Case Study

HMA GEOTECHNICAL

UPGRADE TO GEOTECHNICAL MONITORING AT THE HAZELWOOD REHABILITATION PROJECT

BACKGROUND

Located in the Latrobe Valley, Victoria, Australia. Hazelwood Power station was constructed during the mid to late 1960's and supplied Victoria with up to 25% of its power.

The brown coal fuel for the eight 200MW turbines was mined from the adjoining pit.

In 2005 the World Wildlife Fund reported that Hazelwood power station was one of the world's most polluting, emitting 3% of Australia's annual greenhouse gas emissions.

In 2016, Engie, the joint owner, announced the power station and mine would close and in March 2017 it finally closed.

The power station was demolished in November 2020.

The 1,281hectare mine presented another problem.

The plan is to allow the void to fill with water and create a lake to attract wildlife and tourism.

To achieve this without destabilising the pit walls, instruments that had previously been installed had to be re-directed to the upper batters.

The task of manually reading so many instruments led to HMA Geotechnical's contract to automate the monitoring system

Figure 1 – Hazelwood Power Station

OBJECTIVE

- Supply and install RStar radio logging nodes at selected locations:
- Design, supply and install two base stations.
- Program the base stations and create a MODBUS map
- Provide access to Engie rehabilitation engineers via the clients CITEC control system.

Figure 2 – Base station with Campbells CR6

CHALLENGES

- Poor quality cable splices (carried out previously)
- Noise attenuation in cables not having drain wires connected.
- Radio interference at the base stations.
- Access in wet conditions

Email: geotechnical@hmagrp.com

Figure 2 – RStar Node

SOLUTION AND OUTCOME

HMA Technicians installed a total of twenty-one nodes and two base stations, on time and on budget. to provide Engie's rehabilitation engineers with up-to-date data from fifty-two sensors scattered over the 1,281 hectare site.

The current system collects data every six hours which should allow the system to run for up to five years without battery replacement. This drops to two years, if scanning frequency increases to one hour.

Data is contained in-house; no third party can access the data without explicit permission from the client.

HMA GEOTECHNICAL STATEMENT

HMA Geotechnical has been operating in Australia and overseas for nearly 40 years. We have a deep understanding of the needs of our clients and strive for excellence in all that we do.

Our local manufacturing base is key to the quality of goods we supply, and this is backed up by our overseas suppliers, with whom we maintain very close ties.

We supply a customisable product range to suit any location and every budget, and if you need technical assistance to install your system, we can help there too, with a highly qualified and experienced team of technicians.

Speak to our teams in South Africa, Indonesia, New Zealand and here in Australia and see how we can help you to achieve the best outcome in your Geotechnical project.

www.hmagrp.com

Email: geotechnical@hmagrp.com