

Tarong Energy Ash Disposal to Mine Void

**Location:**

Kingaroy, Queensland

Client:

Tarong Energy Corporation Ltd

Commencement Date:

October 2008

Completion Date:

November 2009

Contract Value:

\$27.6 million

BMD Constructions was engaged on one of Queensland's largest power stations to design, procure, construct and commission the mine's technically advanced Ash Disposal system.

Overview

The Tarong Energy Corporation owns two power stations in the Kingaroy region; the Tarong Power Station which is one of Queensland's largest and Tarong North. Located 180km north-west of Brisbane, the Tarong Power Station alone can supply electricity to the equivalent of eight cities the size of Toowoomba.

Project Scope

BMD Constructions was engaged to design, procure, construct and commission an Ash Disposal System. Now commissioned the system collects, liquefies, pumps, transfers and places ash slurry from the two Tarong power stations to an open cut mine void 5km away. Key deliverables in the ash collection involved:

- 2km of 150 dia. XStrong carbon steel pipe;
- 1ML steel tank, support structure and agitator;
- Converting the ash to a slurry (55% concentration).

Ash transfer comprised two sets of 4 x 185kw slurry pumps in series with half the route on the power station site and half across the mine. Key deliverables involved:

- 4km of 300 dia. HDPE lined steel pipe and 10km poly pipe – to take the pressures and wear;
- Pipes supported every 9m at 500mm above GL with bolted joints every 18m; and
- 10km of 300 dia polypipe up to PN25.

Outcomes

Managed full design responsibility for process, mechanical, civil, structural, electrical and control features.

Controlled environmental management across three separate government owned sites including Tarong Power Station, North Tarong Power Station and the Tarong Open Cut Mine.

Raised thousands of dollars for local charities through active fundraising initiatives.

Achieved whole of life principles with high quality parts; design initiatives; and balance of the mix tank capacity and minimum pumping velocities to reduce system flushing and minimise water use.

Key initiatives for success included prompt design development; identifying and expediting procurement of long lead time items; and focusing on commissioning and operations early.

Ash placement in the mine void met the strict geological and environmental mine requirements.