



A Rockwell Automation Company

## Endako Mines Main Oxide Roaster Cimplicity Screen

### The Client:

Endako Mines is a molybdenum mine located near Fraser Lake, British Columbia. It is a joint venture of Thompson Creek Mining and Nissho Iwai Moly Resources Inc. The mine opened in 1965 and its throughput is currently 27000 metric tons per day. The company has embarked on an upgrade program to

modernize their oxide roaster. To accomplish this goal, their GE Cimplicity IU system was replaced with a Cimplicity NT processor and additional oxide roaster programming was required.

### The Requirement:

The Endako Mine oxide roaster takes in molybdenum sulfide and passes it through a multi-hearth roaster to produce technical grade molybic oxide. The initial state of the oxide roaster controls was a Unix based Cimplicity system, 90-70 processor and a number of Genius I/O blocks. This system was to be modified with a new Cimplicity NT system and revised GE 90-70 series PLC program.

In addition to the Cimplicity upgrade and PLC

modifications, Endako Mines required an operator and electrician training course to be set up.

Hinz was retained to provide converted and additional Cimplicity screens, run an operator/electrical training course including manuals, program oxide roaster PLC modifications and commission the new Cimplicity screens and the revised control system.

### The Design Solution:

The design solution to this project took on three distinct parts. The first part was the conversion of the old Cimplicity I/U graphics to new Cimplicity NT graphics. The second part was to modify the existing PLC program and add in new controls for the oxide roaster. The third part was to provide operator and electrician training on the new PLC and graphics system.

The old Cimplicity I/U system was scrapped and an entirely new Cimplicity NT system was developed from scratch with the same look and feel of the old system. A new HP Vectra PC, an existing 20" monitor, a PCIM card and an Ethernet card served as the hardware. Windows NT and Cimplicity NT served as the software. In addition to the new Cimplicity screens that had been converted from the Unix system, there were trending screens, new PID loops, alarm screens, and a new roaster screen. Data logging for the purpose of emissions monitoring and quality control was also implemented.

The additions to the original PLC program were made using GE's Logicmaster 90-70 programming software. New PID loops, a new emergency stack procedure and

a variety of new analog signals were introduced to the system.

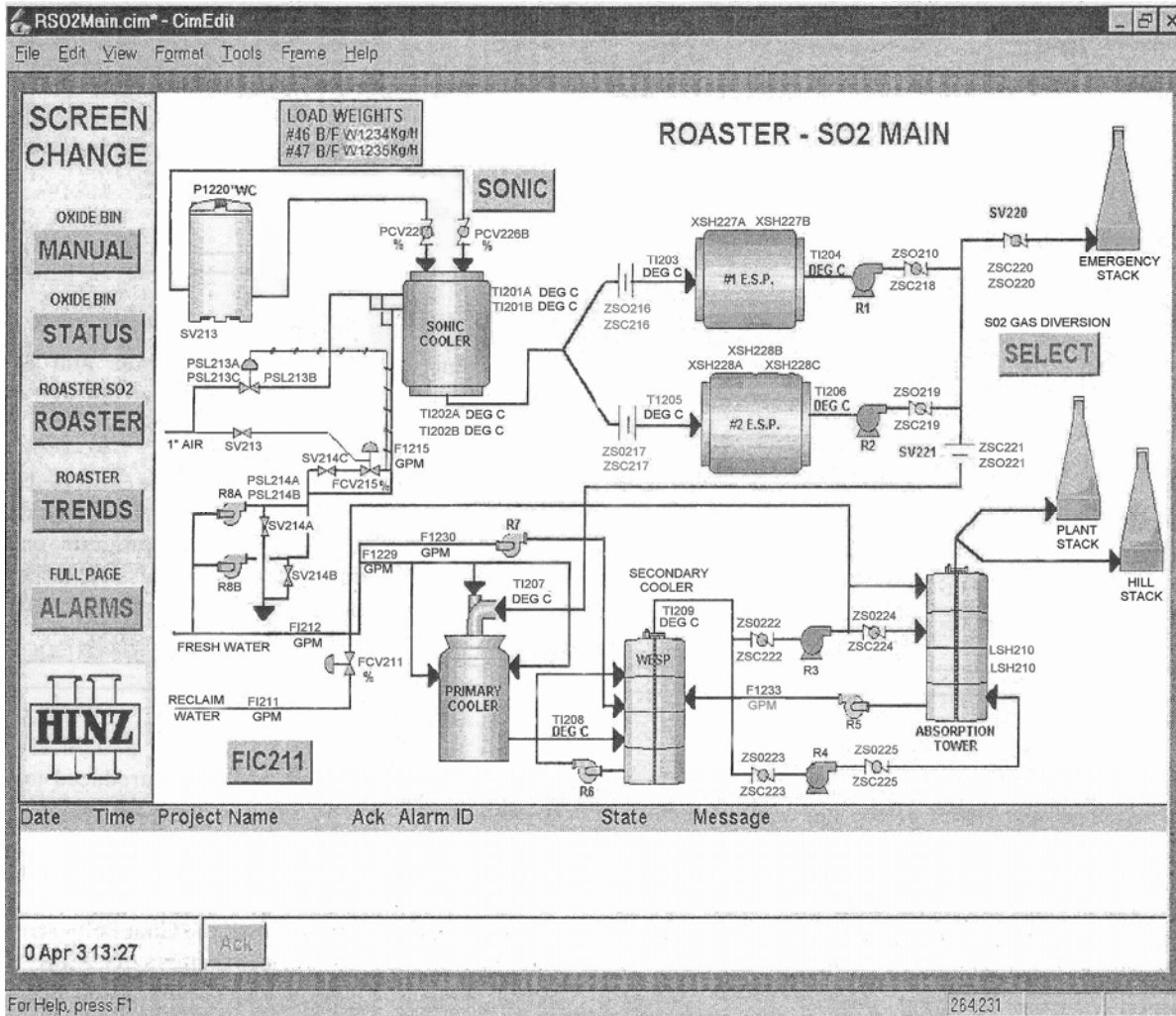
Two one-day training courses on using the Logicmaster 90-70 and Cimplicity programs were created. The manual included printouts of all the Cimplicity screens and descriptions of the various features of each screen. Screen navigation, basic screen editing, alarm coloring and acknowledging, and data trending were also covered. A special session was held for the retrieval of logged data and database maintenance. The Logicmaster 90-70 course covered menu navigation, on-line/off-line program edits, searching for addresses and specific tags, viewing different programs and folders, and saving and backing up programs.

The change-over from the Unix to NT Cimplicity screens was accomplished over several days of testing. The ability to unplug the NT system and restart the old Cimplicity I/U system while changes were completed made for a smooth start-up transition. The PLC program was commissioned during and after the graphics testing. The training courses were held once all systems were up and running.



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### System Specifications:

- GE Series 90-70 PLC
- Cimplicity NT graphics
- GE LogiMaster 90-70 PLC Programming
- Training Manual
- 6 PID Loops
- 115 Discrete I/O
- 35 Analog I/O
- Alarm Logging
- Data logging and trending

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

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