Submission No 42

INQUIRY INTO COSTS FOR REMEDIATION OF SITES CONTAINING COAL ASH REPOSITORIES

Organisation: Ramboll Australia

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RAMBOLL

ENVIRONMENT
& HEALTH

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

Beneficial reuse of CCRs: A sustainable option

Date 15/02/2020

I am an Environmental Scientist currently working as a Lead Consultant for Ramboll, a global engineering company working in the environment and health sectors. I have over 25 years' experience working in environmental chemistry, within research, remediation contracting and environmental consulting for the contaminated land and groundwater industry.

Ramboll believes that action needs to be taken immediately to address the contamination issues resulting from heavy metals leaching from coal ash dams in the region to prevent further degradation of the surrounding environments. This issue is particularly important in NSW regions of the Hunter and Central Coast where Ramboll operates.

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Ramboll believe that in addressing these contamination issues, the Government needs to investigate sustainable approaches to the remediation to minimise social, economic and environmental impacts. One aspect that should be investigated is options for beneficial reuse of the coal combustion residuals (CCRs). In the US, more than 60% of currently produced CCRs are being beneficially used in different applications including the construction of dams, bridges and highways; building products; manufacturing; mining and agricultural uses. CCRs in landfills and repositories pose significant potential long-term liabilities for the utility industries. They also pose major concerns for long-term impacts to groundwater and surface water. Enormous amounts of CCR materials in landfills and repositories represent untapped resources for beneficial reuse in various concrete applications.

Production of portland cement is a very expensive and energy consuming technology, that contributes up to 10% of total global carbon dioxide emissions. Our Ramboll colleagues in the US have experience with the design of highly durable and sulphate resistant alternative binder systems (blended cements) using up to 70% replacement of portland cement with off-spec CCRs for large scale applications in transportation, construction and environmental restoration. Ramboll in Australia has experience with cement stabilisation for remediation of contaminated soils and sediments, and believe alternative blended cements have application in this area.

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Ramboll believes this option could provide a win-win solution to the remediation of sites containing coal ash repositories, providing a more sustainable remediation option with beneficial reuse of CCRs. We can provide advice and analysis of technical, social, environmental and economic considerations from the experience of our US researchers and local Hunter, NSW contaminated land and groundwater team.

Please contact the undersigned if there is interest in investigating this option further.

Yours sincerely

Dr Annette Nolan
Lead Consultant