HINZ
A Rockwell Automation Company

Robin Hood Multifoods Inc.
Grain Receiving & Transfer

The Client:

Robin Hood Multifoods Inc. is a Canadian subsidiary of International Multifoods Inc. of Minneapolis MN. The mill in Saskatoon produces a full line of standard milled grain products such as wheat flour and rolled oats. Robin Hood has recently embarked on an automation program to prepare the mill for the future.

The Requirement:

Robin Hood required a modernized grain receiving and transfer system in order to record precise information on the grain being delivered. This information was needed for internal purposes as well as for the farmers. The system also had to deliver the flexibility required for grain transfer from the scales to the different storage bin locations. This flexibility was due to the many different routing options available and the multiple delivery points. The system was required to be operated from two different locations, the farm office and the elevator office.

The grain receiving/transfer system was a critical system which required careful handling of certified scale data, as well as interfacing to a hardwired Emergency Shutdown System. The automation had to ensure the integrity of the scale data collected from the delivery scales and provide reliable and accurate weight data for grain transfer.

The Design Solution:

The Grain Receiving/Transfer System consists of an Allen-Bradley PLC 5/25, 2 PanelView operator interface terminals, a report printer and a ticket printer. The system can be controlled and monitored from either the Elevator Office, or the Farm Scale Office. Grain receiving is via the farm pit or the rail pit. The farm pit is used for smaller grain trucks and the rail pit is used for larger grain trucks and rail cars.

A certified weigh scale (Truck Scale) is located in the farm pit to automatically weigh and record the grain being received by truck. A higher capacity certified weigh scale in the elevator (Scale #1) is used to automatically weigh and record the grain being received from the rail pit. Scale #1 can also be used to automatically weigh and record bin to bin grain transfers. A certified weigh scale (Scale #2), also located in the elevator, is used to automatically weigh and record the grain being transferred from bin to bin. Bin to bin transfers take place among Mill bins, Pellets west, Screening bins, Premix bins and Elevator bins.

There are three different modes of operation for the grain receiving system. Mode 1 moves grain from the rail pit via the 3 way diverter to one of 3 sets of bins, the elevator bins, the house bins, or the mill bins. Mode 2 moves grain from the farm pit via the 8-way distributor to the house bins. Mode 3 moves grain from the farm pit via the 3 way diverter to one of the 3 sets of bins.

The PanelView in the elevator office allows the operator to determine tares and print weights measured on Scale #1 and Scale #2, control the grain receiving from the rail pit using Mode 1, Control the grain receiving from the farm pit using Mode 3, and control all bin to bin transfers. The PanelView in the Farm office allows the operator to generate printed weight tickets for the Truck Scale and Scale #1, control the grain receiving from the farm pit using Mode 2, and control the grain receiving from the farm pit using Mode 3.

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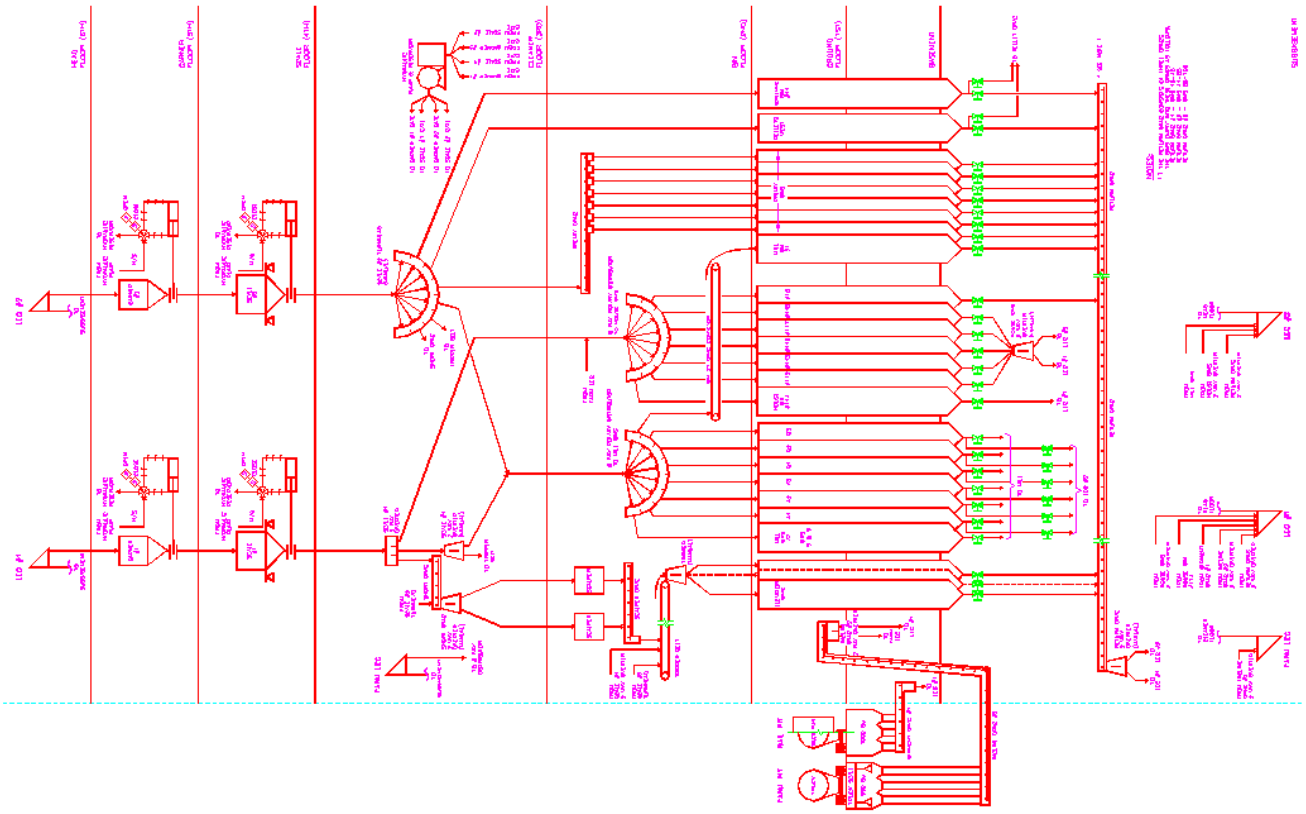

System Specifications:

- Allen-Bradley PLC 5/25
- 100 I/O
- 2 PanelView Operator Interface terminals
- 15 graphics pages
- Integrated emergency shutdown system (ESD)

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

www.hinz.com