



A Rockwell Automation Company

## The Seagram Company Limited Seagram's Blending System

### The Client:

The Seagram distillery in Gimli, Manitoba is a large facility distilling various types of alcoholic beverages,

and is the only plant now producing the world-famous Crown Royal Canadian Rye Whiskey.

### The Requirement:

The various types of products produced are stored in 11 large stainless steel tanks in an area known as the Blend Tank Plant. Product is transferred between tanks using a series of pumps and valves. Each tank is supported on load cells as all product transfers are based on precise weight measurements. Product can also be pumped into or out of the tanks to various other areas such as barreling lines, rail cars, and tank cars. Several of these operations can take place simultaneously as the tanks are arranged in three separate groups. To ensure accurate blending and

prevent contamination between the various products, each pipeline has an air source valved into it which blows all the product through the pipes after the pumps have stopped.

This complex system of scales, timers, valves and pumps was all controlled from a relay system that had developed over many years as Seagram's requirements changed. The system was unreliable and poorly documented.

### The Design Solution:

Based on experiences in other areas of the plant, Seagram's decided to replace the relay control system with a GE-Fanuc Series 90-30 PLC. The relay system would be removed but the existing control panel would remain. The PLC would be mounted behind the control panel in the area formerly used by relays. All existing wiring was to be removed and the control devices rewired.

The scales are configured to be independent of the PLC. Each scale has its own head unit and the operator enters a preset weight for the tank. The normal procedure is to use the final tank weight as the preset and the product is discharged from the tank until this weight is achieved.

A contact closure from the head unit signals the PLC that the desired weight has been met.

By setting a series of multi-position selector switches, the operator informs the PLC of the particular

sequence(s) he wants to run. Once initiated, each sequence runs completely automatically, including the air purge of the lines. There are about 55 valves controlled by the PLC.

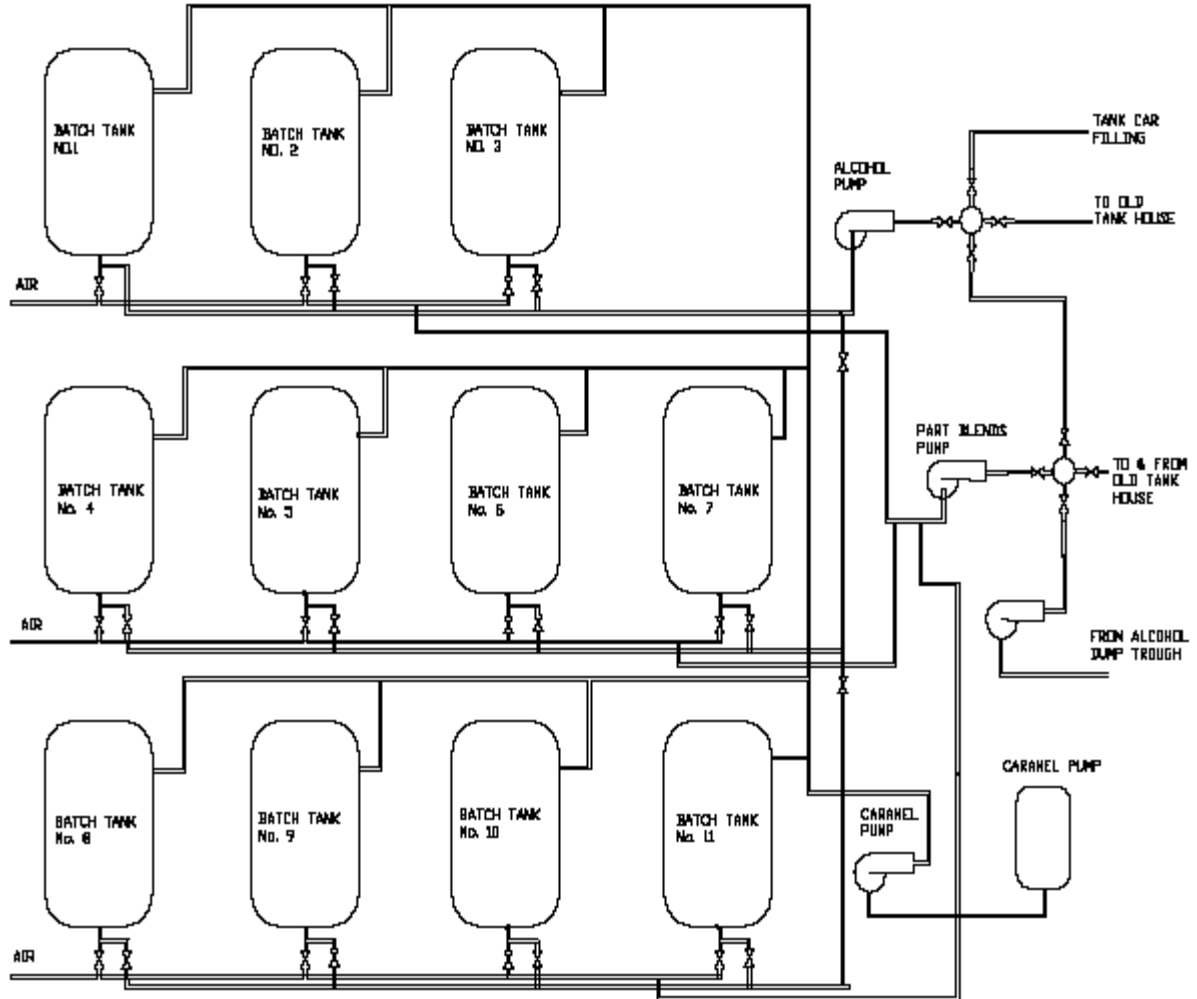
Due to the short time available for installation and commissioning, and the unacceptability of any shipping delays, Seagram requested a process simulator be developed to allow testing the full logic before installation. This was done using a GE Cimplicity MMI package. One screen was developed that showed the entire plant physical equipment and another page mimicked the operator's control panel.

During the Factory Acceptance Tests the Seagram's production personnel spent several days testing each possible sequence using the exact PLC and logic that would be installed at their plant. Any discrepancies were corrected in the quiet environment of the panel shop instead of under the pressures of a plant operating floor.



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### System Specifications:

- GE Fanuc Series 90-30 PLC
- Discrete I/O
- Cimplicity MMI used for factory test simulation

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

[www.hinz.com](http://www.hinz.com)