



A Rockwell Automation Company

Agrium Potash, Vanscoy Mill Control Upgrades

The Client:

Agrium Vanscoy Potash Operations, located 32 km SW of Saskatoon, SK produces Premium Granular Grade Potash, Premium Course Grade Potash, and Standard Grade Potash. Vanscoy produces 1,790,000 metric tons of potash annually.

The mine now covers about 77 sq. km. The stratum

being mined is 3.3 meters thick and extends for over 300 km in an east-west direction and 150 km in a north-south direction. The ore body has reserves that will sustain current production for 99 years.

The Requirement:

Several areas of the mill were controlled by an obsolete Swanson relay system installed in the early 1980's. Replacement parts and repairs for the system were becoming extremely hard to get.

To minimize the downtime potential of the system, control of these areas needed to be upgraded to a modern PLC and Human Machine Interface (HMI) control system.

The Design Solution:

The PLC platform chosen was the Allen-Bradley SLC-5/04 processor. These were chosen for their compact size and because the new units had to be able to communicate to the Allen-Bradley PLC-5s used throughout the rest of the mill. Communications between the SLC and PLC processors is via Data Highway Plus.

The design called for 2- SLC 5/04 PLCs. The first PLC, STN#16, controlled the Crushing, Insol, Potash, and Regrind areas. The second PLC, STN#17, controlled the crystal areas. Control of over 240

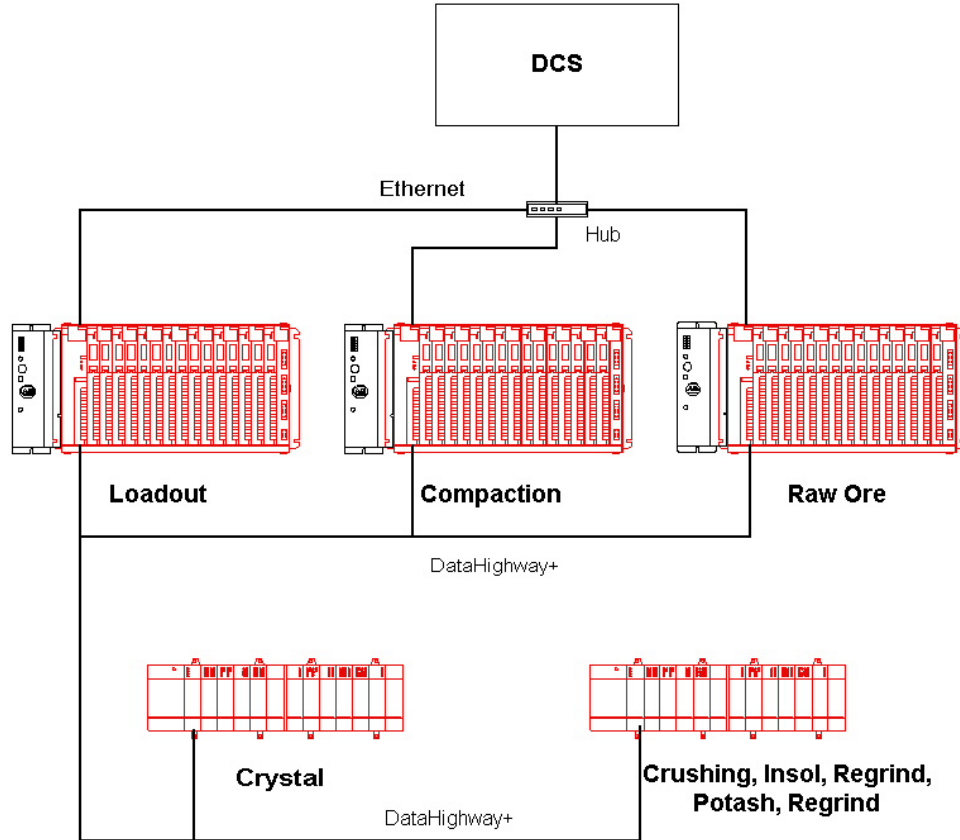
motors was changed over to the new control system. The operation modes were upgraded along with the hardware.

The HMI solution chosen was an existing Foxboro DCS system. The DCS communicates to the PLCs via Ethernet and a Foxpro driver. The HMI control buttons, colors scheme, alarming, and automatic operations were made consistent with other areas of the mill.



A Rockwell Automation Company

Agrium Potash, Vanscoy Mill Control Upgrades



System Specifications:

- 2 – SLC 5/04 Processors
- 93 – 8 Channel Isolated Output Modules
- 178 – 16 Channel Discrete Input Module

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

www.hinz.com