

# Safety Shutdown and BMS needs met with Compliant System



**Solution Partner:** aeSolutions  
**Customer:** Leading Oil Refinery  
**Segment:** Oil & Gas

Refineries burner management and safety shutdown needs are met with rack-to-rack redundant PCS 7 Failsafe System and Safety Matrix

## Requirements of the customer:

- Refinery wanted to upgrade their process heater and safety shut down applications with a high availability SIS system
- Improve production reliability and be in compliance with current industry, burner management and environmental standards
- Needs to interface to the installed basic process control system



### Contact:

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### Founding year:

1998

### Employees:

165

Solution  
Partner

SIEMENS

Automation

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## Implementation by the Solution Partner:

- Installed PCS 7 Failsafe system for burner management control and safety shutdown system
- Rack to rack redundant system with redundant controllers, communications and IO
- Each IO rail is independent to its redundant pair and uses Marshaled Termination Assemblies for field IO wiring
- PCS 7 Safety Matrix for cause and effects safety shut down logic configuration, visualization and testing
- Modbus interface to the site DCS system
- Installed additional SIS for another refining process based on the observed benefits of the initial BMS/SIS implementation
- Additional SIS and initial BMS/SIS both communicate to a dedicated operator interface for maintenance of the safety systems

## Benefits for the customer:

- Improved process safety availability and system reliability with the PCS 7 Failsafe architecture
- Simplified engineering, operator interface and testing with the PCS 7 Safety Matrix
- Improved system documentation and simplified testing with the safety matrix
- Provided operator training and application documentation which helps site support the system and manage changes more effectively.

Symbol	Address	Function	Logic	Comment	Priority	...
PI_100	11.21	PI_100	AND	Feed pressure	5	
PI_101	11.22	PI_101	AND	Feed pressure	5	
PI_102	11.23	PI_102	AND	Feed pressure	5	
PI_103	11.24	PI_103	AND	Feed pressure	5	
PI_104	11.25	PI_104	AND	Feed pressure	5	
PI_105	11.26	PI_105	AND	Feed pressure	5	
PI_106	11.27	PI_106	AND	Feed pressure	5	
PI_107	11.28	PI_107	AND	Feed pressure	5	
PI_108	11.29	PI_108	AND	Feed pressure	5	
PI_109	11.30	PI_109	AND	Feed pressure	5	
PI_110	11.31	PI_110	AND	Feed pressure	5	
PI_111	11.32	PI_111	AND	Feed pressure	5	
PI_112	11.33	PI_112	AND	Feed pressure	5	
PI_113	11.34	PI_113	AND	Feed pressure	5	
PI_114	11.35	PI_114	AND	Feed pressure	5	
PI_115	11.36	PI_115	AND	Feed pressure	5	
PI_116	11.37	PI_116	AND	Feed pressure	5	
PI_117	11.38	PI_117	AND	Feed pressure	5	
PI_118	11.39	PI_118	AND	Feed pressure	5	
PI_119	11.40	PI_119	AND	Feed pressure	5	
PI_120	11.41	PI_120	AND	Feed pressure	5	
PI_121	11.42	PI_121	AND	Feed pressure	5	

SAFETY MATRIX

