



BOODARIE HOT BRIQUETTE IRON PLANT CLOSURE PROJECT.

Location
Port Hedland, WA

Client
BHP Billiton Iron Ore

Duration
12 months



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Project overview

Liberty Industrial was engaged by BHP Billiton Iron Ore to safely demolish and remove a highly complex and challenging facility at the Boodarie Hot Briquetted Iron plant. This landmark facility in the Pilbara region of Western Australia was one of BHP's top 10 risks world wide.

The project required demolition of the briquetting and reactor structures together with the adjacent gas plant. The reactor, the tallest structure on site, at 104 metres high represented the largest demolition project ever undertaken in the Southern Hemisphere.

Extreme Loading for Structures software allowed us to simulate and refine our methods and show our client a successful, safe and controlled outcome well in advance of physically carrying out the work.

The briquette structure was demolished in two halves, with the top section removed first. A variety of preweakening cuts allowed an induced collapse to be initiated. Inertia was applied by 120t and 230t excavators working in tandem to move the structure beyond the point of no return so that gravity could take over. The lower section of the structure was then demolished utilising traditional mechanical methods. Excavators with specialised demolition attachments including our 230t Liebherr 994 (the largest excavator in Australia), downsized and processed the scrap materials.

The Reactor structure was preweakened with calculated and designed oxy cuts and explosives cutting and kicking charges were applied to induce a controlled collapse.

The gas plant structures were collapsed using cut and pull techniques allowing 230t and 120t excavators to pull the structures apart, working in combination with a smaller fleet excavators equipped with shear attachments. The plant was then systematically demolished and the materials processed.

The specialist expertise of Liberty Industrial's key personnel together with the latest demolition technology were critical for ensuring a safe, effective and successful outcome.



Liberty Industrial first Australian company to reach the finals of the World Demolition Awards when the Boodarie HBI Closure project was shortlisted in 2012. The project was shortlisted again in 2013.

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