

Longannet Conveyor Reinstatement

Client :
Scottish Power plc

Designer :
Halcrow Group Ltd

Location :
Fife, Scotland

Date :
2007



Longannet power station is a large coal-fired power station in Fife, Scotland, capable of co-firing biomass, natural gas and sludge. In January 2007 an elevated section of the station's coal conveyor collapsed. The conveyor takes coal from ground level stockpiles up to the coal hoppers at a height of approximately 30m. Power production ceased at the plant as a result of the collapse.

BAM Nuttall was approached within 24 hours of the collapse to provide emergency support to the structure using large capacity mobile cranes. Engineering and operations staff from BAM Nuttall worked with Scottish Power and Halcrow to develop a permanent works solution. This was based around piled, reinforced concrete pad foundations, supporting a Mabey Support System trestle and universal bridge structure to restore approximately 80m of the collapsed structure.

The fast tracked project required close cooperation with Scottish Power staff to ensure that our methods minimised risk to personnel and to the client's operations. When planning excavations, we prepared detailed documentation to assist in obtaining the necessary approvals from Scottish Power's appointed staff. This included exploratory digging to locate buried services

The scope of work included:

- Excavation within heavily serviced areas, immediately adjacent to the main turbine hall
- Piled foundations using a mini piled solution to allow access into confined areas with limited head room
- Large concrete slab foundations
- Structural steel superstructure comprising towers and spans
- Permanent protection to the towers and spans

For the piled foundations we promoted the use of mini-piles, through our in-house geotechnical specialist BAM Ritchies. These were designed to be bored rather than driven in order to minimise ground disturbance. Our structural steel partner completed the design of the superstructure supports and spans.

The works were successfully delivered and the conveyor restored to full operation within six weeks of the original collapse. The project was included as an exemplar delivery model for future emergency works at Scottish Power's annual corporate seminar in 2007.