

CASE STUDY

KARARA TAILINGS STACKING FACILITY

PROJECT PROFILE

Electrical installation and control system commissioning of FLSmidth's tailings stacking machine at the Karara Iron Ore Project.

\$65m project to supply a machine capable of stacking process plant dry tailings over 4 km² over fifteen years.

The Tailings Stacking Facility (TSF) consists of multiple, independent, coordinated machines that are designed and programmed to function as a complete unit. In general, each machine is supplied with its own dedicated Programmable Logic Controller (PLC) that is configured and programmed to carry out all functionality and safety for that machine. These individual PLCs are networked together using a combination of copper, fiber, and wireless Ethernet networks to form a unified system.

The site sits to the south of the main Karara Iron Ore processing plant.

PRODUCTS HANDLED

- Process plant tailings: dried tailings with a 15% moisture level and particle size of under 4mm

CAPACITY

- Designed to operate at a rate of 2,500 TPH 24 hours per day, in line with stacking tailings from the 8 mtpa process plant



SCOPE OF WORKS

- Electrical and control system commissioning of facility
- Electrical installation and rectification of existing equipment

OUR INVOLVEMENT

- Electrical supervision, installation and commissioning of:
 - Process control cubicles
 - HV & LV reticulation and connection to existing services
 - HV SEL protection relay
- Commissioning of conveying and stacking machines
- PLC to PLC communication set up and commissioning
- Smart relay, motor starters and VSD programming and commissioning
- GPS module programming and integration
- Electrical and software commissioning management services
- Quality assurance inclusive of all testing, CVC and verifications
- Interfaces to existing plant and equipment

PRODUCTS USED

- Allen Bradley PLCs with FLSmidth's ECS SCADA system
- PROFIBUS and Modbus networking within MCCs
- Rockwell ControlNet remote rack networking
- Simocode Pro V intelligent Relays
- Siemens VSDs controlled using PROFIBUS
- SEL high voltage protection relays
- Bramco conveyor control system and management system.