

CASE STUDY

BHP YANDI STACKER ZERO ENERGY DECOMMISSIONING

PROJECT PROFILE

BHP Yandi mine is located in the Pilbara region of Western Australia, 178 kms north-west of Newman. It lies on the traditional lands of the Banjima people and in 2017, Yandi became the second WA-based iron ore mine to achieve production of a billion tonnes of ore over its lifetime.

In 2021 Yandi began an end-of-life ramp down to make way for the new 145mtpa South Flank operation.

As such the site is being systematically decommissioned, including rendering the Stackers ST01, ST201 and ST203 to a Zero Energy state, for which SG Controls were engaged.

PRODUCTS HANDLED

- Iron Ore

OUR INVOLVEMENT

To reach a Zero Energy State on Stackers ST201, ST230 & ST01, structural luffing and slewing restraints were required to be fabricated offsite, transported to site and then fitted to the machines by our highly skilled team.

SERVICES PROVIDED

Provision of mechanical services including engineering, manufacturing and site installation to render Yandi Stackers ST01, ST201 and ST230 into Zero Energy State for decommissioning using Slew and Luff Restraints.



SCOPE OF WORK

The scope of works performed included:

1) Stacker ST01 Slew and Luff Restraint.

- Fully restraining the stacker by welding it to the storm cradle, keeping the luffing cylinder in compression state with compression only luff restraint
- Installation of restraint supports to keep luffing cylinders in a compressed state
- Installation of a storm cradle tie-down and welding of the boom to the cradle
- Manufacture and assembly of static luffing cylinder
- Engineering review demolition methodology
- Cylinder pressure checks and oil containment to manage environmental risks

2) Stacker ST201 Slew and Luff Restraint

- Fully restraining the stacker to the storm cradle, keeping the luffing cylinder in compression state and installing the maintenance tie bar.
- Boom positioned in Cradle and welded to structure
- Substructure hydraulic cylinder tie bar installation
- Manufacture and installation of hydraulic cylinder restraint collars to maintain the luffing cylinder in a compressed state
- Luffing cylinder decompression pressure methodology review
- Cylinder pressure checks and oil containment to manage environmental risks

3) Stacker ST230 Luff Restraint

- Restraining the counterweight boom to the main truss keeping the luffing cylinders in a state of tension
- Manufacture and installation of restraint plinths
- Inspection and measurement of Luffing cylinder pressures
- Engineering review demolition methodology and execute
- Cylinder pressure checks and oil containment to manage environmental risks