

## **Briefing: Coal ash and heavy metal contamination in Lake Macquarie**

### **Background**

1. Heavy metal discharge from power station ash dams into the Lake Macquarie is not being regulated effectively. No concentrations limits are set for Vales Point and only for one of the two discharge points into the Lake from Eraring.
2. Ash dam rehabilitation is poor and consists of capping the ash with fill, allowing groundwater contamination to continue from the moisture in the ash leaching through the dam into groundwater and surrounding waterways.
3. To facilitate coal ash reuse in the construction industry coal ash is exempt from pollution and waste regulations. But the reuse is poor (~20%) and instead exemptions allow this hazardous waste to be shipped around the country with no-one knowing where it is or what it's being used for. Many of the current uses such as mine void fill and agricultural soil amendments are high risk.

### **Recommendations**

1. The EPA amend *EPL 1429* (Origin Energy) and *EPL 761* (Delta Electricity) so that additional monthly monitoring for aluminium, arsenic (iii, and v), cadmium, chromium (iii, and vi), copper, iron, lead, manganese, nickel, selenium, vanadium, and zinc is undertaken at all Licence Monitoring Points; and concentration limits set according to ANZECC (2000) trigger values for these heavy metals in any discharge from the ash dams into Lake Macquarie. This would include the cooling water outflows and the emergency ash dam overflows.
2. The EPA launch a full investigation into coal ash disposal and reuse, including the identification and publication of the concentrations of heavy metals in NSW coal ash to determine the environmental risks and whether all its current applications are appropriate for a hazardous waste.
3. The EPA revoke the *Coal Ash Exemption 2014* and ensure NSW power station operators obtain a 'Waste storage - hazardous, restricted solid, liquid, waste licence for ash dams and a 'Hazardous waste recovery licence for its beneficial reuse.
4. To reduce the amount of coal ash dumped in ash dams in NSW and encourage its safe reuse, the NSW Government list coal ash as an assessable pollutant in Schedule 1 of the *Protection of the Environment Operations (General) Regulation 2009*, and the EPA impose a load-based licence fee of at least \$20 a tonne on all coal ash disposed of in ash dams, landfills, and mine voids; and review load-based license calculations and amend them to reflect the pollutants discharged and additional water pollutants including arsenic, cadmium, chromium, copper, lead, and zinc be added to Water Pollutants in Schedule 1 of the *Protection on of the Environment Operations (General) Regulation 2009* under the heading "generation of electrical power from coal"
5. The NSW Government launch an investigation into possible safe commercial uses of coal ash and look to incentivise new on-site industries around safe coal ash reuse as a means of ridding the heavy metal burden of coal ash landfills, rehabilitating coal ash dams and providing affected workers with alternative employment when the State's coal-fired power stations are decommissioned.