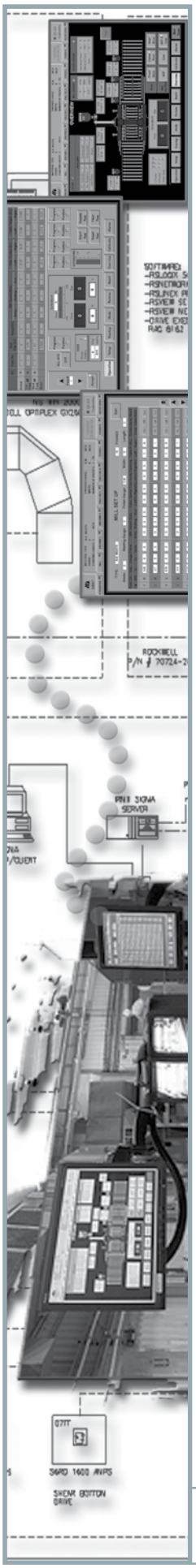
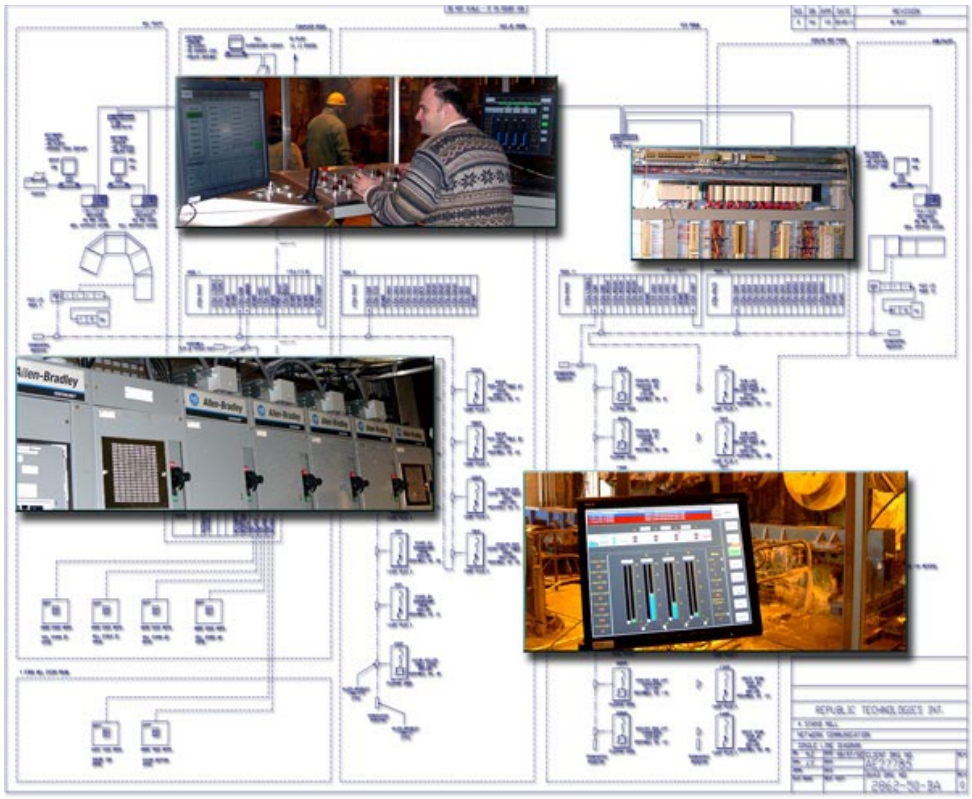


# 20” SBQ ROLLING MILL AUTOMATION



## PROCESS

Complete process line for a 20 Inch SBQ rolling mill, producing rounds from 3.5” to 7.0” Bars at 120 Tons/hr. Four stand rolling mill, flying dividing shear, split cooling bed-electronically coupled, saw line with two saws and two gauge beams.

## SCOPE

Design, built, supply, and commission 13.8KV and 460V power distribution system, drives, operator pulpits and consoles, prefabricated electrical room, multiple PLC control system, Mill set-up and control HMI’s. Product tracking and dynamic cutting strategy for each bloom.

## APPROACH

Simple, robust, scalable and cost effective design of automation system utilizing proven hardware, state of the art controllers, innovating control algorithms. In-house simulation of the processes.

## BENEFITS

Economic implementation of complete mill electrical and control system. Modular system design allowing installation of the electrical equipment in record time. First bar was rolled within 24 hrs of energizing the equipment. Commercial, of the shelf, easy to maintain hardware.

SES Automation Inc. Toronto, Ontario, CANADA
Tel: 416.391.1255 Fax: 416.391.2254
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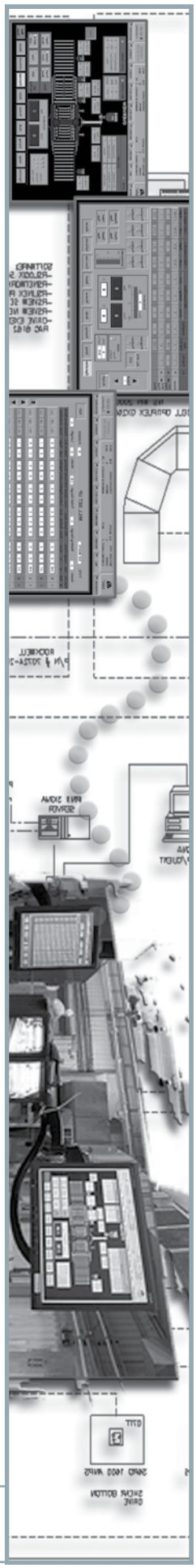

## TECHNICAL DETAILS

**PLC** Distributed control system using Rockwell Automation ControlLogix (three processors), high speed counters, advanced motion control, discrete and analog I/O's, Flex I/O's, RSLogix 5000 software.

**Networks:** ControlNet as a backbone, link between PLC's, interface with remote I/O's, DC and AC drives, Ethernet for interface with HMI's, Automax network

**Features:** Mill set-up, cascade speed control, interstand tension control, impact speed drop compensation, and screw-down controls.Shear dynamic cut to length optimization for each bloom based on predicted length and defects. Cooling bed kick-off and cycle motion synchronization, electronic gearing between two half beds.Saw line controls, gauge beam controls. Product tracking.Control of auxiliary drives.

**DRIVES** Main Drives and shear: DC, Reliance Automax. Auxiliary drives: DC Reliance FlexPak, AC A-B 1336 Impact.Drive interface via Network

**Qty :**

| | |
|---|---|
| Mill: | 4X1250HP, 1X40HP, 3X100HP, 1X75HP, |
| 4X5HPShear: | 2X300HPCooling Bed: 2X500HP, 4X60HP, |
| 2X7.5HPSaw Line: | 3X75HP, 3X100HP, 2X7.5HP |

**HMI** RSView Machine and Supervisory edition, Multiple clients, Touch Screens. Sigma trending station.

**Hardware:** Five PC's and one server, one industrial computer station, Sigma station.

**Network:** ControlNet, Ethernet

**Features:** User friendly, Recipes, Process viewer, bar and product tracking, Intelligent tension and R-Factor displays, alarming, trending, sheared product details, bundle information…

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