Submission No 36

INQUIRY INTO COSTS FOR REMEDIATION OF SITES CONTAINING COAL ASH REPOSITORIES

Organisation: Lake Macquarie Sustainable Neighbourhood Alliance Inc.

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Lake Macquarie Sustainable Neighbourhood Alliance

Submission to

NSW Parliament
Legislative Council
Public Works Committee

Inquiry into the costs for remediation of sites containing coal ash repositories

Prepared by Lyn Fraser
In consultation with Lake Macquarie Sustainable Neighbourhood Alliance
February 2020

Executive Summary and Recommendations

The Lake Macquarie Sustainable Neighbourhood Alliance is pleased to have the opportunity to make a submission to the Inquiry into the costs for remediation of coal ash repositories in New South Wales.

Our submission focuses on the coal ash repositories of the Vales Point and Eraring Power Stations which are locate close to the shores of Lake Macquarie.

Our submission is largely indebted to the Hunter Community Environment Centre (HCEC) and Environmental Justice Australia (EJA) for their significant research work in this area. Whilst we also make reference to other information sources, we agree with the HCEC and EJA that more information needs to be made available to the public about the impact of coal ash dams on local communities and the surrounding ecology.

Recommendations

The Alliance is in broad agreement with the recommendations presented in the HCEC and EJA reports. However, we also recommend that the NSW government develop:

- Best practice guidelines which should be followed in order to facilitate improvements in coal ash dam management, rehabilitation, closure and post closure management.
- Coal ash dam specific regulations under the Protection of the Environment Operations Act, which include, as a minimum:
    - Public access to all groundwater monitoring data (current and historical) via a website similar in function to the website for air pollution monitoring website maintained by the NSW EPA. Data should be interpreted through reference to current best practice international standards.
    - Coal ash operators should be required to prepare comprehensive rehabilitation and closure plans.
    - All coal fired power station operators be required to provide financial assurance to secure or guarantee funding during the operation of the facility and during the post-closure period and until the EPA is satisfied that the site is stable and not polluting.

Introduction

About the Lake Macquarie Sustainable Neighbourhood Alliance

The Lake Macquarie Sustainable Neighbourhood Alliance (the Alliance) supports local Sustainable Neighbourhood groups across the City of Lake Macquarie. The Alliance is a not for profit incorporated association that is independent from Council.

Alliance Objectives

The primary aim of the Alliance is to assist the Sustainable Neighbourhood network to function as an independent community network over time. This includes:

- Supporting the Sustainable Neighbourhood network and mentoring new groups;
- Communicating between Sustainable Neighbourhood groups and sharing information, tools, case studies, connections, projects plans etc; and
- Providing advice and advocacy on Sustainable Neighbourhood issues to all three levels of government. [1]

Inquiry Terms of Reference

1.That the Public Works Committee inquire into and report on the costs for remediation of coal ash repositories in New South Wales, and in particular:

(a) prospective or current quantum of government liability for remediating contamination at sites associated with:

(i) Mount Piper power station,
(ii) Bayswater power station,
(iii) Liddell power station,
(iv) Vales Point power station,
(v) Eraring power station, and
(vi) any other relevant power station.
(b) prospective timing of government expenditure in relation to remediation at those sites,
(c) economic and employment opportunities associated with coal ash re-use, site remediation and repurposing of land,
(d) adequacy and effectiveness of the current regulatory regime for ensuring best practice remediation of coal ash repositories,
(e) mitigation of actual or perceived conflict of interest arising from the state having ongoing liability for remediation costs the quantum of which will be impacted by government policy and regulatory action,
(f) risks and liabilities associated with inadequate remediation including community and environmental health impacts, and
(g)any other related matters.

[1] For more information see http://www.sustainableneighbourhoods.org.au/

Potted history of heavy metal contamination in Lake Macquarie

The Alliance is aware of the long history of heavy industry around Lake Macquarie. It is commonly acknowledged that there has been contamination of sections of the lake from heavy metals and other pollutants as a result of various industrial activities - such as the operations on the former Pasminco lead smelter and cadmium site near Boolaroo. Whilst ash from coal fired power stations has not been the sole source of heavy metals in Lake Macquarie, research indicates that it is a contributing factor. [2]

We are also aware of various forms of contamination resulting from a range of other events and activities, such as those resulting from storm water run-off from urban areas.

Historical comment on the Eraring and Vales Point Power Stations

There are two power stations currently operating around Lake Macquarie. Vales Point Power Station (owned by Delta Electricity (Sunset Power International Pty Ltd)) is on the southern shore of the Lake near Mannering Park and Eraring Power Station (owned by Origin Energy) lies on the south western shore of Lake Macquarie. [3]

Vales Point Power station has a generating capacity of 1320 MW. It is inefficient by current standards and emits 6.9m tonnes per year. There was considerable controversy surrounding the 2015 sale when "sold for a song" to Sunset Power for as little as $1 million. The power station was revalued two years later at $730 million. In addition the sale arrangement would leave taxpayers with ongoing clean-up costs. This is discussed in more detail later.[4]

Eraring power station was constructed in 1977. It commenced operation in 1982 with the first boiler-turbine-generator unit in service. In 1983 the second and third units were in service. In 1984, with the fourth unit in service, the power station was able to commence at full commercial operation.[5] The four 660 MW units had the capacity to generate 2640 MW of power which, in the 1980s, was capable of generating a third of the total electrical energy needs of New South Wales. This was approximately 400 MW more than the Vales Point power station. Pollution controls were also considered to be less damaging to the environment than older power stations such as Vales Point and Munmorah Power Station.[6]

In some respects the Eraring Power Station, when new, was considered to be the result of 'award winning engineering.' At the time, this was particularly considered the case in relation to two

[2] Hunter Community Environment Centre (HCEC), Out of the Ashes: Water pollution and Lake Macquarie's aging coal-fired power stations, HCEC ,Hamilton East, NSW, February 2019, p12.
[3] HCEC, p11.
[4] https://reneweconomy.com.au/nsw-exposed-to-unquantifiable-liabilities-for-vales-point-decommissioning-documents-show-84435/
[5] Mark Fletscher, The Power Makers, n.d., p157; see also brochure: Eraring Power Station, Technical information and vital statistics on Pacific Power's leading environmentally managed electricity producer, Pacific Power - Central Coast (held in historical records of Lake Macquarie City Library – Speers Point).
[6] 'Eraring: first of a new generation', in Eraring - a supplement to the Newcastle Herald, Thursday, 28 June, 1984, p2.

aspects: the 260m caisson under Dora Creek (that is part of the intake canal) and the symphonic water cooling system.[7]

It should be noted that warm water from condensers was being piped into a canal and cooler water was added prior to the water going down the large 'plug hole' into an outlet tunnel. The water in the outlet tunnel was carried out to Myuna Bay.[8]

At the time of its commissioning, Eraring power station provided some reassurance of stability in the power supply for the whole state as well as providing stimulus for local jobs and business. However from the very beginning, there were concerns raised by local community members about the closeness of the power station to Lake Macquarie as well as some possible impacts on communities.[9]

Both power stations are edging closer toward the end of their design life. It is anticipated that Eraring would be decommissioned sometime around 2032. For the sake of this regional community it would be beneficial to have the less efficient and environmentally damaging Vales Point Power Station decommissioned much sooner. However, the owners have expressed an interest in extending the life another 30 years beyond the original decommissioning date of 2021.[10]

The Alliance is of the view that it is now time to give particular consideration to the management of the coal ash dams and to commence planning for adequate storage, safe reuse arrangements and appropriate rehabilitation of the ash dam sites. To do this the operating companies should be required to provide financial security for the clean-up and rehabilitation of the sites. Tax payers should not be expected to foot the bill for the clean-up costs.

Coal ash dams

There is increased awareness of the need to implement best practice in the storage and use of coal ash. Indeed, the establishment of the coal ash dams at Eraring and Vales Point power stations predate NSW's environmental pollution law, the Protection of the Environment Operations Act 1997 (POEO Act). Both of these ash dams are unlined, consequently concerns have been raised about the potential for heavy metals from wet ash to leach into the ground water and the lake. When the ash is dry, dust blows onto communities and into the local environment. This presents additional health problems for local communities as well as the health of the environment. [11]

The two coal ash dams of Eraring and Vales Point contain approximately 61 million tonnes of coal ash.

[7] 'Cooling system wins award', in 'Eraring' :an advertising supplement to the Newcastle Herald, Thursday, 28 June, 1984, p12.
[8] Fletscher, The Power makers, p158
[9] Felscher – the Power Makers, p157
[10] HCEC, p1.
[11] Environmental Justice Australia (EJA), Unearthing Australia's toxic coal ash legacy: How the regulation of toxic coal ash waste is failing Australian communities, Earth Justice, Carlton, Vic, 1 July 2019, p13.

The Environmental Justice Australia report noted that:

> *When coal is burnt to make electricity, it produces mountains of toxic ash waste. At most coal-fired power stations, coal ash is mixed with saline wastewater and pumped into enormous dump sites creating a lethal cocktail of mercury, lead, arsenic, selium and chromium ('wet disposal').*[12]

Unlike most landfill sites, coal fired power stations are not required to provide a financial security for the rehabilitation of coal ash dams. So, not only are local communities affected by the pollution from the coal fired power stations but the current arrangement potentially leaves tax payers exposed to footing the bill for a costly clean up.

What is fly ash?

There have been various industrial uses for fly ash. For example it has been used as an asphalt additive, cement additive, concrete additive and other uses.

Fly ash is the major component of the coal ash held in the dams. Coal ash dams also contain bottom ash and other waste products as set out in licensing agreements.[13]

Fly ash is generally understood to be the most toxic form of ash waste generated by power stations. However there can be some variations in the form and concentration of trace elements, depending on variations in the coal sources and coal types used by different power stations across Australia.[14]

The Environmental Justice Australia report noted that the combustion process leads to the production of fly ash which will contain a range of heaving metals and elements including arsenic, lead, boron, selenium, thallium and others. The report also noted that:

> *The primary component of fly ash is silica, which presents hazards to health if inhaled.* [15]

Safety information prepared for Boral Cement in 2016 highlights the hazardous nature of fly ash[16] and notes that fly ash is classified as hazardous according to Australian Work Health and Safety Regulations.[17] Fly ash hazards identified included:

- skin irritation
- serious eye irritation
- possible respiratory irritation
- possible damage to organs through prolonged or repeated exposure.

[12] EJA, Unearthing, p2.
[13] EJA, Unearthing, p32
[14] EJA, Unearthing, p11
[15] EJA, Unearthing, p11
[16] Boral Safety Data on fly ash was prepared by Risk Management Techologies for Boral Cement in 2016. https://www.boral.com.au/sites/default/files/media/field_document/Fine%20Grade%20Fly%20Ash%20Safety%20Data%20Sheet.pdf
[17] Boral , 2.1 Hazards identification

Consequently a range of prevention measures are listed which include (but are not limited to) the wearing of protective gloves/protective clothing/eye protection/face protection.

Particular attention was given to the health impact of the element silica, especially crystalline silica.

> *Crystalline silica is present in fly ash as an impurity the crystalline silica content in the respirable dust proportion depends on the crystalline silica content of the source coal.*[18]

Important symptoms and effects, both acute and delayed are:

> *Chronic exposure to crystalline silica may result in lung fibrosis (silicosis). Principal symptoms of silicosis are coughing and breathlessness. Crystalline silica is classified as carcinogenic to humans (IARC Group 1).*[19]

> *Repeated exposure to respirable silica may result in pulmonary fibrosis (silicosis). Silicosis is a fibronodular lung disease caused deposition in the lungs of fine respirable particles of crystalline silica. Principal symptoms of silicosis are coughing and breathlessness.* [20]

Ecological information about fly ash noted adverse effects requiring the need to "avoid contamination of drains and waterways."[21]

Cleaning up requirements included the instruction to 'contain spillage, then collect and place in suitable containers for reuse or disposal. Avoid generating dust'.[22]

Storing the fly ash required storage "in a well-ventilated place, keep container tightly closed.[23] But Irrespective of the extent to which Boral may or may not adhere to its own safety precautions, it is important to note the attention they draw to health risks, the requirement for workers to wear adequate protection and the care that needs to be taken to avoid contamination of the environment and to avoid generating dust. This submission raises particular concerns about the adequacy of storage of the coal ash whilst still in the unlined ash dumps that are exposed to the atmosphere.

Impact on communities and the environment

> *Toxic elements in coal ash include arsenic, barium, boron, beryllium, cadmium, chromium, cobalt, lead, lithium, manganese, mercury, molybdenum, radium, selenium, thallium and other dangerous chemicals. These toxins cause a range of health impacts in every major organ of the human body (see image below) including cancer, kidney disease, reproductive harm, and damage to the nervous system, especially in children.*[24]

Despite the health and environmental risks, it appears that the EPA had not audited coal ash dams and emplacements until after a ruling of the United States Environmental Protection Agency (US EPA) following a catastrophic coal ash spill at a power plant in Tennessee in 2008. The spill resulted

[18] Boral, *3.1 Ingredient Notes*
[19] Boral , 4.2
[20] Boral, 6.2 Environmental precautions, p3
[21] Boral, 12 Ecological Information
[22] Boral, 6.3 section on Methods of cleaning up
[23] Boral, p2
[24] EJA, Unearthing, p13

in 300 acres of land being flooded by the contaminated material, destroying homes and flooding waterways.[25] The incident was also followed by a successful lawsuit, on behalf of workers who were exposed to the toxic ash during the clean-up operation in Tennessee. The workers and the families of deceased workers won the case against the clean-up contractor who refused to allow the workers to wear protective respirators.[26]

In February 2019, the Hunter Community Environment Centre released the report, *Out the Ashes: Water Pollution and Lake Macquarie's aging coal-fired power stations*. The report included data from their own recent research and monitoring as well as previous investigations and research by various organisations in relation to heavy metal concentrations in the water, sediments and seafood of Lake Macquarie. The report findings revealed leaching of unacceptable levels of heavy metal into the ground water and Lake Macquarie.[27]

These findings were broadly consistent with the report by Environmental Justice Australia which examined the regulation of coal ash dumps throughout Australia.[28]

Lake Macquarie is a much loved and heavily utilised natural asset attracting local residents as well as visitors who come to wade, swim, fish, and engage in boating and many other activities.

In recent years, considerable media attention has focussed on the issue of heavy metals in the Lake and the impact of coal ash from coal fired power stations. It is of considerable concern to communities that it is possible for toxic slurry from the coal ash dams to leach into aquifers, soil, groundwater and the lake where many community activities take place. As previously stated, this is largely because the coal ash dams at Eraring and Vales Point power stations do not have lining underneath them to mitigate leaching into ground water and the ash is exposed to the atmosphere.[29]

Many families around the lake have traditionally relied on the consumption of locally caught fish, prawns and crabs from the Lake. However, recent reports have highlighted health risks from consuming high quantities of locally caught produce because of the effect of Lake Macquarie pollution, including heavy metal. [30]

About dust blown from the coal ash dams

On windy days it is not unusual for residents in the Lake Macquarie area to see dust clouds being blown from coal ash dams. These dust clouds, potentially contain mercury, lead, arsenic and other toxic components which been linked to the emergence of cancer, asthma, respiratory and other diseases.[31]

[25] EJA, Unearthing, p1
[26] EJA, Unearthing, p25
[27] HCEC, p51 and p83f.
[28] EJA, Unearthing.
[29] EJA, Unearthing, p2
[30] For example see Joanne Mc Carthy, 'An internal government agency report raises serious concerns about the health of Lake Macquarie', Lakes Mail, 12 March 2019, (https://www.newcastleherald.com.au/story/5946391/dont-eat-the-mud-crabs-report-warns-of-lake-macquarie-pollution/).
[31] EJA, Unearthing, p18

During summer 2016, residents in Wangi Wangi, Lake Macquarie, complained to the NSW Environment Protection Authority about ash blowing over and into their homes. The approximately 200 hectare ash dump from the Eraring Power Station dried out and ash blew over their community. Origin Energy received a $15,000 fine for the incident which continued for several days, but this penalty did nothing to prevent such an issue from re-occurring or to mitigate long-term risks.[32]

Experience of residents are being increasingly reported on social media as well as in local TV news and newspapers. For example, there were several reports of major dust pollution on 12 November 2019. The NBN 6pm News of 13 November helped draw attention to the concerns of residents and showed footage of the plums of contaminated dust being blown across neighbourhoods far and wide as well as blowing significant amounts of the dust across Lake Macquarie - dropping sediments on the way.

On 21 November the Newcastle Herald reported on the concern of residents anxious about the thousands of tonnes of coal ash blowing in a northerly direction from the Eraring ash dam. It was reported that 'Residents who complained to Origin Energy were told the company had to divert resources away from dust mitigation to managing an imminent bushfire threat." [33]

Whilst an Environment Protection Authority spokesperson advised that the incident was being investigated it is by no means the first incident around Lake Macquarie this year.

The situation raises several issues for local residents. Among them are questions surrounding the decision of the NSW Department of Planning to approve the expansion of the 35 million tonne coal ash dam by 5 million cubic metres in 2019, despite existing reports which indicated environmental and community health concerns. In addition, the decision seemed irresponsible given the existing dangers from sink holes, possibly as a result of the abandoned Awaba Colliery within the area.[34]

[32] EJA submission to Senate Standing Committee on Environment and Communications inquiry into rehabilitation of mining and resources projects as it relates to Commonwealth responsibilities; varied terms of reference regarding the rehabilitation of power station ash dams, April 2018.
[33] Matthew Kelly, 'Spotlight on Eraring ash pollution', Newcastle Herald, 21 November 2019, p8.
[34] Kelly, Spotlight, p8.

Myuna Bay

As mentioned previously, a water outlet from the Eraring Power Station enables refuse water to be emptied into Myuna Bay. The Myuna Bay area has a number of buildings and facilities including a much loved Myuna Bay Sport and Recreation Centre.

The sudden announcement of the closure of the Sport and Recreation Centre in March 2019, was a shock to many. The announcement raised many questions for the community. Media coverage revealed that the closure was due to safety risks from the nearby ash dam. [35]

In December 2019 there were additional announcements and revelations. For instance, information filtered through about an independent expert report which found the risk to life was 'intolerable' and considered 'unacceptable' if the coal ash dam wall collapsed in the event of seismic activity and that this understanding apparently prompted the closure of the Sport and Recreation Centre.[36]

Whilst some community members considered such an event to be fairly remote, the announcement was in some ways quite revealing. The announcement did show that the location of the coal ash dam could indeed pose unacceptable risks to the health and safety of many people.[37] Under such circumstances if may be prudent to take action to mitigate against disasters arising from such possible events. However, this information raised more questions, particularly as it was evident that the trajectory of the toxic coal ash sludge would be heading toward the waters of Lake Macquarie and there would also be other people and other buildings and infrastructure impacted by the surge of the sludge. It was also curious that the proposed solution was to close the Sport and Recreation Centre rather than deciding to seek out and implement best practice standards in the management of the coal ash dam – leading to its removal from the site and adequately storing it away from Lake Macquarie.

Perhaps as an attempt to appease community concerns about the closure of the Sport and Recreation Centre, the operators of Eraring announced a willingness to fund the building of a new Sport and Recreation Centre in a different location. This announcement appeared on the NSW Government's Sport website:

> *A new sport and recreation centre will be built in Lake Macquarie after an independent review found the existing Myuna Bay centre was not safe to re-open.*[38]

Whilst this announcement may have been met with some delight by some sections of the community it is clear that there will continue to be a significant delay before such a new facility is available to the public. In addition, concerns still remain about the use of other buildings, facilities and roadways which will still be in the pathway of the toxic sludge.

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[35] Giselle Wakatama and Liz Farquar, 'Politicians, parents and sporting groups see red after sudden closure of Lake Macquarie sport and recreation camp, ABC 1 April 2019 (https://www.abc.net.au/news/2019-04-01/anger-over-myuna-bay-sport-rec-centre-closure/10958254)

[36] Editorial: Myuna Bay Sport and Recreation Centre Decision, 13/12/19 (https://www.newcastleherald.com.au/story/6540164/shenanigans-at-myuna-bay-sound-like-an-episode-of-yes-minister/)

[37] Office of Sport, News, December 2019, (https://sport.nsw.gov.au/news/191212-new-sport-and-rec-centre-myuna-bay)

[38] Office of Sport, News, December 2019, (https://sport.nsw.gov.au/news/191212-new-sport-and-rec-centre-myuna-bay)

It is clear that issues relating to the impact on humans, buildings and infrastructure remain only partially addressed. It is also evident that risks still remain in relation to potential catastrophic contamination of Lake Macquarie – and the consequent impact on marine life and the families who consume fish, prawns and crabs caught in the Lake.

Considering these issues it is not surprising that community frustration and bewilderment continues with regard to the inadequacy of the management of the coal ash dam. It is understandable that attempts to shift the focus, onto a promised new bright Sport and Recreation Centre sometime in the future, will not totally appease concerns or stop community members from bringing the focus back to the problem of the coal ash dam.

Nevertheless, and to the absolute astonishment of local communities, in December 2019, the Independent Planning Commission announced that it had given approval to the expansion of Eraring Power Station facilities, including an extension of the ash dam by 5 million cubic metres.[39]

Perhaps it is not surprising that, in opposing the extension of the coal ash dam, the HCEC expressed concern about the failure of the EIS (Environmental Impact Statement) to 'set out the elements of toxicity of the coal ash' and noted potential 'risks of catastrophic failure'. At point 3 of their submission, the HCEC stated the following:

> *The EIS does not set out the elements or toxicity of the coal ash.*
> *Limited mention of heavy metal concentrations in ash are made in the EIS, however in the event of ash dam failure, severe contamination of Lake Macquarie with heavy metal laden coal-ash may occur, devastating local ecological populations including native birds and fish, and jeopardising the ability for recreational interaction with the Lake.*[40]

[39] NBN 6 pm News, Eraring Power St Ash Dam 24/12/19.
[40] https://www.ipcn.nsw.gov.au/resources/pac/media/files/pac/projects/2019/10/eraring-power-station-ash-dam-expansion-mod-1/public-comments/hcec-combined.pdf

Regulation

The NSW EPA coal ash compliance report states:

> *The EPA has regulatory responsibilities under the Protection of the Environment Operations Act 1997 (POEO Act) for surface water pollution, groundwater pollution and air pollution from dams in NSW*[41]

Further, the EPA contends that it has strong regulatory processes to protect the environment and human health. The Authority puts forward the view that components of this process include: strict licence conditions, load based licensing, five yearly licence reviews, pollution reduction programs, environmental auditing programs and, enforcement action where considered appropriate.[42]

Nevertheless, as already noted, residents around Lake Macquarie have witnessed (and sometimes photographed) large quantities of dry ash being blown from the ash dams onto communities from time to time and seek more stringent monitoring and enforcement to protect communities and the health of the environment.[43]

We also note with some concern that the EPA NSW Environmental Compliance Report on coal ash dams and emplacements does not include the impacts on groundwater within the scope of the audits. [44]

Timing of water quality tests can also be an issue as overflow into ground water and the lake could be more pronounced during periods of heavy rain.

We understand that power station operators are responsible for managing the environmental risks associated with the licenced activities and ensuring compliance with the licence requirements. However our contention is that these licences and the monitoring of compliance are not sufficient in protecting the community and environment.[45]

It is also to be noted that between 2016-17 licensees across the state failed to comply with audit requirement relation to coal ash dams and emplacements 20% of the time. [46] So, despite assurances received from the EPA, community members are not confident that the measures in place are at all adequate as groundwater contamination, surface water contamination, pipeline spills, and community exposure to toxic dust emissions continue.[47]

[41] NSW EPA, Environmental Compliance Report: Coal ash dams and emplacements, 2017, p1 & 2.
[42] Correspondence from NSW EPA to L Fraser, December 2019.
[43] EJA, Unearthing, p18.
[44] NSW EPA, Compliance Report, 2017 P3
[45] See EJA, Unearthing, p 13.
[46] NSW EPA, Compliance Report, p6
[47] See EJA, Unearthing, p 2

Rehabilitation

The Alliance is of the view that the general principles for safe closure, as outlined in the Environmental Justice Australia document be considered and implemented as a safe closure guide which endeavours to improve transparency and engage affected communities in the rehabilitation and closure process.

Informing and engaging the community should be an important part of the process. Currently the Alliance is aware that ash dams such as those at Eraring and Vales Point Power Stations are progressively being covered with soils and revegetated as a cheap form of rehabilitation. However this method fails to address community concerns that these ash dam waste dumps are not treated as hazardous waste and, as they are unlined, leakage of contaminates downward from the coal ash can continue to leach into the groundwater, contaminate soil and make its way to the lake. This approach is being taken instead of removing the coal ash from the site and adequately storing it as a hazardous waste until suitable reuse measures can reduce the stockpile. Instead we seem to have an approach more akin to 'sweeping the problem under a carpet.' This approach can continue to pose a risk to human and environmental health decades after the ash dams have ceased being used.[48]

Further, the potential for increased reuse of coal ash in cement and other products should be investigated as an opportunity for resource reclamation and to reduce the amount of coal ash in storage. Research into the reuse of coal ash products must include a thorough understanding of the life cycle of resulting products to avoid future release of pollutants into the environment.

Ongoing costs

Coal ash makes up approximately one-fifth of Australia's total waste stream. It is one of Australia's key waste problems. At the present time, the ongoing problem of coal ash waste accumulation continues to threaten the health of the environment as well as communities. Governments should resist the temptation to use quick, cheap methods of dealing with the problem without addressing ongoing threats and potential long term costs.

Clean up costs and the cost of the impact of contaminants should not be predominantly born by local communities and tax payers. Operators must be required to maintain a bond or financial assurance for toxic coal ash dumps.

At this point it is useful to note the Vales Point arrangement made with Sunset Power in 2015 - commonly referred to as a 'dud deal' which sold off the income stream generated by the power station while leaving tax payers to pay for rehabilitation costs which could potentially run into billions of dollars.[49]

The Alliance understands that the rights to operate the Vales Point Power Station were negotiated for a mere $1 million. This was an effective write down of $370 million dollars. The

[48] EJA, Unearthing, p 13

[49] Michael Mazengarb, NSW exposed to 'unquantifiable liabilities' for Vales Point decommissioning, documents show, RenewEconomy, 12 July 2019, (https://reneweconomy.com.au/nsw-exposed-to-unquantifiable-liabilities-for-vales-point-decommissioning-documents-show-84435/)

operators (Sunset Power) were soon able to make huge profits from the deal and the value of the plant continued to rise to $720 million.[50]

A separate contract limit was placed on the financial liability that could be imposed on Sunset Power if it fails to adequately undertake the decommissioning works. Based on documents released by the NSW government, a maximum of only $10 million is recoverable from the new owners of the power station despite the likely costs running into hundreds of millions of dollars or even billions of dollars.[51]

This limitation on the amount of finance that the NSW Government can recoup, effectively further binds taxpayers into paying astronomical amounts to clean up a site where private operators had already made huge profits at the community's expense.

The $10 million guarantee is not sufficient to cover the decommissioning and rehabilitation costs. The Hazelwood power station, for example, exceeded $300 million.[52]

So whilst the power station was bought for a song, as part of this outrageous deal, the government (tax payers) would still be left with substantial liabilities relating to the clean-up of the site. The deal also left the government with responsibility for organising the clean-up of the site once the power station is closed.

Whilst the Alliance does not have a clear estimate of the cost of clean-up operations for the coal ash dam or the cost of rehabilitating the site, we want to make it very clear that it does not support the current practice (increasingly evident in privatisation arrangements) whereby benefits are gained by private companies but the risks and liabilities are passed on to communities. It seems that in relation to the Vales Point Power Station and the Eraring Power Station, communities and taxpayers increasingly bear the financial and health risks while operators reap the profits.

[50] Mazengarb
[51] Mazengarb
[52] Mazengarb

Recommendations

The Alliance is in broad agreement with the recommendations presented in the HCEC and EJA reports. However, we also recommend that the NSW government develop:

- Best practice guidelines which should be followed in order to facilitate improvements in coal ash dam management, rehabilitation, closure and post closure management.
- Coal ash dam specific regulations under the Protection of the Environment Operations Act, which include, as a minimum:
    - Public access to all groundwater monitoring data (current and historical) via a website similar in function to the website for air pollution monitoring website maintained by the NSW EPA. Data should be interpreted through reference to current best practice international standards.
    - Coal ash operators should be required to prepare comprehensive rehabilitation and closure plans.
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