

MUJA POWER STATION EARLY DEMOLITION.

Location
Muja, WA

Client
Synergy Energy

Duration
1 month



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Project overview

Liberty Industrial was engaged by Synergy to demolish four redundant cooling towers, a coal stack out conveyor and bio-mass conveyor at Muja Power Station, located 21km south east of Collie in Western Australia. The station had 8 units. However, units 1-4 were retired. The Muja AB Rehabilitation project was created to manage the retired facility. As a result, a number of items were scheduled for early demolition, as they presented a safety hazard to personnel the site due to their deteriorated dilapidated condition.

The four cooling towers were a Marley designed timber structure, constructed in the early 1960's, each being located over a concrete cooling water basin. The cooling towers were deemed to be structurally unsafe and hence were earmarked for demolition. Methods of demolition were devised so that no personnel would need to enter the structure. Firstly, the header pipes of 1.5m diameter were oxy cut and removed. The main towers were then demolished by inducing the structure to a controlled collapse. Using two excavators, one from each side of the towers reached into the structure and removed essential load bearing columns in the centre of the cooling towers. This created an inwards collapse of the structure. Once the structure was demolished the components in the cooling tower were surveyed by a radiation safety officer to determine any presence of Naturally Occurring Radioactive Material (NORM). The towers had been in regular contact with water containing NORM, which had left a radioactive scale on the components of the structure. This contaminated material was not licenced to leave site, as such, any waste that was deemed as NORM contaminated was placed into the concrete basin of the cooling for future disposal, once synergy have gained the regulatory approval.

The coal stack-out conveyor was the next structure to be demolished. This was another deteriorated structure located in the coal plant stockyard where live plant operated. Again this was demolished through a controlled collapse of the structure. The mechanical shears of the excavator were used to specific load bearing steel beam. The excavator then grabbed and pulled the structure to induce a controlled collapse.

Synergy then awarded the demolition of the Bio-mass conveyor as a variation to the work and was a strong signal from the client of our work to date. This conveyor ran for 600m throughout the site neighboured live plant. The conveyor was fenced off in sections and demolished using the mechanical shears of the excavator. Sections of the conveyor that were neighbouring live plant were oxy-cut and lifted down using cranes.

