HINZ
A Rockwell Automation Company

Bunge Canada
Fort Saskatchewan DTDC Expansion

The Client:

Bunge Canada (previously CanAmera Foods) operates a canola crushing plant located in Fort Saskatchewan, Alberta (10 miles northeast of Edmonton). Bunge's bulk canola oil and meal is marketed both domestically and internationally. Bunge is Canada's largest processor of edible oil products.

The Requirement:

Bunge needed to upgrade its Desolventizer Toaster Dryer Cooler (DTDC) unit. The new DTDC extracts more of the hexane out of the meal while consuming less steam. Hexane is used by Bunge to extract the canola oil from the seed. Hexane is highly explosive, therefore the area of the plant where the DTDC is contained is classified as a Class I Division I hazardous area.

Bunge required a control system and electrical infrastructure to run the new unit. In addition, Bunge required a means of allowing its existing Bailey Net 90 DCS to communicate to the existing PLC-5/30 on site. This communication was needed to transfer information to the HMI for operator control.

The Design Solution:

Hinz was chosen to perform engineering design, extensive research, limited commissioning and documentation for the project. The project consisted of electrical, control and communications activities.

Electrical tasks performed by Hinz consisted of sizing the cables and determining cable routing., specifying the cable tray and its routing, and designing an MCC bus tap for a soft start motor starter.

The DeviceNet control system was chosen by Bunge. Hinz was asked to research the full capabilities of DeviceNet and to determine the best system configuration. Flex I/O on DeviceNet was used to accommodate the new DTDC. DeviceNet was chosen because of the ease of expansion and the large amount of information that DeviceNet allowed operations to obtain from each device in the system.

The DeviceNet system required only one control cable going to the field (instead of many cables), lowering the installation cost. All of the Flex I/O had to be installed in explosion-proof junction boxes due to the Class I Division I area.

Communications activities consisted of researching a driver that would allow the Bailey CDX to communicate with the PLC-5/30. Bailey offered a driver that allowed them to communicate via DataHighway. The driver was specified and commissioned by Hinz and Bailey.

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System Specifications:

- For motor control Cutler Hammer Advantage starters with WPON IDNA DeviceNet Adapters were used.
- DeviceNet with Flex I/O was used to accommodate an expanding system, get required information from devices and reduce wiring cost.
- A driver to allow the Bailey Net 90 DCS to communicate via Data Highway to the existing PLC 5/30.

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

www.hinz.com