

AN UPGRADE TO ENSURE NO 'FLOORS' IN PRODUCTION

Introduction

For over 25 years, Kopine has been producing wood class particleboard and flooring products, all of which is produced from sustainably grown and harvested New Zealand radiata pine shavings and sawdust. With an environmental approach to all aspects of production, Kopine donates all unused materials to local schools and community groups for use in gardens and play areas.

At the end of 2017, Kopine were experiencing unintentional interruptions to operations and regular brownouts pertaining to their automation equipment installed at their main facility in Kopu, New Zealand. With safety and reliability in mind, Kopine recently undertook an upgrade at the site. To assess and assist this upgrade, local contractor Kinetic Electrical and local supplier NHP were engaged to help with the engineering of a replacement solution.

Initially, the estimate to deliver the solution was two weeks, however this was condensed to align with Kopine's timeframe of a 10 day post-Christmas shutdown period. The plant operates 24 hours a day all year round making reliable and continuous power supply critically fundamental to ensure financial or business losses are not incurred

“NHP upholds a similar ethos to us whilst also understanding local requirements.”

Project Overview

The upgrade needed to ensure the delivery of a safe, reliable power supply to on-site equipment and machinery with the implementation of a reliable back up supply of electrical power to eliminate downtime.

“NHP upholds a similar ethos to us whilst also understanding local requirements. By working smarter through our expertise in programming, we achieve better results for our clients and promise to minimise disruption,” said Andrew Bryson, Kinetic Electrical's owner.

The plant had Allen-Bradley® PLC-5® Programmable Logic Controller (PLC) systems around their site which were not only at end of life but were also a discontinued product. Optimising plant control, NHP provided a migration tool to create a design using a new PLC to match the existing functionality and infrastructure.

“Procurement and design was important to NHP and for Andrew's team at Kinetic Electrical, so that we had all equipment we needed without having to run around during the plant shutdown. Kinetic Electrical also worked long hours and tested thoroughly to ensure deployment and commissioning was a breeze,” commented Adam Kane, NHP's Technology Specialist - Safety & HAE.

The Solution

To replace the PLCs, the Allen-Bradley® ControlLogix® 5580 controllers were specified to provide increased performance, capacity, productivity, and security to help meet the demands of already existing equipment and machine processes.

This controller uses Allen-Bradley® Studio 5000® Design allowing system organisation and management. The intuitive programming application allows connectivity to the Allen-Bradley® Bulletin 1734 POINT I/O™ which was also included in the project.

With seamless integration into the ControlLogix controllers, the Allen-Bradley® PowerFlex® 525 AC Drives were installed featuring an innovative, modular design to support fast and easy installation and configuration.

Ensuring the overall solution was compact to reduce the footprint, the Allen-Bradley® Bulletin 1783 Stratix® 2000 Unmanaged Ethernet Switches were used for simple cable connections. Guaranteeing a neat installation with wire control and organisation, IBOCO T1E Cable Ducts achieved compact wiring configurations.

To diminish and help prevent previously experience operational interruptions, Allen-Bradley® Bulletin 1609 Uninterruptible Power Supply were installed to enable production process to recover quickly from a line power interruption, saving lost production time and work in process. In the case of, the 1609 will facilitate a safe shut down of the ControlLogix®.

“At NHP we pride ourselves on providing market leading power distribution and automation solutions to meet local requirements, and this was strengthened by working alongside Kinetic Electrical to deliver a reliable solution optimizing performance for Kopine,” continued Mr. Kane.

The project success that was experienced at Kopine, highlights the value of dealing with local providers that not only understand the market and its needs, but are also able to provide real-time support to satisfy these.

The partnership between the three companies involved in this project worked seamlessly to ensure the components aligned with the safety requirements of the plant and had the capacity to minimise disruption whilst in operation.

Project Fact File

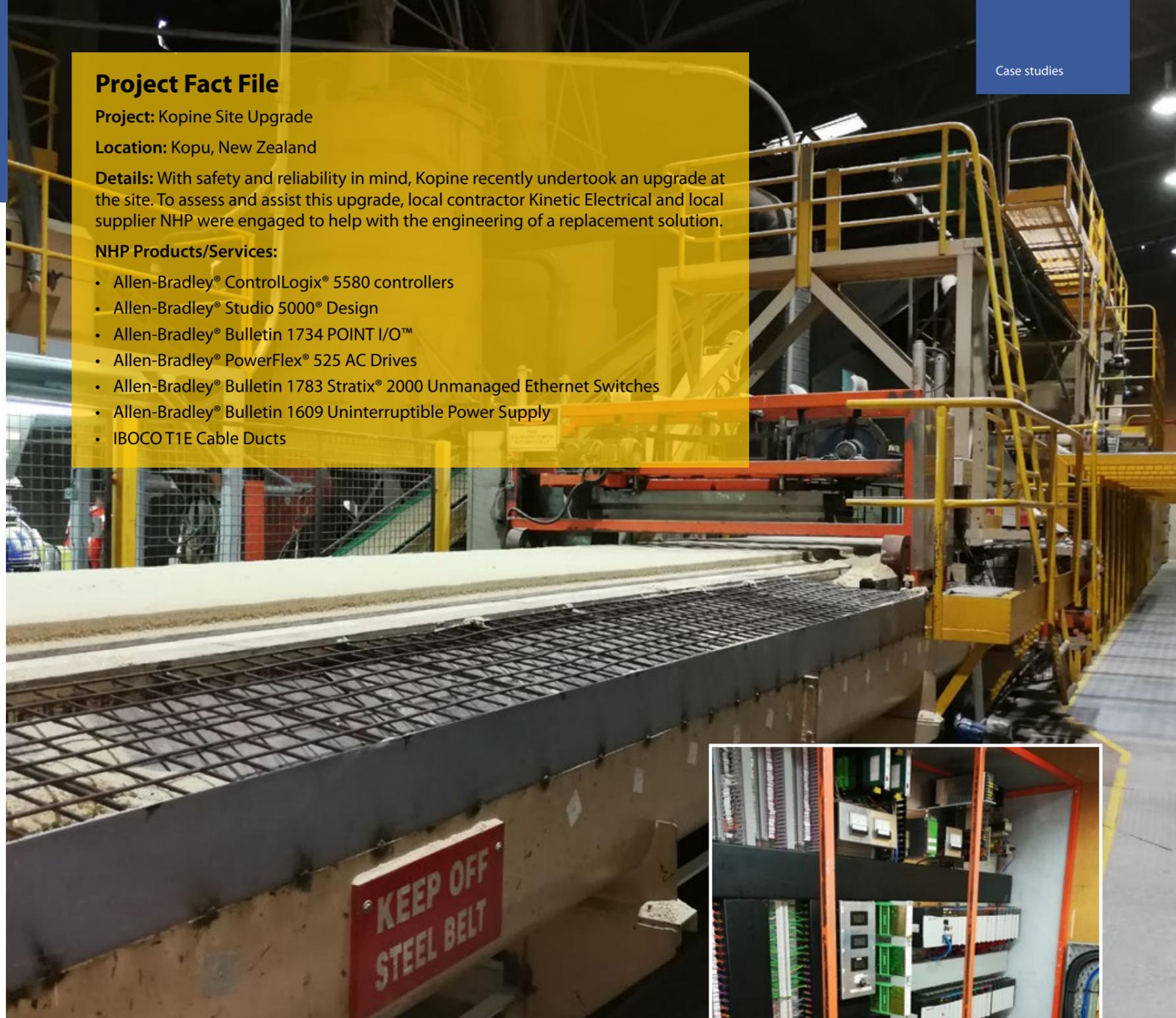
Project: Kopine Site Upgrade

Location: Kopu, New Zealand

Details: With safety and reliability in mind, Kopine recently undertook an upgrade at the site. To assess and assist this upgrade, local contractor Kinetic Electrical and local supplier NHP were engaged to help with the engineering of a replacement solution.

NHP Products/Services:

- Allen-Bradley® ControlLogix® 5580 controllers
- Allen-Bradley® Studio 5000® Design
- Allen-Bradley® Bulletin 1734 POINT I/O™
- Allen-Bradley® PowerFlex® 525 AC Drives
- Allen-Bradley® Bulletin 1783 Stratix® 2000 Unmanaged Ethernet Switches
- Allen-Bradley® Bulletin 1609 Uninterruptible Power Supply
- IBOCO T1E Cable Ducts



BEFORE

AFTER