



CASE STUDY >

BHP NICKEL WEST THICKENER UPGRADE

PROJECT OVERVIEW

The BHP Nickel West Kambalda operation is a processing plant for creating nickel condensate from raw nickel bought in from neighbouring mining operations. The Kambalda operations team receive the raw material which is then crushed, stripped and dried onsite. The nickel condensate is then stored in large silo's ready to be sent by rail to the smelter near Kalgoorlie.

- ◆ BHP Operations sought to expand and include a new:
 - ◆ Thickener Rake Tank,
 - ◆ Filtration tank with feeds into the current 4 dryer storage tanks,
 - ◆ Mill Pumps upgrade with VSD's and upgraded Varolex cables to bigger motors,
 - ◆ Disc filter Substation upgrade to MCC with 9 additional buckets and
 - ◆ 1 additional Tier to the operational MCC with feeds to 7 additional VSD's.
- ◆ RSGX was awarded the procurement, construction, verification, and commissioning support for the E&I Award,

SCOPE OF WORK

- ◆ Procurement of cable ladders, cables, equipment and all consumables and fixings to complete the installation.
- ◆ Fabrication and installation of piping supports for steel and HDPE piping systems.
- ◆ Installation of cable ways from the Disc filter Switch room to field marshalling panels and field equipment from PLC cabinets and upgraded MCC.
- ◆ Installation of 9 additional buckets to the operational MCC through shutdown process and a Tier extension to facilitate 7 additional VSD's for field run motors.
- ◆ Upgraded Network Panel including Fibre optic to Field CP Panels, Installation of Cat 6 cables and patching both ends of inter communication from Network to MCC, VSD's and interface modules.
- ◆ Glanding and terminating all power cables, control cables, instrumentation cables and varolex cables.
- ◆ Installation of sonar flow devices, mag flows, pressure transmitters, flow meters , control valves , instrumentation tubing , pressure gauges , solenoids cabinets and vendor sampling packages.
- ◆ Testing cable drums, motor tests and equipment including cable ready for C1 completion.
- ◆ Successful shutdowns of Mill, upgrade 2 motors to 37Kw, including new Varolex cables installed, thermistors and installation of 2 new VSD's.
- ◆ Installation of HDPE Slurry, water and other service lines, screwed steel piping for Instrument air system and rectification of structural steel and handrails.
- ◆ Quality assurance from out of box inspections, data sheets, redlining to ITR's and Completed ITP's.
- ◆ Commissioning Support to Vendor and handover of facilities to Client' operations team.

SOLUTION

RSGx worked with BHP and assisted with procurement, construction, and verification to the engineering design. This included navigation through the Bill of Quantities, drawings and specs, working closely with BHP to raise technical queries to provide solutions and paths forward and to minimise any potential impacts or delays during construction. RSGX take pride in good workmanship and providing quality tradespeople, this was acknowledged by BHP through the successful award of a further SMP package while on site including piping (HDPE and steel) and structural installation and rectification works. RSGx on short notice mobilised a mechanical team to work alongside our existing electrical team to successfully deliver all available work fronts.

ACHIEVEMENTS TO DATE

RSGx mobilised to site delivering the original base scope works as a lump sum project and completed all supporting SMP activities during a 152-day period, of which was 100% injury and incident free. The successful project delivery has led to future works and opportunity at Nickel West for the RSGx team.

CLIENT

BHP NICKEL WEST

SERVICES PROVIDED

**INSTALLATION AND COMMISSIONING
ELECTRICAL & INSTRUMENTATION**

SCOPE

**CONSTRUCTION
PRE-COMMISSIONING
COMPLETIONS**

INDUSTRY

INFRASTRUCTURE

LOCATION

KAMBALDA, WESTERN AUSTRALIA



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