



A Rockwell Automation Company

Sask Water Humboldt Water Treatment Plant

The Client:

Sask Water is a Saskatchewan Crown Corporation which is responsible for water supply management for the province of Saskatchewan. One of Sask Water's mandates is to supply both irrigation and drinking

water to rural areas of the province. As a result they operate several water treatment and sewage treatment plants throughout the province.

The Requirement:

A new water treatment plant was planned for the Wakaw-Humboldt area to replace the mostly untreated groundwater they were presently using. The new facility would consist of four installations: the River pump house, which would extract water from the South Saskatchewan River, the water treatment plant,

and two booster pump stations. Each of these facilities was to operate independently of the others, and yet share appropriate information to synchronize the facilities and provide Sask Water with all the relevant data to operate the system.

The Design Solution:

Hinz was awarded the contract to supply a control system which suited Sask Water's requirements. The system is implemented using Allen-Bradley SLC-500 series processors, and an NT Workstation running Itellution's FIX-32 MMI software. The four facilities are connected with modems that provide both report by exception capabilities and regular time-based polling. The control strategy is set up so that communication failure will not prevent plant operation. For this reason, there is no remote control of the river pump station or the two booster pump stations from the water treatment plant.

The water treatment plant is controlled by three SLC-5/04 processors. Each processor is a node on the DH+ communications highway, as well as the FIX workstation. The plant operation is split between the three processors with one operating filters 1 and 2, one for filters 3 and 4, and the last processor handles all other plant operations. Each processor is programmed to operate independently of the other two so that a

localized failure will not shut down the entire facility. As well, the FIX workstation is designed to interface directly to each processor so that there is no 'data concentrator' which could be a weak link in the communications network.

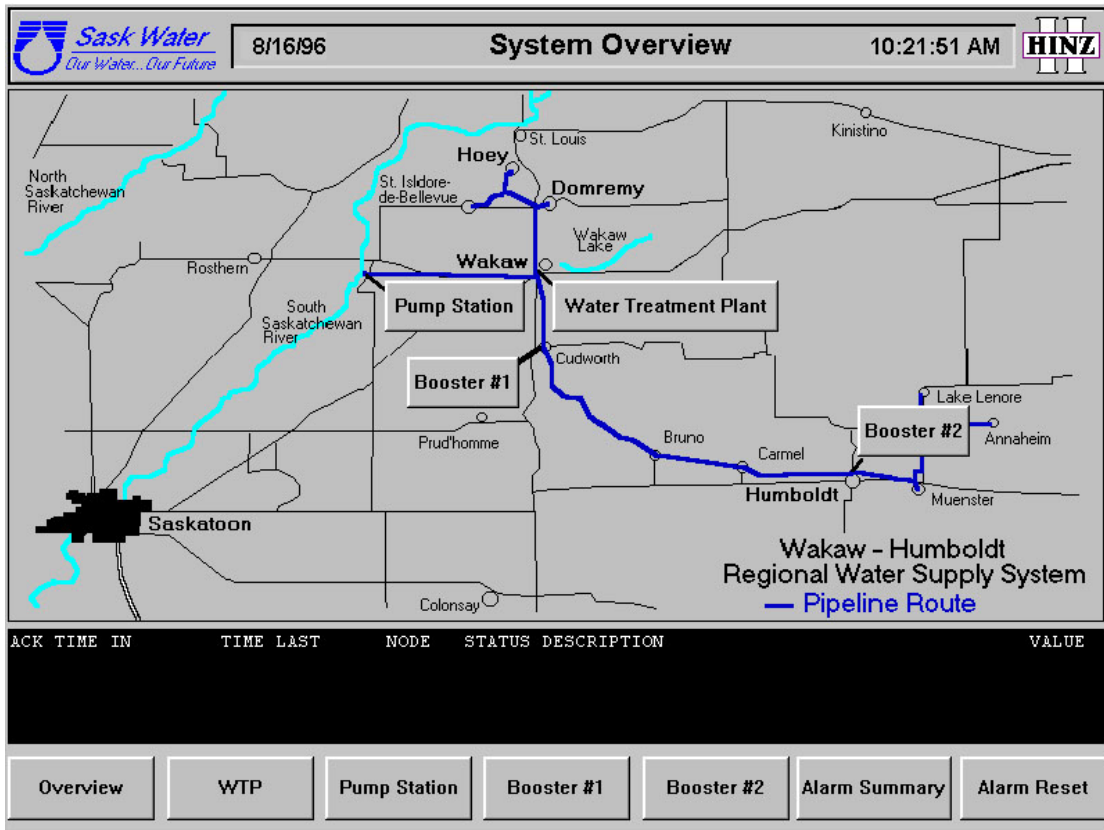
The modem link between the river pump station and the FIX workstation uses a dial up phone line and is continuously on-line, but since it is in the same telephone exchange zone long distance charges do not apply.

The two booster stations are located such that long distance charges apply, so the FIX workstation will only connect when the operator needs to gain access to information about the remote sites. As well, if an alarm occurs the remote station will call in to report the alarm.



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System Specifications:

Water Treatment Plant

- 120VAC inputs 201
- 120VAC outputs 12
- relay output 82
- analog input 58
- analog output 23

River Pump station

- 120VAC inputs 35
- Relay outputs 42
- analog inputs 4
- analog outputs 8

Boost pump station #1

- 120VAC inputs 30
- 120 VAC outputs 17
- Relay outputs 8
- analog inputs 10
- analog outputs 7
- Boost pump station #2
- 120VAC inputs 26
- Relay outputs 12
- analog inputs 4
- analog outputs 7
- Approximately 30 FIX HMI screens
- Approximately 800 tags

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

www.hinz.com