



A Rockwell Automation Company

## Alcan Smelters & Chemicals Alcan Aluminum - Billet Saw

### The Client:

Alcan Aluminum Limited is recognized as one of the world's largest producers of aluminum. Integrated through all stages of the aluminum industry. Alcan's interests include bauxite mining, alumina refining, aluminum smelting and recycling, fabrication and sales. While remaining a Canadian company with headquarters in Montreal, Alcan has been quick to earn

international respect for the quality of its products from their many installations around the world. Alcan Smelters and Chemicals Ltd. is a subsidiary of Alcan Aluminum Ltd. One of the smelters it operates is located in Kitimat, BC.

### The Requirement:

Alcan's clients have been requesting large diameter billets for their extrusion process. Since the world market for large diameter billets is uncertain, Alcan purchased a used saw that was out of service allowing them to minimize their capital expenditure. This saw

will be used to cut specific billet lengths for a variety of clients.

### The Design Solution:

Hinz was selected to complete the electrical and control design for the project. This included the design of PLC panel layouts, motor schematics, wiring diagrams, I/O schematics, block diagrams and the main control schematic.

In order to keep costs to a minimum, the existing MCC was reused. A new section was added and existing starters were moved around as required. All motor control I/O was connected to local I/O racks in the PLC cabinet. Cost savings were achieved in the field by using Modicon's Terminal I/O (TIO) for all field devices. This substantially reduced the field wiring back to the PLC I/O cabinet. Weidmuller Quickblock connectors were used in the PLC cabinet as the interface from the field I/O to the PLC I/O modules. This simplified the PLC cabinet installation and reduced the actual fabrication costs.

Control of the saw system was accomplished with a

Modicon Quantum processor and a Panelmate 4200 operator interface. Hinz was responsible for all of the software required to complete this task. A high speed counter module and an encoder was used to track the position of the billet. Analog outputs and linear positioners were used to control the hydraulics used to position the billet.

Installation was completed by a local electrical contractor under the supervision of Alcan personnel. Commissioning of the project was performed by Alcan with remote telephone support from Hinz personnel as required.

