HINZ
A Rockwell Automation Company

Kennecott Utah - Copper Corporation
System Topology

The Client:

Kennecott Utah Copper Corporation (KUCC) is the second largest copper producer in the United States providing 15% of the country's needs. Every year KUCC produces about 310,000 tons of refined copper. That copper comes from the Bingham Canyon mine, the largest open-pit copper mine in the world which is located about 28 miles southwest of Salt Lake City, Utah. "The Pit" is 2.5 miles wide and 3/4 of a mile deep.

The Requirement:

The open-pit mine first started excavation in 1906. In 1986, KUCC began a $400 million modernization project that included the construction of an in-pit crusher, conveying system, and the Copperton Concentrator. As the pit went deeper, the need to expand the conveying system became a requirement. The need to move the crusher was also a factor. The current system includes the crusher, and conveyors: M3, M4, M5, & C6. A new belt feeder needed to be added as part of the new system. The existing control system consisted of moveable electrical houses that contained switchgear, MCC and PLC I/O that were responsible for certain conveyors.

The Design Solution:

Hinz initially analyzed the existing mine layout and control systems, and prepared a proposal which defined a project scope and budget. The project scope included retrofitting control processors, HMI terminals, instruments, and communication networks. To replace and upgrade existing control wiring, TECK cable and associated cable trays were used.

Hinz worked closely with MAN Takraf, the general contractor, and conveyor supplier, along with Kennecott personnel to define the system configuration. Hinz prepared and issued specifications, prepared bid analyses, prepared procurement documents, created detailed electrical power and control drawings, and created new cable schedules. In addition, Hinz was commissioned to be the on-site construction supervisor.

Hinz was also involved with the design of the upgraded control equipment using nonproprietary, open-system components which was supplied by Siemens

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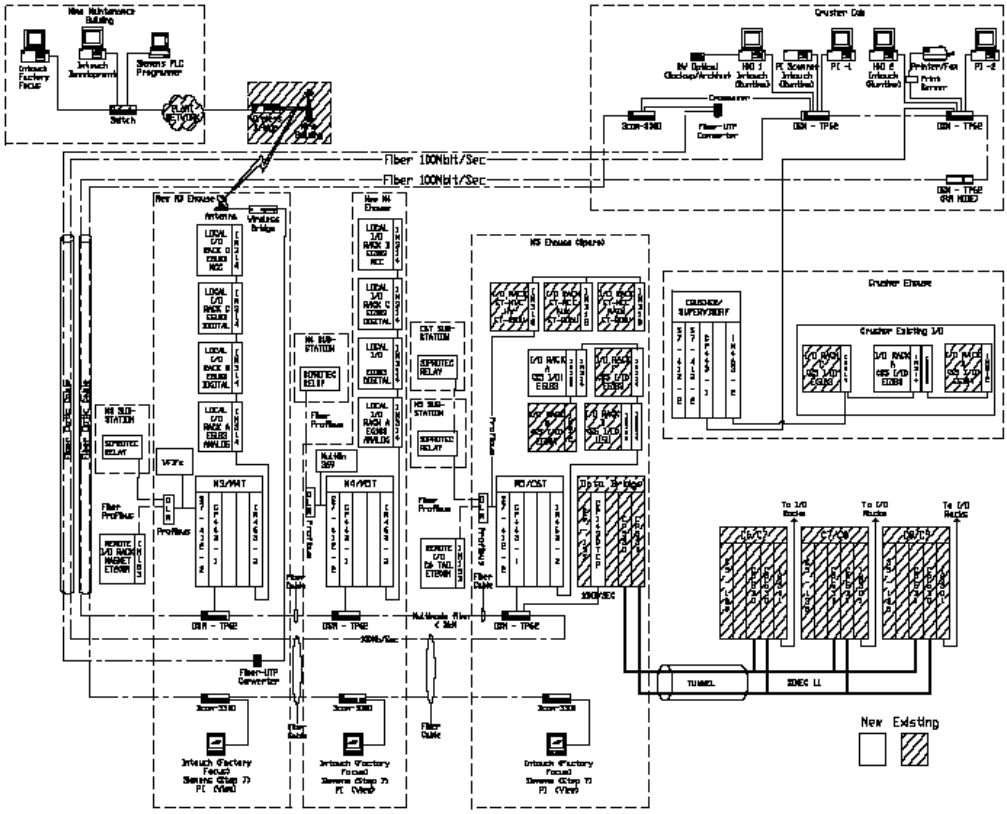

System Specifications:

Electrical:

- 5kV, 3-phase, 60Hz, 3-Wire Switchgear with 5 vertical sections with surge capacitor and lightning arrestors.
- 1200A main incoming load break switch.
- 600A fused load break switch for the
- 4160/480V transformer.
- 600A fused load break switch for the crusher power feed.
- 600A fused load break switch for the 4160/480-480V VFD transformer.
- 480V motor control center

Controls:

- Siemens Simatic S7 PLCs with I/O modules.

For further information or to contact a Hinz office near you, please check our website at:

www.hinz.com