

Flinders Power Facts Ash Storage Area



What is an ash storage area?

An ash storage area was progressively developed on the Augusta Power Stations site from the 1950s to contain bottom ash deposits from the coal-fired electricity generation plant. While fly ash (ash from the top of the boilers) was captured by the electrostatic precipitators and sold to the cement industry, the bottom ash (ash from the bottom of the boilers) was mixed with a slurry of seawater and deposited in the Ash Storage Area. The Augusta Power Station site was used continuously until power generation ceased in May 2016.

The ash storage area spans 273 hectares at the Augusta Power Stations site. The ash itself is a stable, inert aluminosilicate by-product of the coal combustion process. At the southern end it is similar in consistency to fine sand, at the northern end it is more similar to a silty clay.

When the power station was in operation, we used an effective seawater flooding technique to contain ash dust in windy conditions. A slurry of ash and water resulted in a salt crust forming across the ash dam surface and reducing the risk of dust from the area.

However, once the power station ceased to operate, a new technique for containing the ash in the storage area was required.

Interim dust control

In consultation with the Environment Protection Authority (EPA) in late 2016, we commenced the application of dust suppressant on the ash storage area as an alternative to the flooding technique.

This suppressant had been effective as an interim dust control measure prior to the commencement of permanent rehabilitation activities.

However, unforeseen extreme weather conditions in December 2017 impacted the seal. This resulted in the need to undertake aerial re-application of suppressant over the ash storage area. The dust suppressant is a green colour, making it easy to identify the area covered.

Rehabilitation

Since January 2017, top soil has been excavated from an on-site 'borrow pit' and transported to the ash storage area via access roads to spread across and cover the ash storage area.

Wide connector paths, or 'fingers' – provide us with a solid base to access the area and push the topsoil across the site. Specialized low ground-pressure earthmoving equipment has been utilised for the project, including a Pistenbully (a converted snow-plough machine). On average 2.5 hectares of topsoil is spread across the site per working day. The 'fingers' are also an important part of the stormwater management strategy - by providing a 500mm berm on completion they will retain stormwater within defined cells, which will encourage plant growth.

The image below shows the dust suppressant (green) progressively being covered by the top soil (brown).



Revegetation

The objective of the rehabilitation strategy is to develop a safe, stable, self-sustaining landform. We expect 80% of the ash storage area will be spread with soil by late 2017 – this is almost 450,000 cubic metres. To date, approximately 160ha has been covered, which includes the southern end of the ash storage area which has historically been the location of dust lift-off. Wet conditions at the northern end of the site, which hinder access with heavy machinery, will mean the remaining 43 hectares is likely to require further time to dry over the summer months and may require a different rehabilitation strategy if the area remains inaccessible.



Native vegetation seeding commenced in June 2017 ready to germinate naturally over the winter months. The seed selection incorporates a diverse range of over 40 local native species representative of the surrounding ecosystem. Seeding will occur progressively, and to date 110ha has been seeded.

In line with specialist revegetation advice, seed will be spread over the entire ash storage area. This is a significant revegetation project for South Australia due to the size of the site and the amount of native seed being used to revegetate the site.



Over six tonnes of seed will be used to revegetate this area - resulting in a positive environmental outcome for Port Augusta. The image above shows the intensive process of collecting 6 tonnes of seed by hand.

We closely monitor our activities on site to ensure we are not

causing dust. Taking into account current and predicted wind and weather conditions, we modify or suspend our activities if we consider there is a risk of dust occurring.









Throughout the rehabilitation works we will continue to use a combination of real-time dust monitoring on site (24/7) and visual observations from our staff. If required, further aerial spraying to suppress dust will be undertaken.

Flinders Power has also engaged the services of Succession Ecology to monitor the revegetation success. Transects, quadrats and photo monitoring points have been installed across the Ash Storage Area surface which will enable germination and the progressive development of the ecosystem to be monitored over time. This is in accordance with the Post-Completion Monitoring and Maintenance Plan, which is a formal agreed plan between Flinders Power, the EPA and the Department of Environment, Water and Natural Resources.

More information about dust control can be found in our Air Quality Monitoring fact sheet.

The milestone map below shows anticipated ash storage area project timeframes.

Key timelines - ash storage area

2017										2018					
MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN
 Soil spreading commences <small>Final regulatory approvals obtained</small>			 Commence seeding		 70% project area seeded	 80% project area topsoiled	 Monitor area and maintain dust controls				 Anticipated recommencement of soil spreading (or sooner if possible)		 Seeding recommences		 Practical completion
PHASE 1 COMPLETE															
PORT AUGUSTA ASH DAM REHABILITATION															

Where can I find out more?

You can call us on 0419 252 760 or email us at enquiries@flinderspower.com.au with any questions about the ash storage area. More information and photos of the works being undertaken can be found on our website at flinderspower.com.au/community-information/