed financial arrangements to cover site rehabilitation."*

The details and updated estimates on closure costs for the Olympic Dam site are harder to identify in publicly available material.

The Switkowski report goes on to state that *"Best modern practice requires a whole-of-life mine plan including proposed plans for rehabilitation. A bank bond is normally required to cover the estimated costs of rehabilitation. Such plans are revised regularly to take into account changing conditions. However, the legislation under which Olympic Dam operates does not put in place an arrangement to guarantee that finance will be available to cover rehabilitation costs."*

Ranger Uranium mine has had a remediation plan since its approval in 1979, which is updated and reviewed annually with money put into a rehabilitation trust, we cannot establish how much is actually in this trust. In 2013 in the Annual Report released by ERA – subsidiary of Rio Tinto estimated the closure cost of the Ranger uranium mine would be $640 million. Between 2012 and 2015 ERA spent $405 million on rehabilitation and water management. The overall costs of rehabilitation of Ranger are likely to cost in excess of $640 million. ERA has operated at a loss over the last several years. Parent company Rio Tinto has now made a commitment to fund the rehabilitation on the condition ERA abandon their plans to expand the mine.

The Ranger uranium mine is in the Northern Territory and so it is also regulated by the Federal Governments Office of the Supervising Scientist and under the Atomic Energy Act 1953 which outlines a 10,000 year statutory requirement to isolate tailings from the environment – mentioned above. It is unclear on how this requirement will be upheld considering that the Ranger uranium mine is currently failing to meet the 10,000 year requirement during its operation, it is unclear how monitoring and management over that time period will be funded. *The Office of the Supervising Scientist revealed that over 100,000 litres of contaminated water was leaking from the base of the tailings at Ranger on a daily basis.

Australia's Former uranium mines

Narbalek, NT: There is ongoing site contamination and lasting impacts on water quality. The cost of the original remediation was estimated at A$10 M, and the mine's operator was required to provide a company financial guarantee for that sum throughout the works period.

The mining company has spent considerable sums of money in recent years on various works associated with the ongoing need to establish successful revegetation of the site. The size of the outstanding liability has been estimated at up to A$250,000 for the infrastructure works and outstanding revegetation proposals. Environmental monitoring

of surface and ground waters is being carried out by the regulating authority, whilst the mining company is responsible for providing suitable photographic records of the progress of revegetation. The final plan for long term monitoring and surveillance of the site has yet to be agreed but discussions between the various stakeholder organisations are on-going.

South Alligator Valley, NT: The various mining companies involved in the uranium mines in the South Alligator Valley abandoned the different sites in 1964. The rehabilitation at these sites was limited to 'hazard reduction' because of the limited funds made available by the Commonwealth. The overall cost of the operation was initially calculated to be in the range A$5 - A$10 M depending on the choice of options selected for the management of the radiologically contaminated sites. In 2006 the Commonwealth Government set aside $7.5 million which was the final estimated cost of the programme.

Rum Jungle, NT: The Commonwealth Government spent $25 million on rehabilitation of the former Rum Jungle site in the 1980's. In 2011 the Federal Government set aside a further $8 million to re-assess the damage at the site and develop a plan to remediate and fund the site cleanup. In 2013 another $1.5 million was allocated to Rum Jungle. Despite extensive rehabilitation and remediation of the site, the Finniss River is still polluted with ongoing acid mine drainage.

Radium Hill, SA: The uranium mine at Radium Hill produced materials used for the research of Marie Curie and for the British weapons which were later tested at Maralinga and Emu Fields. After mining, the site became an intermediate waste dump site with over 1,500 containers of low level radioactive waste. Ongoing erosion and maintenance of the tailings is required.

Port Pirie, SA: Uranium mined from Radium Hill was processed at Port Pirie, for many years the tailings and waste from processing remained un-rehabilitated unfenced and without signs. Both Port Pirie and Radium Hill are under ongoing management and rehabilitation from the SA state Government with no end in sight.

Mary Kathleen, QLD: Mary Kathleen was one of the first uranium mines to undergo a full rehabilitation. The rehabilitation work got an engineering excellence award in 1988, since that time standards have changed significantly to a point where most would recognise that the Mary Kathleen site has not been rehabilitated sufficiently. There is ongoing seepage of saline, metal and radionuclide rich waters from tailings.

MRF with bonding for uranium

At this stage there has never been a uranium proposal in Western Australia that has shown an estimated mine closure cost - publicly. There were some early estimates that the Toro Wiluna closure costs could be anywhere between $150 million and $280 million, but this is speculation and likely to be much higher given the expansion of the proposal. The Ranger uranium mine closure costs were $640 million but again these figures continually grow. Olympic Dam which will be operational until 2082 has no defined closure costs but their rehabilitation plan which is extensive is likely to cost much more that $640 million. To understand the risk, economically and environmentally we must first see a mine closure plan and estimated costs of closure to

understand how a uranium proposal could affect the integrity of the MRF. It is premature to bring uranium into the MRF without knowing more about the potential costs, without considering independent third party advice and without consultation of both the mining industry and community.

Uranium has the potential to be an uncapped liability on the MRF.

Corporate accountability- incentives to rehabilitate

In an article by the Chairperson of Barton, Norton Rose Fulbright LLP summarised the problem with removing bonds in this way "*The requirement for a performance bond creates the main incentive for meeting closure and rehabilitation obligations. Payment of an annual levy under the new Fund may not create the same incentive. In transitioning to the Fund, comparable incentives and enforceability will need to be provided through DMP's environmental compliance regime. Failure to do so presents a significant risk to the state. It is currently unclear how DMP will treat performance bonds in the future or how the existing performance bond regime will transition to the Fund."*

The DMP has been reviewing many guidelines and policies and are taking on much greater responsibility is assessing environmental impacts. In so doing we have not seen any great development in creating incentives for companies to fulfil these requirements. Conversely, we are now seeing the removal of a bonding system that had provided that incentive and certainty. There are legitimate concerns that this will put both the environment and the State at risk in the future.

The Northern Territory has recently introduced something very similar a "Mining Remediation Fund" – this fund is generated by introducing a levy – that is 1% of the cost of the estimated cost of mine closure. This levy is in addition to a 100% bond / rehabilitation security for all mines – a bonding system introduced in 2005. We would recommend adopting the same bonding system in WA in addition to the Mining Rehabilitation Fund levy to create certainty for the industry and the public; we will discuss this in more detail.

Ministerial discretion and politicking

We acknowledge there is provision in the MRF for the Minister to require bonds on top of the MRF contribution this is no fail safe solution. Minerals like uranium are deeply politicised, because of widespread public opposition and because of an aggressive industry lobby. We know that there was a determination from the previous Government to allow uranium mining in WA. There was a concern under the previous Government that the political will of the Government to approve and establish a uranium mine may cause a Minister to be lenient on bonds to show support and good will to the company and the industry. In the current situation, the discretion of the Minister is often open to lobbying and the politicising of an issue. The bonding for the proper and long term management of uranium mine tailings should not be politicised it should be enshrined in law to ensure that ongoing protection and effective management of tailings.

Creating certainty

We would like to see a requirement within the MRF to explicitly state that uranium mine bond requirements are 100% of the mine closure costs – annually reviewed and adjusted. This requirement will provide certainty for the executives and shareholders on the expectations to clean up sites. It also provides certainty to the public and local community that the rehabilitation of the site will be funded (however does not provide certainty that the rehabilitation will be successful or funded 10,000 years into the future). It ensures that companies will be individually responsible for the cost of their projects. It will avoid a situation that could encourage companies to abandon projects and tap into the MRF - which will be much needed to generate interest to clean up the 11,000 odd legacy sites that already exist in WA.

Economic risk facing uranium sector

In consideration of the bonding system for uranium it is important to consider the economic situation facing the industry. With the uranium price depressed, exacerbated by aging reactors overseas, slow build rate of new reactors, increasing costs of nuclear we are seeing a clear downward trend. If this continues the poor economic situation facing West Australian uranium hopefuls could get worse. In the event that a mine begins operation and the economics continue to deteriorate or do not recover as expected by the industry, the option for a company to dissolve and abandon mine sites is all the more likely; a further burden on the MRF, one that we can see coming.

The South Australian Royal Commission into the nuclear fuel cycle made some important observations that there are *"significant barriers to the viability of new uranium mine developments in South Australia"* it also stated that the industry is vulnerable because of *"current low price of uranium and uncertainty about the timing of any price increases."*

In South Australia this was demonstrated by the opening of Uranium One's Honeymoon uranium mine in 2011-2012. The mine was mothballed in 2013-2014 after mining just 37 tonnes of uranium. Honeymoon has now been in Care and Maintenance for two years with degrading infrastructure and ongoing costs. Uranium One is owned by the Russian Government. If this was a smaller company like Toro Energy this kind of economic condition could have seen the project abandoned, or if the resource had been depleted further this project is likely to have been abandoned. The economic risk of rehabilitation is significant and the burden on the MRF and failing that the risk is on the tax payer. A single abandoned uranium project could completely undermine the entire MRF.

Uranium Discussion

We see uranium as a risk to the effective operation of the MRF in the future and see that it would be both in the public interest and in the interest of other sections of the mining industry to ensure that uranium projects have 100% of the mine closure costs contributed to the MRF upfront or alternatively that there is an arrangement with a financial institution to ensure the 100% cost of mine closure are guaranteed on top of a levy to the MRF.

It is consensus that uranium tailings are unique; they are a risk to the environment and

public health, and present long term management and regulatory challenges. The problem in front of us now is how to effectively manage and ensure that uranium mine rehabilitation is funded into the future without costing the Government and the tax payer, how do we ensure that the companies responsible for producing the tailings are the ones responsible for managing the wastes and ensuring the protection of the environment?

History shows that these responsibilities and costs have fallen on the Government and the tax payer – this history is relatively short. We are within the first 100 years of 10,000 year problem. The legacy sites scattered across the top end, South Australia and Queensland will need ongoing funding for management well into the future. We urge the West Australian Government and its agencies to support a clear requirement for uranium proposals to have 100% mine closure bond in addition to a 1% levy.

Examples of Federal intervention on bonds

While the MRF has some positive attributes and through financial incentive encourages progressive rehabilitation, the overall fund is not sufficient to fulfil the two policy goals of rehabilitating abandoned mines and preventing new abandoned mines.

It is because of the failures of State regulation to guarantee the funds and the rehabilitation of existing abandoned mine sites and protect against the creation of new abandoned mine sites that we urge Federal intervention to ensure minimum standards for bond requirements, particularly where there are sites assessed under the EPBC Act.

Earlier Federal Environmental approvals of WA uranium projects– Kintyre and Wiluna – placed conditions on approval that if bonds at a state level were inadequate then the Federal Minister retained powers to apply bonds to assure the full cost of rehabilitation can be met. We welcome this type of Federal intervention in creating assurances where the State regulations may be inadequate. Unfortunately we have seen a recent departure from this important Federal intervention.

Wiluna
In the Conditional Environmental Approval for the proposed Wiluna Uranium project (EPBC No. 2009/5174) made under Tony Burke on the 2nd March 2013 there are four conditions on rehabilitation and bonds.

Condition 24 states that "The person taking the action must enter into a financial arrangements required by the Western Australian Government for ensuring adequate rehabilitation of the action. The person taking the action. The person taking the action must comply with the request within 20 business days.

Condition 25 states that "The person taking the action must enter into a financial arrangement which assures the full cost of rehabilitation will be met. This can be achieved by:

a. entering into a bond, financial guarantee or similar arrangement (in these conditions 'a bond'), or contributing to a fund, with the Western Australian Government and/or
b. entering into a bong with the Minister for any additional amount required in order

to meet this condition, should the Minister determine the arrangement with the Western Australian Government does not adequately cover the full cost of rehabilitation."

Condition 26 states that "In providing for or varying a bond amount in accordance with these conditions, the Minister may require the person taking the action to obtain written quotes for the cost of the rehabilitation liability under the mine closure plan from a third party approved by the Minister."

Condition 27 states that " The person taking the action must meet all the changes and costs in obtaining and maintaining the bond."

Kintyre

In the Federal Conditional Environmental Approval for the proposed Kintyre uranium project (EPBC No. 2010/5637) made under Greg Hunt on the 22nd March 2015 there are four conditions on rehabilitation and bonds.

Condition 29 states that "The person taking the action must enter into financial arrangement(s) which assures that the environment outcome of condition 25.a will be met. This can be achieved by:

a. entering into a bond, financial guarantee or similar arrangement or contributing to a fund, with the Western Australian Government and/or
b. entering into a bond with the Minister for any additional amount required in order to meet this conditions, should the Minister determine the arrangement with the Western Australian Government does not provide adequate assurances that the environmental outcome at condition 25.a can be met.

Condition 30 states that "Within 3 months of the first contribution to a bond, financial guarantee or similar arrangement with the Western Australian Government, and then in accordance with the timing of the review of the Environmental Management Plan required by condition 27, the person taking the action must provide details to the Minister of the financial arrangements required by the Western Australian Government for ensuring adequate rehabilitation of the action."

Condition 31 states that "In providing for or reviewing a bond amount, financial guarantee or similar arrangement in accordance with these conditions, the person taking the action must obtain a written quote at their expense for the cost of the rehabilitation liability under the Mine Closure Plan at condition 25 from a third party approved by the Minister."

Condition 32 states that "The person taking the action must meet all the charges and costs in obtaining and maintaining the bond, financial guarantee, or similar arrangement."

Mulga Rock

In the recent Federal Conditional Environmental Approval for the proposed Mulga Rock uranium mine made under Josh Frydenberg (EPBC 2013/7083) on the 2nd or March 2017 (one week before the State election where WA elected an anti-uranium Labor Government) there were no conditions for bonds.

This decision under the current Federal Government is a dangerous departure from existing standards on Federal environmental assessment but it is also a disappointing weakening of Federal assurances for mine rehabilitation.

Vimy should, in addition to the 1% levy under the MRF, be required to provide a bond that equates to 100% of the expected cost of closure and that this bond be reviewed and adjusted annually. We recommend this for all mines but emphasise the particular need for this arrangement for uranium mining given the unique risks, complexity and costs associated with rehabilitating uranium mines and given the uncertainty on the uranium price.

Conclusion

Under the Mining Rehabilitation Fund and new Mine Closure Guidelines, the requirements for bonds are now only applied if there is a Ministerial decision or as detailed above where there is Federal intervention in assessment through the EPBC Act. There is concern that the political desire of the Government to approve and establish a uranium mine may cause a Minister to be lenient on bonds to show support and good will to the company and the industry. The clear view of the DMP is that bonds are a disincentive for mining companies and an economic barrier to developing mines. There is a clear economic barrier for uranium mining given the low uranium price and lack of investment. These economic factors should be a cause to apply further bonds to better protect the environment and the state from the closure liabilities. These economic factors should not be used as a reason to be lenient on the company in applying further bonds.

What is best for environmental protection is an incentive to rehabilitate. That incentive to rehabilitate is best achieved through bonds. Without bonds mining companies can (and often do) leave mine sites un-rehabilitated or in preference to rehabilitating may put the mine in Care and Maintenance for an extended time. We note the arguments by the mining sector that closure costs are low when there is progressive rehabilitation - while we support progressive rehabilitation this does not equate to mine closure. Mine closure with progressive rehabilitation can still be expensive and costs should not be passed on to the taxpayer or compromise the MRF that has struggled to meet targets of generating funds.

Ministerial discretion may be influenced by industry advocacy or short term political considerations. This can occur both at a State and Federal level. As we can see from the Federal conditions under three different Ministers that the most recent decision under the current Environment Minister has been significantly different.

Bonding for the proper and long-term management of mines, and particularly uranium mine tailings, should not be politicised. It should be enshrined in law to ensure rehabilitation, the ongoing protection of the environment and effective long-term management of tailings. Such an approach would also facilitate building the community confidence needed to sustain an industry's social license.

We submit to the senate inquiry that 100% bonds should be applied universally across the mining sector in addition to various levy systems which can generate funds to rehabilitate existing abandoned mines.

Where State or Territory Governments do not have this requirement, we urge the Federal Government to encourage State Governments to introduce or strengthen such a bonds system. Encouraging States and Territories to have similar or comparable laws and systems with regard to mine closure and bonds would create certainty and benefit proponents and the public and may restore some public confidence in the sector.

We also urge the Federal Government to retain powers to apply bonds to projects assessed under the EPBC Act or under an EPBC bilateral agreement.

For further comment or inquiry contact

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