



A Rockwell Automation Company

Freshwater Fish Marketing Corporation Compressor Sequence Control

The Client:

Freshwater Fish Marketing Corporation operates a fish processing and packaging plant in Winnipeg, Manitoba. The plant processes fresh fish from

Lake Winnipeg, freezes the product and ships it to customers worldwide.

The Requirement:

The plant powerhouse contains six reciprocating compressors and a single screw compressor to compress ammonia for refrigeration throughout the plant.

Beginning in 1996, and continuing in 2001, Hinz implemented control strategies to automate the

powerhouse using a PLC 5 and an RSView HMI.

In 2002, Freshwater Fish requested an improved control strategy to reduce cycling of the compressors.

The Design Solution:

Hinz was contracted to design an alternate control system for the six reciprocating compressors and single screw compressor, and to change the sequence of motor starts for the evaporative condenser system.

The existing system used a PID control loop to activate the compressors in sequence at set control outputs. This invariably left one of the reciprocating compressors cycling on and off as the loop maintained suction pressure.

To alleviate this problem, a new system was designed whereby the PID control loop would control only the C7 compressor. Additional reciprocating compressors would be brought on

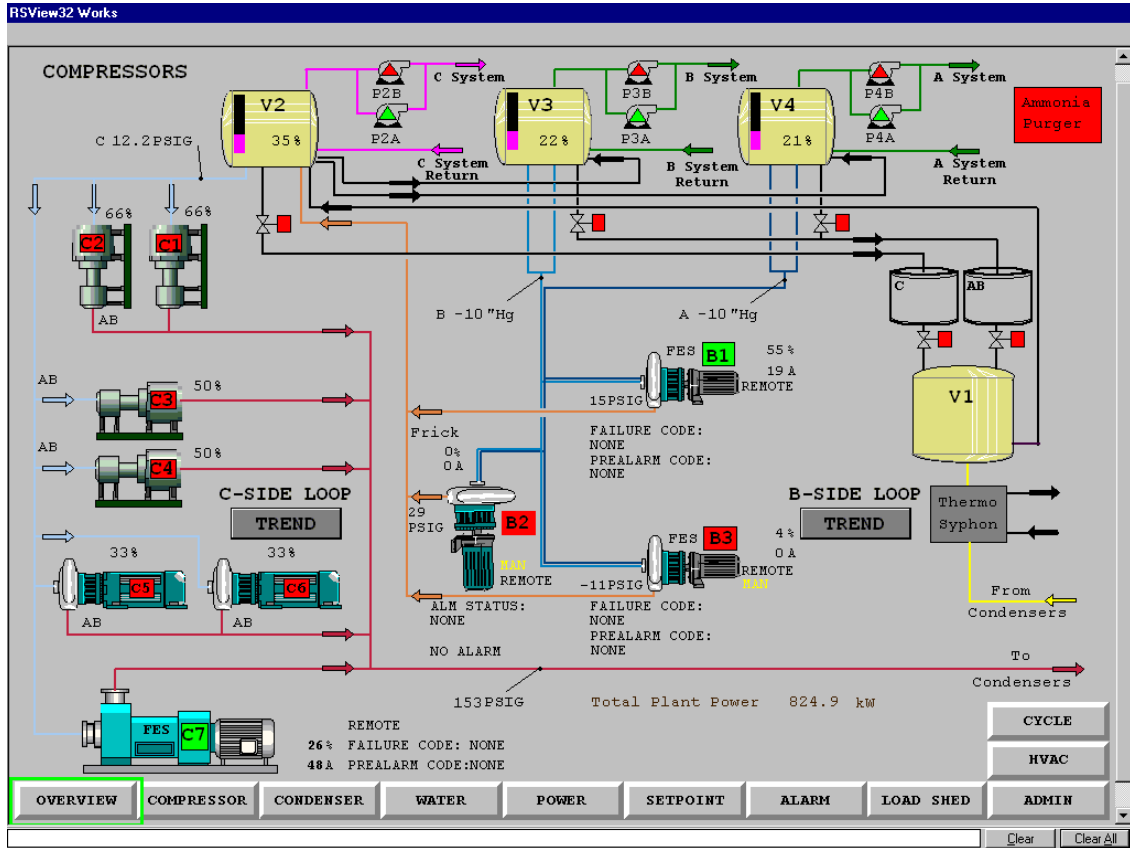
and offline as the PID output reached 90% and 25%. This allowed the variable load screw compressor to operate within a specific loading range and reduce reciprocating compressor cycling.

In the event of the main screw compressor failing, the reciprocating compressors would continue to operate based on the PID loop output, until an operator could respond.



A Rockwell Automation Company

Freshwater Fish Marketing Corporation Compressor Sequence Control



System Specifications:

- 6 Reciprocating Compressors
- 1 Screw Compressor
- Allen-Bradley PLC 5/30
- 1 RSVIEW Station

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

www.hinz.com