

# Metso Minerals Control Systems

Retrofit Turnkey Design, Supply And Erection



# Preheater Lime Kiln



# Automating Stone Systems



# Communication To Connect Over Large Areas



# Electrical Dept

- Control System Design
- Project Engineering
- Power Systems Design
- Instrumentation
- Field Startup
- Turnkey Electrical Erection

# Technically Diversified

- Ladder Logic -- Allen-Bradley, General Electric, Modicon, Square D, ect.
- Graphics Systems -- Wonderware, RS View, Factory Link, Fix, ect.
- DCS -- Honeywell, Foxboro
- Detailed Drawings
- Burner Management Systems
- Instrumentation / Motors
- New Installations & Controls Retrofit

# Complete Power Design & Installation

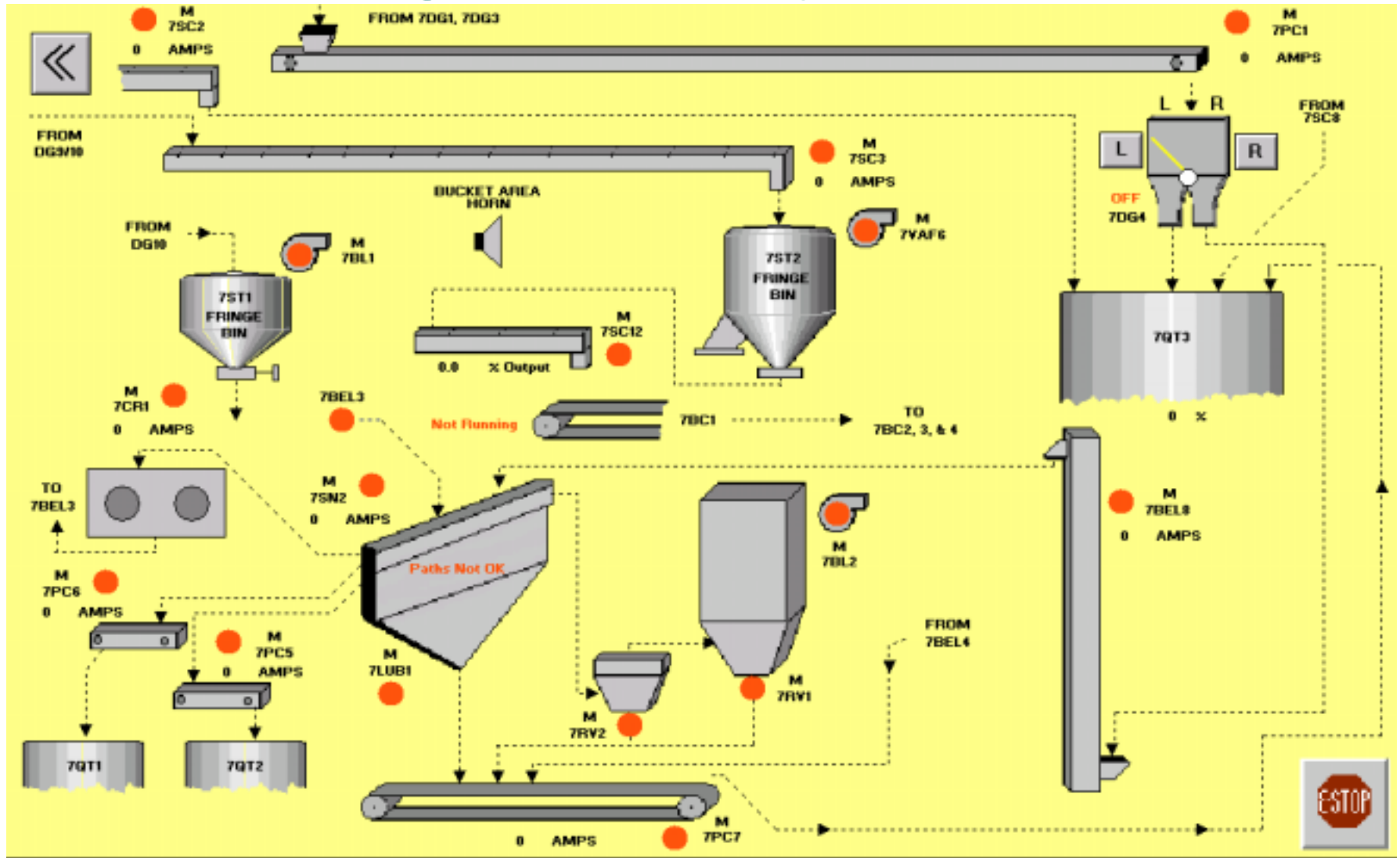


MCC's, Variable Speed  
Drives, Soft Starts,  
Switch Gear

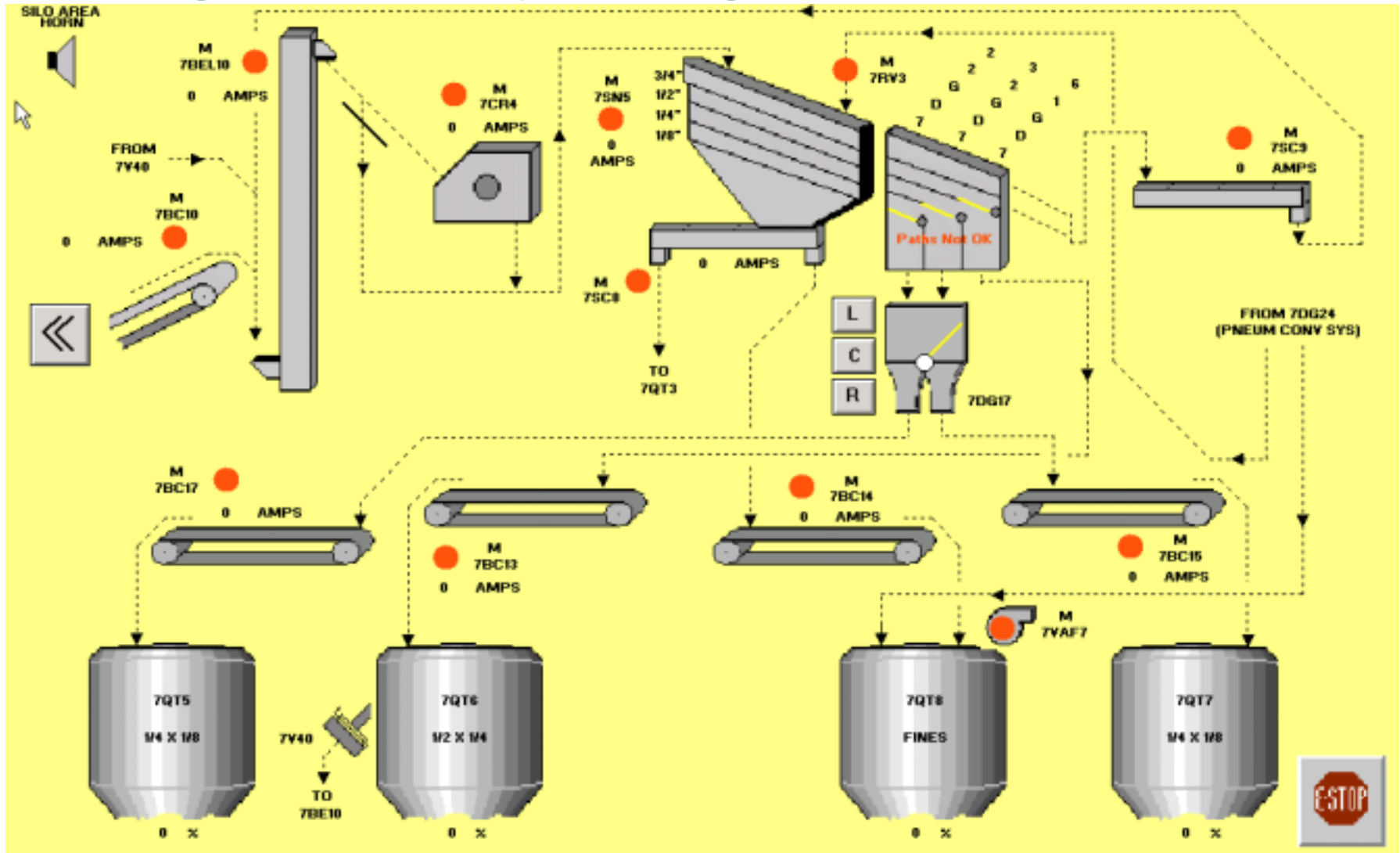




# Product Storage & Takeaway



# Storage, Inventory Management



# Advanced Control

## Optimizing Control System 9

● System Functioning
   
● OCS Program Running

Limits	MIN	SetPoint	MAX	Emergency	Fuz Step <small>Step/Hr</small>	Plant	
Fuel	2.50	3.45	3.45		↑ 0.00	3.48	T/Hr
Backend Diff Temperature		100				103	°F
<span style="color: red;">●</span> O2 Analyzer <small>Out Of Service Clock 7</small>		0.75				15.45	%
CO Analyzer	Using Analyzer					2.25	%
Secondary Air Flow	1.10	1.57	1.95	0.80	↑ 0.0056		in H2O
Stone Feed	430	435.03	500	50	↑ 0.02		Tons/Day
Carbon	- +	0.200					%
Secondary Temperature	- +	1490	°F				

● Cooler Temp – Out Of Control  
● Clinker Door Status

● Stone Feed – Out Of Control

● Burner – Out Of Control

04/11/00 16:50:52 New Carbon received from lab  
 04/11/00 16:47:52 Normal Conditions  
 04/11/00 16:43:52 (not) Normal Conditions  
 04/11/00 16:30:52 Normal Conditions  
 04/11/00 16:29:52 Communication with Intouch OK  
 04/11/00 16:27:52 (not) Communication with Intouch OK

● 1420  
Sec Air

● 1629  
Fir Hood

● 1952  
Kiln Exit

● 1849  
Prehr In

# Experience

- In Other Countries
- Many Different Processes And Programming:
  - Lime, Coke, Waste Incineration
  - Grinding
  - Bulk Handling, Crushing, Screening , Conveying
- Worked With Different Manufactures And Vendors

# Start To Finish

- Design
- Equipment Purchase
- Programming
- Staging / Testing
- Installation
- Startup

# Metso Can Help

Achieve Your Objectives

Modernize Your Existing Plant

Open the door to plant information

