

Using drilling & blasting expertise to deliver an improved stability solution at Electric Mountain.

Project: Face Stabilisation

Client: First Hydro

Contractor: Jones Brothers' Engineering

Location: North Wales

The project

EPC-UK was contracted to consider the stabilisation of a rock face using drilling and blasting methods at Electric Mountain in North Wales - one of the UK's most dynamic electricity generators - responsible for the management and operation of the pumped storage plants at Dinorwig and Ffestiniog in the Snowdonia region.

We were tasked with stabilising the risk of rockfall from the site's slope, using loose rock removal techniques to create an improved stability solution.

Situational challenges

The rock face was located immediately above sensitive structures, including the main fuel storage facility for the site. It was also within proximity to a dam and administration buildings.

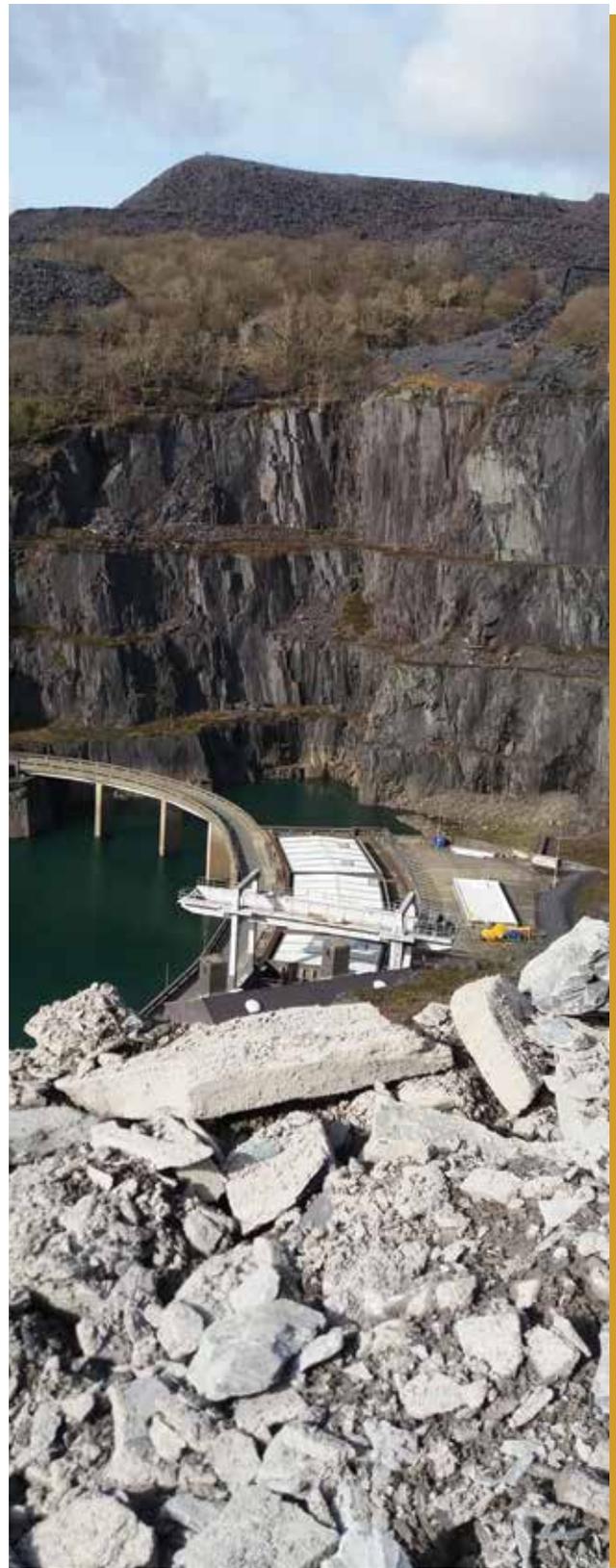
Key Facts

Vibration objectives & constraints:

- Vibration levels were required to comply with British standard (BS 7385) on sensitive structures.

Blasting / environmental performance:

- Due to the proximity of fuel storage tanks, the blasting was designed to control the movement of blasted material so as not to cause damage to the fuel storage tanks and cause a major environmental incident. If any damage were to be caused, it could potentially lead to fuel escaping into two nearby lakes.



Tailored blasting procedure

Together, the EPC-UK Civils and Engineering Departments carried out a study to investigate the best approach and method in performing a safe and secure blasting operation.

We presented First Hydro with a proposal involving rock exploration using the world-class Epiroc D7 drill rig, together with a non-electric detonator system charged with emulsion cartridges. The project was carried out with great success and appreciation was shown from the client on the professional way in which the work was undertaken.



Safety & social responsibility

Electric Mountain is operated by First Hydro Company - part of the ENGIE Group, a global energy player and an expert operator in the three businesses of electricity, natural gas and energy services. The company recognises the implications of its operations and is mindful of its impact on the environment, its people and others. It is certified to ISO9001, ISO14001 and ISO45001 at its Power Stations and Visitor Centre. As such, we ensured our face stabilisation activities were performed in line with the Group's commitment to upholding the highest levels of quality, environmental and health and safety awareness, responsibility and integrity.

Environmental performance

The blast was carried out within the predicted vibration levels and the blasted material was kept within area, as per the design, with no damage to the storage tanks or sensitive structures.



Values that define the way we work



Within all operations, EPC-UK performs using methods that support our company's established SPIRIT ethos, demonstrating **safety, passion, integrity, respect, innovation, and teamwork.**

The Electric Mountain civils project presents a key example of where EPC-UK's values were recognised.

Throughout the programme of work, we performed using skilled **innovation** to control the movement of materials, and enhanced **safety** practices to limit potential damage. Demonstrating **respect** to client, community and environment alike, EPC-UK's operational transparencies ensured compliance at every stage.

Civils solutions

Leading our Civils Solutions team is EPC-UK Civils Manager Mark Jones. With 33 years of experience within the quarrying, offshore and civil engineering industry, Mark is well placed to drive our capable civils team, having managed numerous drilling and blasting and civil engineering projects within the UK, as well as several offshore developments across the globe.

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