



A Rockwell Automation Company

Whitemud Resources Inc. Wood Mountain Metakaolin Plant

The Client:

Whitemud is a Canada-based corporation that is exploiting a large kaolin deposit in southern Saskatchewan. The Company produces Whitemud

(MK), a high-reactivity, cement-grade metakaolin that enhances the performance of cement used in construction and in oil and gas wells.

The Requirement:

Whitemud Resources retained Hinz to provide electrical, instrumentation, control engineering and commissioning assistance for their new Gollier Creek processing plant (Wood Mountain Metakaolin Plant). Process design was lead by Whitemud Resources along

with Alstom. FWS Construction provided the plant mechanical/civil/structural engineering component and also acted as the general contractor for all of the construction.

The Design Solution:

Engineering design included all aspects of electrical, instrumentation and control required to complete the Gollier Creek processing plant.

For the electrical design Hinz was responsible for the complete electrical distribution system which included:

- 25kV-600/347V, 2000 kVA transformer with neutral grounding resistor.
- 600V, 4000A switchgear
- 3 MCCs , 12 VFDs, and 8 Soft Starters

Specifications for the supply of the motor control centers, neutral grounding resistor, switchboard, soft starters and variable frequency drives were also developed.

The electrical design also consisted of the 600V and 120V electrical distribution which included 15 distribution panels, lighting layouts for the whole plant and maintenance shops, cable tray layouts, and equipment layouts for the MCC room.

The instrumentation and controls were designed around the process equipment design provided by Alstom and Whitemud Resources. The backbone of the control system was the Honeywell Experion rev 3.01 DCS. It consists of redundant controllers with redundant Ethernet, four racks of I/O, a rack for Modbus and DeviceNet communication, redundant servers, two operator stations and an engineering station. The HMI was developed using the Honeywell

Display builder software and consisted of 33 displays. The control system was programmed with the Honeywell control builder software. A Wonderware historian was also installed to record all of the process data.

The DCS controlled the Square D motor starters, Telemecanique VFDs and the Benshaw soft starters via DeviceNet. The stock weigh feeders were controlled via Modbus communication.

In total there was 254 I/O points, of which there were 157 digital inputs, 27 digital outputs, 63 analog inputs, and 7 analog outputs.

For the equipment that was being provided by Alstom the instrumentation for that was also provided. For the equipment provided by Whitemud and FWS Hinz provided specifications for these instruments to be ordered.

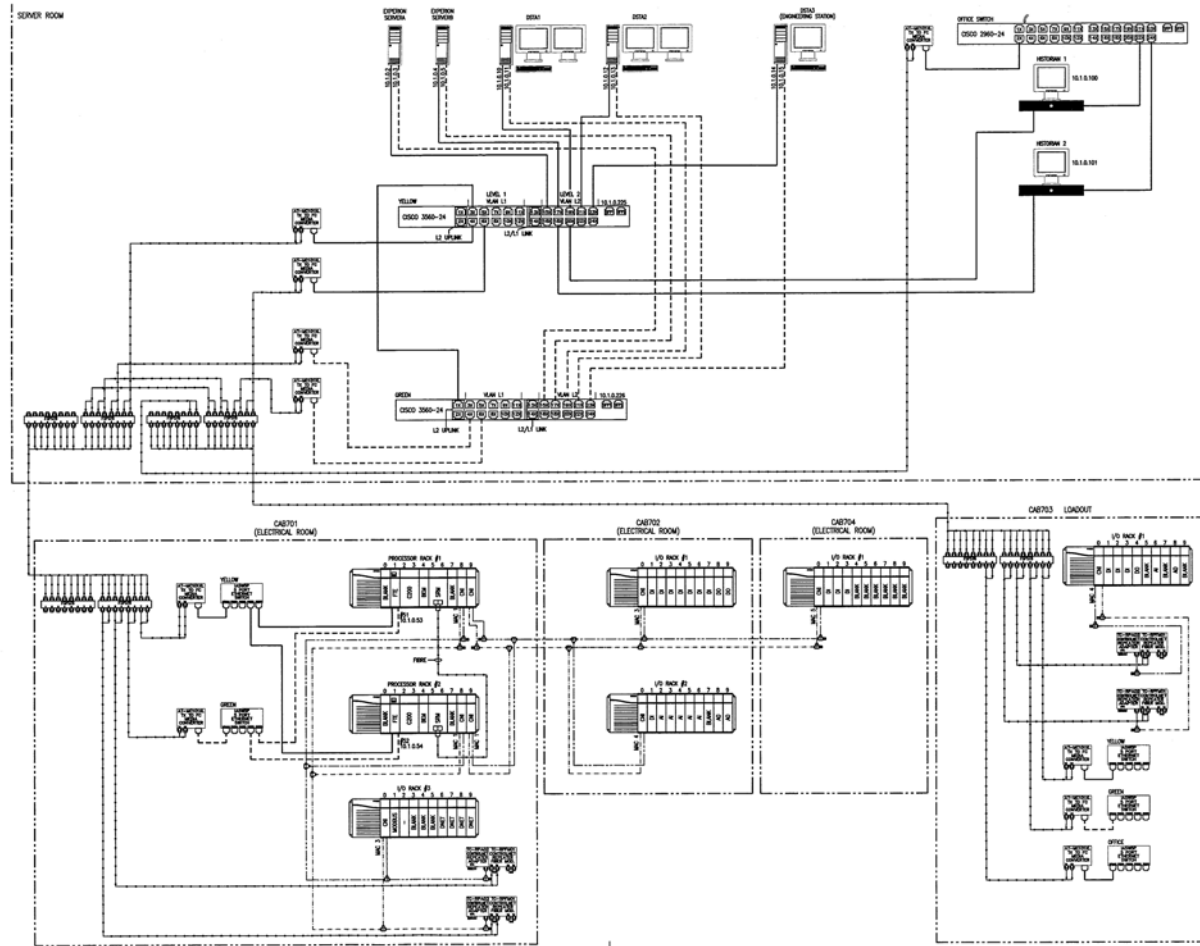
Hinz was also responsible for the design of the video monitoring system. In working with Honeywell Process Solutions Hinz was able to develop a 9 camera system, 7 fixed cameras and 2 pan zoom tilt cameras, to monitor security and different parts of the process as required by Whitemud Resources.

Hinz was also on site to provide technical support during commissioning and startup.



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System Specifications:

- 25kV-600/347V, 2000 kVA transformer with neutral grounding resistor.
- 600V, 4000A switchgear
- 3 - 600V MCCs , 12 VFDs, and 8 Soft Starters
- Electrical, lighting, and cable tray layouts
- Electrical and lighting power distributions
- 9 camera video monitoring system
- Honeywell Experion 3.01 DCS
 - 254 I/O points
 - DeviceNet Communications
 - Fiber optic Ethernet Communications
 - Redundant Controllers and servers
 - Wonderware Historian
 - 2 operator stations and 1 engineering station

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

www.hinz.com