



Submission

in response to

Bayswater power station upgrade SSD-9897

prepared by

Environmental Justice Australia

30 July 2020

## **About Environmental Justice Australia**

Environmental Justice Australia (formerly the Environment Defenders Office, Victoria) is a not-for-profit public interest legal practice. We are independent of government and corporate funding. Our legal team combines technical expertise and a practical understanding of the legal system to protect our environment.

We act as advisers and legal representatives to community-based environment groups, regional and state environmental organisations, and larger environmental NGOs, representing them in court when needed. We also provide strategic and legal support to their campaigns to address climate change, protect nature and defend the rights of communities to a healthy environment.

We also pursue new and innovative solutions to fill the gaps and fix the failures in our legal system to clear a path for a more just and sustainable world.

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Submitted to: Department of Planning, Industry and Environment, Major Projects

30 July 2020

Environmental Justice Australia welcomes the opportunity to provide a submission to the Bayswater power station upgrade SSD-9897 environmental impact statement (Bayswater EIS) prepared by Jacobs Group (Australia) Pty Ltd on behalf of AGL Macquarie Pty Ltd (**AGL**).

We enclose with our submission:

- an analysis of the Bayswater upgrade environmental impact statement (EIS) undertaken by Gordon Johnson, M. Sc., P. Eng;
- Mr Johnson's CV;
- Environmental Justice Australia, *Unearthing Australia's Toxic Coal Ash Legacy: how the regulation of toxic coal ash waste is failing Australian communities* (2019);
- Environmental Justice Australia submission in response to New South Wales Public Works Committee Inquiry into the costs for remediation of sites containing coal ash repositories (21 February 2020).

Our submission is primarily informed by Mr Johnson's expert analysis, which we adopt.

We urge the Department to require the approval process be postponed until after the Public Works Committee has released its final report into the Costs for remediation of sites containing coal ash repositories (**the Inquiry**).<sup>1</sup> This Inquiry is fundamental to uncovering the many issues associated with coal ash dumps, including the failure to effectively manage these sites to prevent contamination to the environment and the implications this failure to prevent environmental harm has on rehabilitating and closing these toxic sites.<sup>2</sup>

Moreover, the Terms of Reference for the Inquiry include an inquiry into the economic and employment opportunities associated with, among other things, coal ash reuse. The proponent intends to upgrade its coal ash recycling activities to 1 million tonnes per annum coal ash but fails to include any detail as to how it will either expand the current coal ash reuse market or create new markets as it is required to do in the SEAR. It is fundamental that the Inquiry's recommendations on the opportunities associated with coal ash reuse are delivered, and the NSW government has had the opportunity to respond to those recommendations, to provide the consent authority of this project with an opportunity to consider AGL's intentions regarding coal ash reuse for Bayswater.

Our assessment, bolstered by Mr Johnson's expert analysis, is that the EIS does not satisfy the requirement for EIS under the *Environmental Planning and Assessment Act 1979* (NSW) (**the Act**), including the obligations expressed in the *Environmental Planning and Assessment Regulation 2000* (NSW) (**the Regulations**), and the issues required to be addressed in the Secretary Environmental Assessment Requirements (**SEAR**) issued to the proponent on 30 November 2018.

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<sup>1</sup> See: <https://www.parliament.nsw.gov.au/committees/inquiries/Pages/inquiry-details.aspx?pk=2556>.

<sup>2</sup> See: Environmental Justice Australia submission in response to New South Wales Public Works Committee Inquiry into the costs for remediation of sites containing coal ash repositories (21 February 2020).

As it currently stands, the EIS is not fit for purpose for the consent authority to make a fully informed decision. Moreover there is a paucity of background information necessary for the public and the decision-maker to thoroughly understand the risks associated with the project how those risks will be mitigated to best practise standards.

Recommendations:

1. AGL be required to withdraw the EIS.
2. AGL be required to address the gaps in the EIS to ensure it legally complies with requirements for an EIS including addressing the general and specific issues expressed in the SEAR.
3. The Department of Planning, Industry and Environment extend the public submission process accordingly.
4. The Department of Planning, Industry and Environment otherwise must postpone the decision making process until the final report for the Inquiry is released.
5. The Bayswater coal ash dam must be replaced with an appropriately engineered landfill that complies with best-practise construction and management.

### **The EIS fails to comply with the Act**

Mr. Johnson's analysis states that descriptions of proposal too general in nature and often incomplete, making it difficult to develop a full understanding of the works that will be implemented and their potential environmental impact. Elements of the project are described at a superficial level making it difficult to replicate the EIS assessments or even fully understand project components. The proposed modifications do not describe any technical details regarding increasing disposal capacity in coal ash dam, nor the nature of existing dam construction.

As such, the EIS fails to provide the requisite amount of detail to determine the risks and mitigation proposals of the project overall. This piecemeal approach to development puts the consent authority in the position whereby it cannot understand the project in its overall context.

Moreover, the paucity of information on the impact of continuing to pipe liquefied coal ash into the Ravensworth mine void means that there is no way of knowing what technical analysis were completed to arrive at the conclusion that this is an environmentally appropriate practice. There are considerable risks associated with backfilling mine voids with coal ash.<sup>3</sup>

The EIS fails to describe hydrogeology of the project area in any detail including any detailed information on groundwater flows, recharge areas or discharge areas, or a definition of the aquifers that could be affected by extant industrial operations and coal ash disposal practises. The EIS fails to assess the nature, extent and long term implications associated with continuing coal ash disposal in the impoundment.

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<sup>3</sup> See: Earthjustice, *Waste Deep Filling Mines with Coal Ash is Profit for Industry, But Poison for People* (2020). Available at: [https://earthjustice.org/sites/default/files/library/reports/earthjustice\\_waste\\_deep.pdf](https://earthjustice.org/sites/default/files/library/reports/earthjustice_waste_deep.pdf).

A striking failure of the EIS is the failure to describe, in any detail, how AGL intends to increase market demand for coal ash, or create a new coal ash market in circumstances where there is a current estimated surplus of 1 million tonnes per annum from existing sources. This is alarming given the extremely ambitious intention to reuse 1 million tonnes of coal ash per annum. Rather, the EIS makes it clear that coal ash reuse is a market problem that the market will, presumably, resolve. If AGL intends to reuse this amount of coal ash each year it must provide robust, costed plans of how it will contribute to the viable and sustainable expansion of the coal ash reuse market, and or, actively create new viable and sustainable opportunities for coal ash reuse.

Of note is the industry approach to “beneficial” reuses for coal ash. The most recent Australian coal ash industry survey showed that a total of 5.9 million tonnes was used “beneficially”.<sup>4</sup> Of that total 3.5 million tonnes or 59% of the total was used for mining application, including mine backfill.<sup>5</sup> Placement of coal ash in mine voids is extremely problematic and likely to create more problems than it solves.<sup>6</sup> The environmental risks associated with backfilling mine voids with coal ash cannot be said to be a “beneficial” use.

Whilst the proposal to build landfill for salt cakes is an improvement to the extant system, Mr. Johnson identified alarming shortcomings in the proposal, including:

- Crystallised salt proposes a contamination risk to water in perpetuity if not managed appropriately.
- The current landfill proposal in the EIS does not appear to comply with EPA solid landfill guidelines in a number of ways:
  - no detail on engineered features of the landfill,
  - no details on waste reprocessing, and
  - no comprehensive assessment on disposal alternatives other than those that support the status quo.
- There is no statement in the EIS to indicate whether AGLs intention is to install a composite (geomembrane and clay) liner, and whether a specific leachate system will be designed and constructed.
- The EIS does not address the EPA’s requirement that pollutants with potential to degrade the quality of groundwater must not migrate through the strata to any point beyond the boundary. The groundwater modelling results in Appendix D appear to show salt impacts to groundwater quality will extend more than 150m from landfill footprint.
- Clay liners and caps will be destroyed by crystalized salt. The EIS references to ‘natural clay liners’ appears to indicate technical understanding of geochemical processes at play.

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<sup>4</sup> Ash Development Association of Australia, Annual Production and Utilisation Report, January – December 2018, p. 5. Available at: <https://www.adaa.asn.au/resource-utilisation/ccp-utilisation>.

<sup>5</sup> Ash Development Association of Australia, Annual Production and Utilisation Report, January – December 2018, p. 5. Available at: <https://www.adaa.asn.au/resource-utilisation/ccp-utilisation>.

<sup>6</sup> See: Earthjustice, *Waste Deep Filling Mines with Coal Ash is Profit for Industry, But Poison for People* (2020). Available at: [https://earthjustice.org/sites/default/files/library/reports/earthjustice\\_waste\\_deep.pdf](https://earthjustice.org/sites/default/files/library/reports/earthjustice_waste_deep.pdf).

Mr Johnson's conclusion with respect to the salt cake landfill is that it ought to be designed as a hazardous waste landfill in order to most appropriately mitigate the risks associated with landfilling crystalized salt.

Overall, the EIS fails to adhere to the obligations imposed by the application regime in at least the following ways:

- Under Cl. 7(1)(c) of the Regulations with respect to feasible alternatives, including those identified by Mr Johnson, and failure to consider replacing coal ash dam with a suitably engineered dry ash emplacement in accordance with best practice;
- Under Cl. 7(1)(d)(ii) of the Regulation with respect to hydrogeology;
- Under Cl. 7(4) of the Regulation with respect to no apparent regard being had to principles of ecological sustainable development;
- Failure to provide a full description of the development as required by the SEAR;
- Incomplete assessment of the likely impacts of the development on the environment, including a description of the existing environment likely to be affected, the cumulative impacts of the site and existing or proposed developments (including to groundwater, surface water, and including Ravensworth mine fill) as required by the SEAR;
- How the principles of ESD have been integrated into the design, construction and ongoing operations of the development as required by the SEAR;
- Failure to provide details of landfill cell design in accordance with best practise industry guidelines including EPA's Environmental Guidelines: Solid Waste Management as required by the SEAR;
- Failure to provide actions and investments to be taken to expand coal ash reuse markets or create new markets as required by the SEAR.

This submission focusses on the engineering, hydrogeological and geological assessment of the EIS. However the lack of information included with respect to these aspects of the EIS and the failure of the EIS to comply with the obligations imposed by the Act with respect to what it must contain and address undermines the integrity of the EIS are.

Moreover, issues associated with the engineering of the proposal have flow-on effects for other environmental protection matters including the protection of threatened species and ecological communities under both NSW and federal laws.

#### Recommendations:

1. AGL be required to withdraw the EIS;
2. AGL be required to address the gaps in the EIS to ensure it legally complies with requirements for an EIS including addressing the general and specific issues expressed in the SEAR;
3. The Department of Planning, Industry and Environment extend the public submission process accordingly;
4. The Department of Planning, Industry and Environment otherwise must postpone the decision making process until the final report for the Inquiry is released.

## **The ash dam must be replaced with an engineered landfill**

Mr. Johnson confirms our view that as a repository for liquefied coal ash the Bayswater coal ash dam is generally unsuitable for coal ash disposal in several ways including, but not limited to:

- its potential to contaminate surface and groundwater;
- the susceptibility of failure for these types of coal ash dams;
- the rate at which the ash dam is generating leachate; and
- the un-engineered nature of the coal ash dam and failure of the ash dam to prevent contaminants seeping into the environment.

It is well established that liquefied coal ash dams poses the greatest risk to the environment and surrounding communities.<sup>7</sup> Best practise containment of coal ash dams includes dry ash emplacement in a purpose-built engineered landfill isolated from aquifers, with a comprehensive leachate collection system and leak detection.<sup>8</sup>

Mr. Johnson's analysis of the EIS raises enough issues associated with the current operation of the coal ash dam to warrant that the coal ash generated at the site be transferred to an appropriately engineered site that adheres to best practise design and implements best-practise management.

### Recommendation:

5. The Bayswater coal ash dam must be replaced with an appropriately engineered landfill that complies with best-practise construction and management.

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<sup>7</sup> Environmental Justice Australia, *Unearthing Australia's Toxic Coal Ash Legacy: how the regulation of toxic coal ash waste is failing Australian communities* (2019) p. 21. Available at: [https://www.envirojustice.org.au/wp-content/uploads/2019/07/EJA\\_CoalAshReport-lr.pdf](https://www.envirojustice.org.au/wp-content/uploads/2019/07/EJA_CoalAshReport-lr.pdf).

<sup>8</sup> Environmental Justice Australia, *Unearthing Australia's Toxic Coal Ash Legacy: how the regulation of toxic coal ash waste is failing Australian communities* (2019) pp. 41-45. Available at: [https://www.envirojustice.org.au/wp-content/uploads/2019/07/EJA\\_CoalAshReport-lr.pdf](https://www.envirojustice.org.au/wp-content/uploads/2019/07/EJA_CoalAshReport-lr.pdf).