

27 September 2018

**Environmental Justice Australia – Submission on Major Projects Assessment Application  
#07\_0084: Eraring Power Station Ash Dam Expansion MOD 1**

Environmental Justice Australia (EJA) is a not-for-profit legal centre specialising in public interest environmental law. We advocate nationally for better management and rehabilitation of coal ash dams, including for the establishment of national regulation of ash dams and the development of national best-practise ash dam management and rehabilitation guidelines.

EJA objects to Eraring Power station (EPS) application to expand its ash dam (the application) as currently proposed.

Coal ash is a highly toxic substance

The characteristics of the source coal affect both the toxicity of the coal ash and its volume. Both the major and minor mineral constituents of coal contain metals and other potentially toxic elements that are concentrated when the coal is burned, constituents that include arsenic, lead, mercury, cadmium, chromium and selenium.

Globally, coal ash is recognised and managed as a toxic health hazard. The US EPA has found that living next to a coal ash waste site can increase the risk of cancers; and the US-based Physicians for Social Responsibility describe coal-ash exposure as a 'grave' risk to health as it can contribute to a range of adverse health impacts including lead poisoning, heart damage, lung disease, respiratory problems, birth defects, developmental issues in children, kidney disease, cognitive deficits and behavioural problems.<sup>1</sup>

The EPS ash dam is not adequately lined

The ash dam is constructed on top of the former Wangi power station ash dam, with bunding and internal cells constructed with ash.<sup>2</sup> It appears that at least since 2008 the company's approach was to allow 'cementitious dense phase application' of ashing waste to operate as a liner,<sup>3</sup> rather than constructing an additional liner to act as a barrier between the ash emplacement and the dam floor.

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<sup>1</sup> Gottlieb, B., Gilbert, S., Evans, L., *Coal Ash: The toxic threat to our health and environment*, Commissioned by Physicians for Social Responsibility and EarthJustice, 2010. Available at: <http://www.psr.org/assets/pdfs/coal-ash.pdf>.

<sup>2</sup> AECOM Services Pty Ltd, Ash Dam Augmentation Project Environmental Assessment, Prepared for Origin Energy Resources Limited, 15 August 2018, p. 13.

<sup>3</sup> AECOM Services Pty Ltd, Ash Dam Augmentation Project Environmental Assessment, Prepared for Origin Energy Resources Limited, 15 August 2018, pp. ES5, 7-11 – 7-13.

All the publicly available environmental assessments (EA) for the EPS ash dam, including the current application, anticipate groundwater contamination.

The dam has not been constructed to prevent pollution. Nor does it appear that EPS, or any environmental regulator, including the Dams Safety Committee, proposes to rectify the lack of appropriate lining for such a toxic facility.

This is a demonstrably inadequate approach which fails to safeguard land and groundwater contamination, and fails to protect community health. This application should not be approved without a requirement that EPS is required to appropriately line the ash dam with materials that do not include ash waste.

Recent events in North Carolina, USA, should serve as a warning to the Lake Macquarie community, environmental regulators, and EPS.

Floodwaters caused by Hurricane Florence inundated the 47-year old Duke Energy LV Sutton coal ash dam sending thousands of litres of ash waste into a manmade lake and into the Cape Fear River.<sup>4</sup> Another of Duke Energy's coal ash dams at their HF Lee power station, spilled coal ash into the nearby Neuse River.<sup>5</sup>

These events serve as examples of what can go disastrously wrong when ash dams are inappropriately sited too close to the coast or waterways and when coal ash escapes the storage facilities.

In this era of climate change it is likely that there will be an increase in frequency and severity of storm events along the NSW Central Coast. Facilities storing toxic substances such as the EPA ash dam must be adequately constructed and managed to mitigate the likelihood of pollution events occurring as storm severities increase.

#### There is no rehabilitation and closure plan

Given the size and nature of the coal ash dam, the 2018 EA does not provide adequate detail of how EPS plans to rehabilitate and close the ash dam.

Closure and rehabilitation planning is limited to an 'anticipation that the site will be rehabilitated to a point that will allow further uses, for example industrial and/or community

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<sup>4</sup> <https://www.cnbc.com/2018/09/21/duke-energy-says-dam-breached-at-north-carolina-plant-and-coal-ash-may-be-flowing-into-cape-fear-river.html>.

<sup>5</sup> <https://earthjustice.org/features/what-you-should-know-hurricane-florence-and-hazardous-sites>.

uses', and that Origin 'will rehabilitate the final footprint of the CCP management facility in a manner generally consistent with the surrounding landform'. <sup>6</sup>

The inadequate construction of the EPS ash dam creates significant challenges for pollution control following the decommissioning and rehabilitation of the power station site. Expanding the ash dam compounds these already foreseeable and significant rehabilitation challenges. The EPS ash dam is already contaminated land. Without thorough rehabilitation it is likely to continue to be a legacy contaminated land site which has serious risk implications for groundwater, surface water contamination, future land use planning and ultimately human health.

#### There is no financial assurance for the EPS ash dam

The *Protection of the Environment Operations Act 1997* empowers the NSW EPA to impose a financial assurance on an environment protection licence (EPL) to ensure adequate funds are available for carrying out works or programs that are required under a licence, such as a rehabilitation plan.

Despite the size and toxicity of the ash dam at EPS, there is no condition in the EPL that a financial assurance be maintained for the site. Given the legacy issues and the complexities likely to arise during the decommissioning and rehabilitation process, Origin should be required to provide FA in order to protect the NSW tax payer from assuming the costs associated with rehabilitation and management and to provide certainty with respect to the site's rehabilitation.

#### The decision is being made in the absence of best practise management and rehabilitation guidelines for ash dams

Assessment of this application is being made in the absence of agreed best practise management or remediation of coal ash dumps, and in the absence of a remediation plan for the site itself.

Australia-wide, ash dam rehabilitation and closure plans – where these exist pre-decommissioning – are inadequate to ensure the community that lives in closest proximity to these facilities that the environment and human health will be adequately protected, let alone provide any certainty that the sites will be remediated to allow a full suite of future land-use planning.

The lack of transparency around how the EPS ash dam site is managed, and the absence of contemporaneous rehabilitation planning for the ash dam is inadequate to safeguard against

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<sup>6</sup> AECOM Services Pty Ltd, Ash Dam Augmentation Project Environmental Assessment, Prepared for Origin Energy Resources Limited, 15 August 2018, p. 19.

long-term land and groundwater contamination. There is insufficient publically available knowledge about the risks the Lake Macquarie community is exposed to by inadequate management, and inadequate remediation.

In the absence of a national approach to best-practice management and remediation of coal ash dams, Origin should be required to prepare a rehabilitation plan in collaboration with key stakeholders including the Lake Macquarie community.

#### Recommendations

1. That the consent authority reject the current proposal.
2. That the consent authority applies a condition of approval that the EPS ash dam be lined with non-permeable materials not including dense ash waste.
3. That the consent authority applies a condition that the ash site be relocated and lined adequately to mitigate the likelihood of groundwater and land contamination.
4. That the consent authority require Origin to prepare, in consultation with key stakeholders including the Port Macquarie community, a detailed rehabilitation plan for the ash dam that is adequate enough to allow full land use planning under the *Port Macquarie-Hastings Local Environment Plan 2011*.
5. That Origin is required to maintain a bond or financial assurance for the site to protect the community against assuming the cost of contamination and rehabilitation risks associated with the EPS ash dam.

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