

PLUMMERS INDUSTRIES AND NHP PARTNER ON BILLION DOLLAR MINE PROJECT

Case studies

Introduction

In late 2015, Rio Tinto announced it would expand output from one of the world’s premier bauxite deposits - the Amrun project. The approved \$1.9 billion project involves the construction of a bauxite mine and associated processing and port facilities on the Cape York Peninsula approximately 40 kilometers south of the Embley River near Boyd Point.

Forming one of the largest privately owned electrical switchboard manufacturers in Australia, the family owned Australian Company, Plummers Industries, was recently awarded the contract to supply the Motor Control Centres (MCCs) for the Amrun project. When it came to choosing a supplier to help with the delivery of the MCCs in terms of both products and engineering support, Plummers looked no further than a company who, like them, are locally owned and based and could bring a strong market understanding to the project – that company was NHP.

Project Overview

For Plummers, the project consists of the supply of 27 ‘PI Insulsafe’ switchboards – a switchboard unique to Plummers. The PI Insulsafe switchboards are a fully modular system which allows customised switchboards and motor control centres to be manufactured quickly and cost effectively using standard components – for this project they fitted these boards with NHP components.

Such components consisted of Terasaki MCCBs for feeder units and Type 2 coordinated motor starters including Sprecher + Schuh contactors, combined with the Allen-Bradley E300 Motor Protection Relays.

The PI Insulsafe fully insulated and arc proof switchboard systems are designed, built and tested in Australia to meet Australian conditions and comply with the latest Australian and IEC standards. This testing was undertaken with these NHP components in Australia for short circuit withstand, arc fault containment, and temperature rise.

Furthermore, this switchboard system takes switchboard safety to a new level offering a board with arc proof zones reducing the probability of an arc flash by insulating and segregating the conductors and providing segregation of the functional units. As a backup to prevent burns to electrical workers and operators, arc fault containment testing has been carried out in accordance with the latest standards.

“Today’s fast track projects sometimes require changes to the switchboard’s layout during the late stages of

manufacture, or even during commissioning,” said John Kirkland, Technical Sales Manager at Plummers Industries.

“With that in mind the PI Insulsafe switchboards are specially designed for easy reconfiguration including a vertical connection tower which houses the vertical busbars and provides connection points (plugs) which are always available without modification. In addition, the connection points are completely segregated and shrouded from each other and are finger proof IP20 and negate the need for shutters that are a point of failure,” Mr. Kirkland continued.

Solution

“The seamless integration of the E300 relay with the ControlLogix Programmable Automation Controller (PAC) was a prerequisite for the project and provided the Plant Wide Control system with easy access to real time data from the MCCs,” said Phil Kellas, NHP’s Automation - Sales Manager QLD.

“It also reduced engineering cost due to the ease of the integration with the PAC and the site wide FactoryView HMI by utilising the Rockwell Automation Library of Process Objects suite (PlantPax) to assist with deployment,” he continued.

Ensuring the highest levels of safety are adhered to, all points of isolation at the site are also fitted with NHP Remlive proof of isolation indicators. The demountable functional units plug into the vertical wall and can easily be rearranged and interchanged adding increased flexibility and easy integration – a common theme throughout the project.

With production and shipping at the site expected to commence in the first half of 2019, the planned initial output is 22.8 million tonnes a year increasing annual bauxite exports from Cape York by approximately 10 million tonnes. The project serves as a marquee example of how two locally owned companies (Plummers Industries and NHP) can bring together their unique industry knowledge and expertise to produce a world-class result.



Project Fact File

Project: Amrun project

Location: Cape York Peninsula, Queensland

Details: The approved \$1.9 Amrun project involves the construction of a bauxite mine and associated processing and port facilities.

NHP Products/Services:

- Terasaki MCCBs
- Sprecher + Schuh contactors
- Allen-Bradley E300 Motor Protection Relays
- Remlive Positive Isolation Indicator

