BLOOM ENGINEERING
A Wabtec company

CONTROLS ENGINEERING

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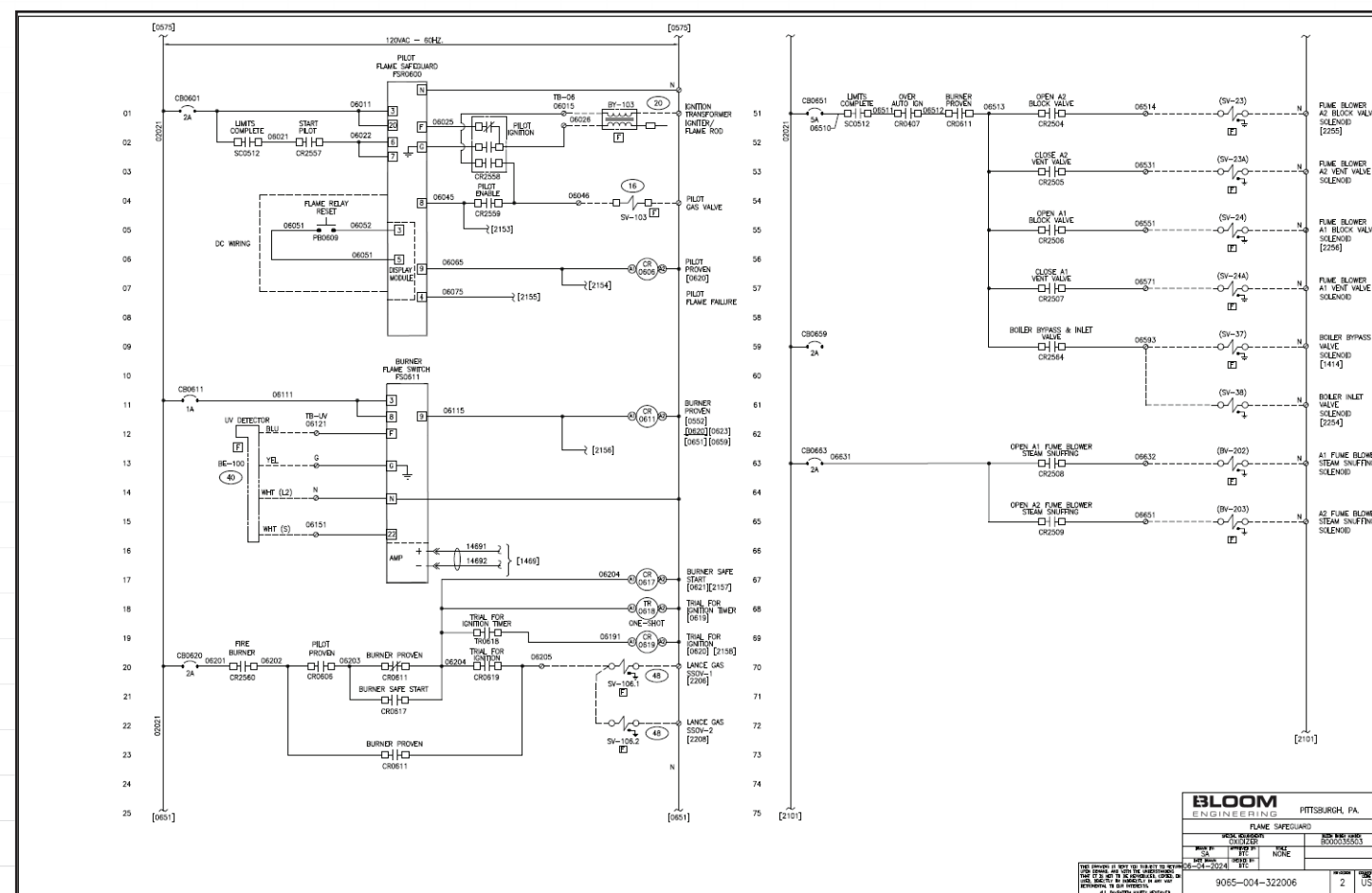*A Wabtec company*

CONTROLS ENGINEERING

Proprietary Software Algorithms

- Bloom has developed specialized control algorithms for combustion systems
- These can enhance furnace productivity, product quality, save fuel, reduce emissions and simplify maintenance
- Intelligen™ and Intelligen™ 2.0 ensures maximum process efficiency
- Delaquerization Mode for contaminated scrap application

Custom Software Algorithms

Examples Include:

- Double Cross Limiting Ratio Control
- Proportional/Impulse/Bottle Temperature Control
- Track-and-Hold Regenerative Logic
- Regenerative Firing Sequence Tailored to Suit Individual Application
- Aluminum Bath Cascade Temperature Control (Flue/Roof/Bath)
- Air Cannon Control

Typical Controls Schematic.

Providing Innovative Automation Solutions

Design and Programming

Bloom Engineering Company's Control System design and Software Programming is conducted by Experienced In-house Combustion Controls Engineering Staff with Commissioning services by our Field Service Group and supported by Controls Engineering as needed.

Solutions Included Are:

- Control Panel Engineering and Integration
- Wiring Schematics, P & IDs
- PLC Programming – Rockwell and Siemens (others upon request)
- HMI Programming – Ignition, Rockwell Panelview, Siemens WinCC, Wonderware/Aveva, and Intellution
- Diagnostics
- Level 2 SCADA Applications
  - Ignition or Upgrade of Existing Controls to Ignition
- Safety PLCs: GuardLogix or Siemens Safety

Services Included Are:

- Remote Troubleshooting and Support of PLC and HMI Applications

  Benefits Include:
  - Fast Support Response
  - Increased uptime
  - Support is purchased in blocks valid for one year*
- Process performance evaluation through online data collection
- Upgrade of Legacy Obsolete Controls Systems
  - Limited Scope Turnkey Support Option
- Commissioning Support
- HAZOP and LOPA Support

Combustion Control Systems Range

- Automation Controller Networked to I/O and Operator Interface(s)
- Programmable Logic Controller
- Linkageless Package Systems (Siemens or Maxon)
- Loop Controllers and Hardwired Discrete Logic

*Support Blocks expire one year after purchase.

PLC-Based Control Systems

Bloom Engineering Controls staff are fluent in a variety of hardware platforms including:

- AllenBradley: ControlLogix, CompactLogix, MicroLogix, PLC5, SLC500
- Siemens Simatic S7
- GE Fanuc
- Modicon
- Others Upon Request

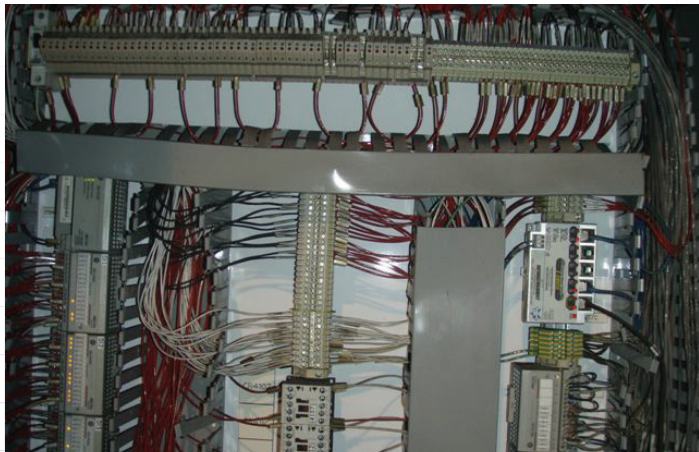*Single zone PLC-Based Regenerative Control Panel with PC running iFIX.*

Gas Train.

System Configurations

- Centralized or Distributed Control Systems
- Remote I/O via Ethernet, ControlNet, DeviceNet or ProfiBus
- Integration with Existing Equipment
- Networks with External Devices
- Redundant Configurations

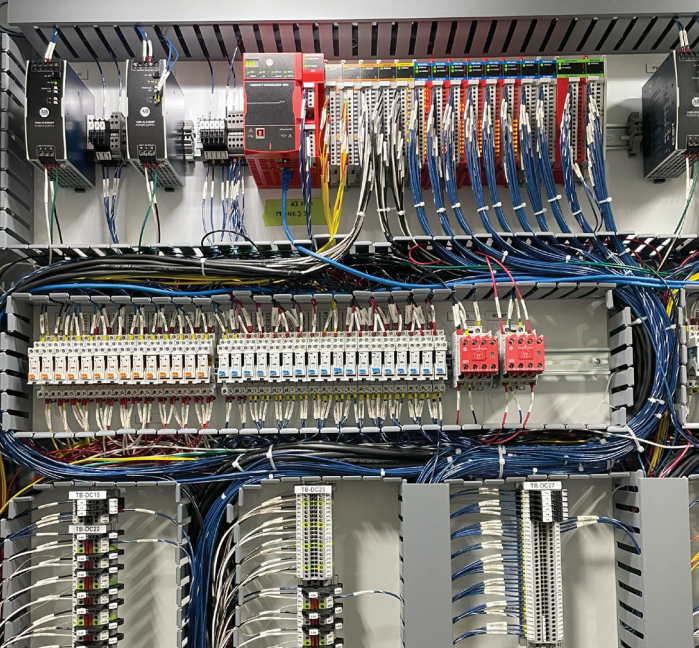## Typical PLC Hardware

Redundant ControlLogix.

Remote Ethernet I/O.

Siemens PLC.
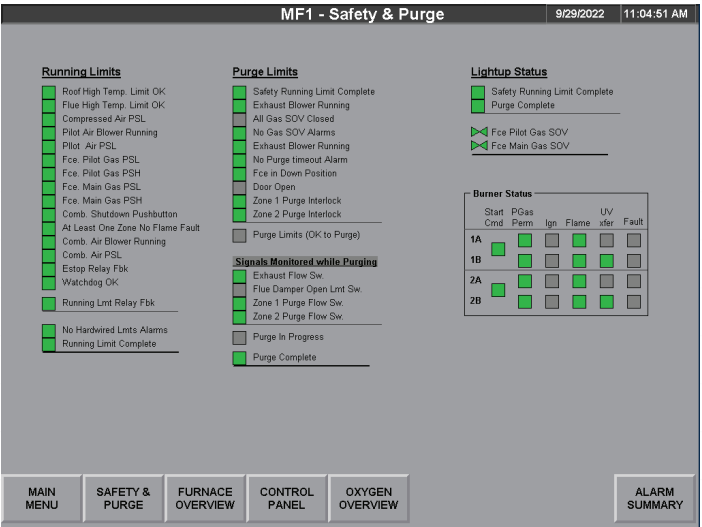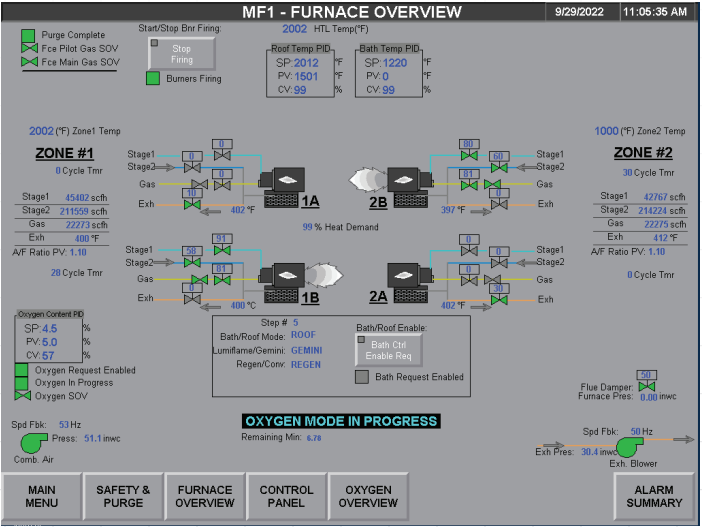
Safety PLCs

Guardlogix Safety PLC.

HMI Options
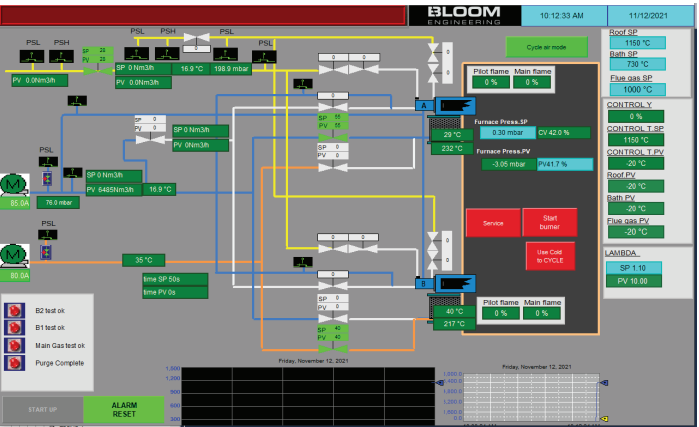
Local Operator Interfaces

- AB PanelView Plus (3" to 15")
- Red Lion
- Siemens

AllenBradley Panelview HMI.

AllenBradley Panelview HMI.

Siemens HMI

PC-Based Options Include:

- Ignition
- Wonderware/Aveva
- RS View
- Optix
- Siemens WinCC
- iFIX
- Others Upon Request

Industry Standard Safety Systems

Can be designed to comply with:

- NFPA85 (Boilers)
- NFPA86 (Furnaces)
- NFPA87 (Fired Heaters)
- ISO-13577
- CSA B149.3

Custom Flame Safeguard Systems

- Available from Multi-Zone (up to Hundreds of Burners) to Single Burner Systems
- UV, infrared, or Ionization Detection
- Hot-Start Options Available