# Flinders Power Facts

## NPS Stack Demolition

## History

The 200.5m high reinforced concrete stack was designed and constructed by Tileman Pty Ltd in 1983-4. It is one of the tallest structures in South Australia. The inside of the stack is brick lined with specially selected heat and acid resistant bricks and the outer concrete structure provides a windshield. The brick lining consists of cylindrical structures, which are supported by concrete corbels. Each cylindrical section of 9.2m is referred to as a bracket.

Seals were required to connect the top of each bracket to the bottom of the next bracket.

The windshield has an inside diameter of 15.2m at the base and tapers to 8m at the top.

The stack was designed for a minimum 40-year life, assuming regular maintenance was carried out. The stack was also designed for an operational power station, to have hot combustion gases running through it, which helps keep condensation and corrosion at bay.

## Inspections & Maintenance

Regular inspections and maintenance have been carried out on the stack and several improvements made over time. Throughout the operating life of the stack, internal inspections could not be carried out except during a double unit outage and only then after the stack had cooled and gas paths isolated. The first chance to do this was in 1999 and then again in 2013.

External inspections could be carried out safely with the stack in full operation. Inspections were carried out regularly and most recently in 1999, 2002, 2006, 2010, 2012 and 2013 (together with planned major repair works).

The inspection scheduled for 2016 did not proceed due to the closure of the power station and the planned demolition of the stack.

FlindersPower T: +61 8 8372 8605 | www.flinderspower.com.au | GPO Box 2535, Adelaide SA, 5001

# Flinders Power Facts

## NPS Stack Demolition

FlindersPower

## Investigation to retain stack

Members of the community have enquired into the possibility of the NPS stack being retained as a historical reminder of Port Augusta's proud electricity industry. Flinders Power has the obligation to demolish the stack and has been actively planning for the demolition.

Flinders Power has investigated options to retain the stack as a visual landmark, however, it has been determined that retaining the stack is not feasible based on a number of issues and risks. These include:

- The stack's condition will deteriorate over time, more so in the coming years due to the stack not being in operation.
- Regular inspections and maintenance must be conducted by specialist steeplejacks which is very expensive.
- Due to the stack being non-operational, it is now subject to constantly fluctuating ambient air conditions, which could cause the brick joints to fail and ultimately result in the mortar joints and concrete windshield falling internally.
- As corrosion occurs, spalling of the concrete usually follows, which is a high risk to the safety of personnel in the vicinity.
- Felling now, while the site is largely clear of structures provides a unique opportunity and the optimal timing in terms of safety.

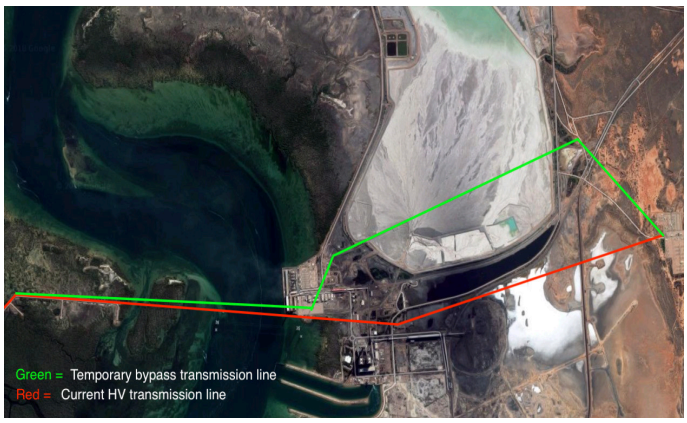
As a result, Flinders Power will proceed with the demolition of the NPS stack as planned.

## Bypass of HV transmission line

Flinders Power is currently working closely with Transmission Network owner, ElectraNet, regarding the construction of a temporary bypass for the high voltage transmission line connecting Davenport Substation to the Eyre Peninsula. This existing transmission line runs approximately 80m north of the NPS stack on Flinders Power's land and the installation of a bypass would ensure that supply would not be interrupted under any demolition scenario.

Pending the design and construction of the bypass, a date for the demolition of the stack will be confirmed and communicated. At present, the demolition is expected to take place in the last quarter of 2018.

Flinders Power will work with the community to commemorate this significant event, which will be the last major demolition activity scheduled for the site.




*Note: above image is an indication only and isn't the exact location of the current or proposed temporary line*

FlindersPower T: +61 8 8372 8605 | www.flinderspower.com.au | GPO Box 2535, Adelaide SA, 5001