S

ENGINEERING CHANGE NOTICE

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1. ECN 654877

Page 1 of 6
AMS
APD 09/27/99Proj.
ECN

2. ECN Category (mark one) Supplemental ☐ Direct Revision ☒ Change ECN ☐ Temporary ☐ Standby ☐ Supersedure ☐ Cancel/Void ☐	3. Originator's Name, Organization, MSIN, and Telephone No. Stubbs, AM/15500/T5-55/373-9380		4. USQ Required? ☒ Yes ☐ No	5. Date 09/24/99																				
	6. Project Title/No./Work Order No. ATP for HC-21I/100741	7. Bldg./Sys./Fac. No. 234-5Z/73T	8. Approval Designator Q																					
	9. Document Numbers Changed by this ECN (includes sheet no. and rev.) HNF-SD-CP-CSWD-018 Rev 1	10. Related ECN No(s). NA	11. Related PO No. NA																					
12a. Modification Work ☐ Yes (fill out Blk. 12b) ☒ No (NA Blks. 12b, 12c, 12d)	12b. Work Package No. NA	12c. Modification Work Complete NA Design Authority/Cog. Engineer Signature & Date	12d. Restored to Original Condition (Temp. or Standby ECN only) NA Design Authority/Cog. Engineer Signature & Date																					
13a. Description of Change Direct Revision of HNF-SD-CP-CSWD-018 Rev 1 1) Deletes from the Software Configuration HA-20MB thermal stabilization.																								
14a. Justification (mark one) Criteria Change ☒ Design Improvement ☐ Environmental ☐ Facility Deactivation ☐ As-Found ☐ Facilitate Const ☐ Const. Error/Omission ☐ Design Error/Omission ☐																								
14b. Justification Details HA-20MB was dropped from the additional muffle furnace installation project.																								
15. Distribution (include name, MSIN, and no. of copies) <table border="0"> <tr> <td>D.R. Groth</td> <td>T4-15</td> <td>L.E. Edvalson</td> <td>T5-48</td> </tr> <tr> <td>R. Risenmay</td> <td>T5-55</td> <td>G. A. Glover</td> <td>T4-20</td> </tr> <tr> <td>A.M. Stubbs</td> <td>T5-55</td> <td>B. Glenn</td> <td>T4-19</td> </tr> <tr> <td>O.P. Dhiman</td> <td>T4-20</td> <td></td> <td></td> </tr> <tr> <td>D.R. Speer</td> <td>T5-50</td> <td></td> <td></td> </tr> </table>					D.R. Groth	T4-15	L.E. Edvalson	T5-48	R. Risenmay	T5-55	G. A. Glover	T4-20	A.M. Stubbs	T5-55	B. Glenn	T4-19	O.P. Dhiman	T4-20			D.R. Speer	T5-50		
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RELEASE STAMP	
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ENGINEERING CHANGE NOTICE

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ECN (use no. from pg. 1)

654877

16. Design Verification Required

☐ Yes
☒ No

17. Cost Impact

ENGINEERING

 Additional ☐ \$ NA
 Savings ☐ \$ NA

CONSTRUCTION

 Additional ☐ \$ NA
 Savings ☐ \$ NA

18. Schedule Impact (days)

 Improvement ☐ NA
 Delay ☐ NA

19. Change Impact Review: Indicate the related documents (other than the engineering documents identified on Side 1) that will be affected by the change described in Block 13. Enter the affected document number in Block 20.

SDD/DD	☐	Seismic/Stress Analysis	☐	Tank Calibration Manual	☐
Functional Design Criteria	☐	Stress/Design Report	☐	Health Physics Procedure	☐
Operating Specification	☐	Interface Control Drawing	☐	Spares Multiple Unit Listing	☐
Criticality Specification	☐	Calibration Procedure	☒	Test Procedures/Specification	☐
Conceptual Design Report	☐	Installation Procedure	☐	Component Index	☐
Equipment Spec.	☐	Maintenance Procedure	☐	ASME Coded Item	☐
Const. Spec.	☐	Engineering Procedure	☐	Human Factor Consideration	☐
Procurement Spec.	☐	Operating Instruction	☐	Computer Software	☐
Vendor Information	☐	Operating Procedure	☒	Electric Circuit Schedule	☐
OM Manual	☐	Operational Safety Requirement	☐	ICRS Procedure	☐
FSAR/SAR	☐	IEFD Drawing	☐	Process Control Manual/Plan	☐
Safety Equipment List	☐	Cell Arrangement Drawing	☐	Process Flow Chart	☐
Radiation Work Permit	☐	Essential Material Specification	☐	Purchase Requisition	☐
Environmental Impact Statement	☐	Fac. Proc. Samp. Schedule	☐	Tickler File	☐
Environmental Report	☐	Inspection Plan	☐	NA	☐
Environmental Permit	☐	Inventory Adjustment Request	☐		☐

20. Other Affected Documents: (NOTE: Documents listed below will not be revised by this ECN.) Signatures below indicate that the signing organization has been notified of other affected documents listed below.

Document Number/Revision

Document Number/Revision

Document Number Revision

NA

NA

NA

21. Approvals

	Signature	Date		Signature	Date
Design Authority	<i>[Signature]</i>	<i>9/24/99</i>	Design Agent		
Cog. Eng.	<i>[Signature]</i>	<i>9/27/99</i>	PE		
Cog. Mgr.	<i>[Signature]</i>	<i>9/27/99</i>	QA		
QA Rodney R. Thorne	<i>[Signature]</i>	<i>9/27/99</i>	Safety		
Safety			Design		
Environ.			Environ.		
Other			Other		

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DEPARTMENT OF ENERGY
 Signature or a Control Number that tracks the Approval Signature

ADDITIONAL

UNREVIEWED SAFETY QUESTION (USQ) SCREENING AND EVALUATION		
1. Identification Number: HNF-SD-CP-CSWD-018 Rev 2	USQ SCREENING	Page 3 of 5
2. Title: Honeywell Modular Automation System Computer Software Documentation.		

DESCRIPTION:

The change to the computer software document deletes the HA-20MB furnace stabilization programs from Honeywell Modular Automation System programming(PLC/MAS). The PLC programming controls the HA-21I furnaces heating cycle, off-gas vacuum pumps and monitors glovebox temperature during operation.

INTRODUCTION:

The purpose of the Computer Software Document is to document the computer software for the three glovebox HA-21i muffle new furnaces as controlled by the new Honeywell Modular Automation System(MAS).

The following sections in HNF-SD-CP-SAR-021 Rev 1 describe the use of HA-21I and the PLC:

Section 6.4.1.1 Process Description - -

Section 6.4.1.1.1 -- Narrative Description -- The section states that thermal stabilization is performed in HA-21I and the type of feed allowed in HA-21I.

Sub-heading Process Feed -- The section states that thermal stabilization is performed in HA-21I.

Sub-heading Stabilization -- The section discusses the furnace operation in HA-21I and that the furnaces are controlled with a PLC(MAS) rather than individual controllers.

HNF-SD-CP-SAR-021 Rev 1, Appendix 9A, Plutonium Finishing Plant Hazard Evaluation, Table 9A.1.1 Item 21. The item discusses the various types of failures that could happen during the operation of HA-21I.

AFFECTED SSC: No SSC's are affected by this CSWD change

AUTHORIZATION BASIS:

The authorization basis documents considered include those listed in FSP-PFP-5-8, section 2.23, appendix A.

These are:

HNF-SD-CP-SAR-021 Rev 1

CONCLUSION:

The change to the CSWD document PLC(MAS) is within the bounds of the Plutonium Finishing Plant Authorization Basis. The use of the PLC is discussed in Chapter 6 of HNF-SD-CP-SAT-021 Rev 1. All questions were answered "No", therefore, a USQ Evaluation is not required.

REFERENCES:

none

UNREVIEWED SAFETY QUESTION (USQ) SCREENING AND EVALUATION		
1. Identification Number: HNF-SD-CP-CSWD-018 Rev 2	USQ SCREENING	Page 4 of 5
2. Title: Honeywell Modular Automation System Computer Software Documentation.		

INSTRUCTIONS: Respond to each question and provide justification for each response. A restatement of the question does not constitute a satisfactory justification or basis. An adequate justification provides sufficient explanation such that an independent reviewer could reach the same conclusion based on the information provided [DOE 5480.21, 10.e.1].

QUESTIONS

1. Does the proposed change or occurrence represent a change to the facility or procedures as described in the Authorization Basis?

☐ N/A ☒ No ☐ Yes/Maybe

BASIS: The CSWD HNF-SD-CP-CSWD-018 Rev 2 provides programming instructions for the configuration of the Honeywell MAS at the Plutonium Finishing Plant(PFP). Section 6.4.1.1.1, Sub-heading Stabilization -- The section discusses the furnace operation in HA-21I and that the furnaces are controlled with a PLC(MAS) rather than individual controllers. The CSWD is written to document the programming of the three new furnaces as controlled by the new Honeywell Modular Automation System(MAS) does not add any additional operational requirements that have not been discussed in HNF-SD-CP-SAR-021 Rev 1. HNF-SD-CP-CSWD-018 Rev 2 would not change the authorization basis.

2. Does the proposed change or occurrence represent conditions that have not been analyzed in the Authorization Basis?

☐ N/A ☒ No ☐ Yes/Maybe

BASIS: The CSWD, HNF-SD-CP-CSWD-018 Rev 2, documents the PLC(MAS) written will not create new conditions for the facility, since HNF-SD-CP-SAR-021 Rev 1 discusses the use of the PLC to control the HA-21I furnaces in chapter 6, Section 6.4.1.1 Process Description

3. Does the proposed change represent a test or experiment NOT described in the Authorization Basis that may affect the safe operation of the facility?

☒ N/A ☐ No ☐ Yes/Maybe

BASIS: Modification of the CSWD document is not a test or experiment.

4. Does the proposed change or occurrence represent a change to the Technical Safety Requirements or a reduction in the margin of safety defined in the Technical Safety Requirements?

☐ N/A ☒ No ☐ Yes/Maybe

BASIS: The change to CSWD does not require a change to any OSR or TSR. No safety limits for PFP are specified in OSR-10 so a margin of safety cannot be affected.

**UNREVIEWED SAFETY QUESTION (USQ)
SCREENING AND EVALUATION**

1. Identification Number: HNF-SD-CP-CSWD-018 Rev 2	USQ SCREENING	Page 5 of 5
2. Title: Honeywell Modular Automation System Computer Software Documentation.		

USQE #1

Art Stubbbs

(Print Name)

USQE #2

J.P. King

(Print Name)

Art Stubbbs

Signature

Date: 9-24-99Jeffrey P. King

Signature

Date: 9/24/99

If there is a YES/MAYBE response to questions 1, 2, 3, or 4, then a USQ Evaluation must be completed.

The following guidance should be considered when completing this screening. This guidance should not be considered all-inclusive; additional factors may need to be considered depending on the nature of the proposed change.

Does the proposed change:

- 1) Modify, add, or delete a safety class function of a structure, system or component stated in the authorization basis?
- 2) Alter the design of a structure, system or component as described in the authorization basis?
- 3) Modify, add, or delete the description of operation, operating environment, or analyses of any system or component described in the authorization basis?
- 4) Modify, add, delete or conflict with any of the design bases stated in the authorization basis?
- 5) Conflict with the principle or general design criteria stated in the authorization basis?
- 6) Modify, add, or delete any plant design features described in the authorization basis?
- 7) Modify, add, or delete a flow diagram or facility drawing provided in the authorization basis?
- 8) Create the potential for new system or component interactions (e.g., seismic, electrical breaker coordination)?

HONEYWELL MODULAR AUTOMATION SYSTEM COMPUTER SOFTWARE DOCUMENTATION

L.T. Cunningham
B & W Hanford Co., Richland, WA 99352
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Abstract: This document provides a Computer Software Documentation for a new Honeywell Modular Automation System (MAS) being installed in the Plutonium Finishing Plant (PFP). This system will be used to control new thermal stabilization furnaces in HA-21I and vertical denitration calciner in HC-230C-2.

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Release Approval

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Date

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RECORD OF REVISION

(1) Document Number
HNF-SD-CP-CSWD-018

Page 1

(2) Title

Honeywell Modular Automation System Computer Software Documentation

Change Control Record

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1.0 INTRODUCTION

1.1 PURPOSE

The purpose of this Computer Software Document (CSWD) is to provide configuration control of the Honeywell Modular Automation System (MAS) in use at the Plutonium Finishing Plant (PFP). The Honeywell MAS is used to control the thermal stabilization furnaces in glovebox HA-21I and vertical denitration calciner (VDC) in glovebox HC-230C-2.

1.2 SCOPE

This CSWD describes hardware and PFP developed software for control of stabilization furnaces and VDC. The Honeywell software can generate configuration reports for the developed control software. These reports are described in the following section and are attached as addendums.

This plan applies to PFP Process Engineering Cognizant Manager and Stabilization Cognizant Engineers responsible for the Honeywell MAS software/hardware and administration of the Honeywell System.

2.0 SYSTEM HARDWARE DESCRIPTION

The Honeywell MAS consists of two PC work stations, "cable links," and the process control rack. Input signals from furnaces in HA-21I and VDC in HC-230C-2 are connected to modules in the process control rack.

The work stations are personal computers with INTEL® Pentium® processors and operates in a Microsoft® Windows™ 3.1 environment. Available software includes the Honeywell PC supervisor, Intellution® FIX DMACS™, and Microsoft® Windows™ and Excel™.

The PC work stations connect to the Programmable Logic Controller (PLC) with a "cable link" (coaxial cable). Each end of the cable is terminated with a 50-ohm resistor.

Figure 1

2.0 SYSTEM HARDWARE DESCRIPTION (cont.)

The process control rack contains the following modules: a Model 9000e logic control processor (9010-012), a 15-amp power supply module (620-0083), an Ethernet Loop Processor Module (620-0073), two 16-point universal analog input modules (621-0020R), two 4-point analog output modules (621-0010AR), two 16-point discrete input modules (621-1160R), and two 16-point discrete output modules (621-2150R). The connection and address information for each module is found in Appendix A.

3.0 SYSTEM SOFTWARE CONFIGURATION FILES

A continuous control chart (CCC) is the configuration software file for the S9000 Controller that creates loop control graphically through the PC Supervisor. Addresses and point names define source and destination of data within the CCC configuration. These addresses identify physical connection points for field wiring to I/O modules plus internal I/O and registers for the relay ladder logic. A copy of the CCC block diagram is attached as Appendix B. Reports have been generated for block configuration and point configuration. These reports are attached as Appendix C and Appendix D, respectively.

The PCS Relay Ladder Logic (RLL) allows the programmer to define discrete control functions in the control strategy with logic elements such as coils and relays. A printout of the Ladder Logic report for furnace and VDC control is attached as Appendix E.

The sequential control chart (SCC) is used with the CCC and RLL to provide integrated control. An SCC graphically represents process steps that are time or event dependent. A printout of the SCC diagram for controlling VDC filter blowback is included as Appendix F.

Set point programs control the temperature profile for the HA-21I furnaces and HC-230C-2 vertical denitration calciner. A copy of each set point profile and program configuration are attached as Appendix G.

4.0 GRAPHICAL FILES

These files provide graphical representation of the process being controlled. Narratives for graphic display configurations are given in section 6.0. A copy of each graphic is attached in Appendix H with its corresponding computer generated configuration reports.

5.0 TAG GROUP FILES

The tag group files are sets of tagnames used in a common graphical displays to replace generic tagnames with specific data points. Tag groups are used for a common furnace graphic used to monitor and control one of the HA-21I furnaces. Tag group reports have been generated by the Tag Group Editor as an ASCII file. Copies of these reports are attached in Appendix I.

6.0 PROGRAM DESCRIPTION

The configuration program and graphics developed to control thermal stabilization furnaces and vertical denitration calciner are discussed in this section.

6.1 Stabilization Furnace Program

RLL was used to configure the interlocks for each furnace. The following conditions must be satisfied before a furnace can be started:

- Computer Emergency Stop Button Reset
- Field Emergency Stop Button Reset
- Door limit switch engaged (door closed)
- Furnace High Temperature Alarm Reset
- Furnace Deviation Alarm Reset
- HA-21I High Temperature Alarm Reset

Furnace heating cycles are setup to process OXIDE, METAL, and RECYCLE. Each of the above conditions must be satisfied before a program button will start a heating cycle. If an inadvertent shutdown of a furnace occurs, additional programs have been setup to start furnaces at increased temperatures. The program button (OXIDE, METAL, or RECYCLE) picks correct program depending upon current furnace temperature.

6.1 Stabilization Furnace Program (cont.)

The **GRAPHICAL SCREENS** designed for furnace operation consist of following.

- FURNACE OVERVIEW screen monitors furnace temperatures, glovebox temperature, emergency shutdown status, alarm status, and off-gas fan status. The FURNACE OVERVIEW screen is the default graphic for the computer in Room 230A. All other furnace control and monitoring screens are accessed from this graphic.
- Three FURNACE screens are reached by clicking on appropriate furnace on FURNACE OVERVIEW screen. Heating cycle programs for individual furnaces are initiated from this display. Furnace temperatures (set point, control, high alarm, off-gas, and glovebox), off-gas fan status, and alarm status can be monitored from this screen. Click on furnace to return to FURNACE OVERVIEW.
- HA-21I FURNACE TEMPERATURE PROFILES screen is reached by clicking graph on FURNACE OVERVIEW screen. The graph is setup for one hour display. Click on the graph to return to FURNACE OVERVIEW.
- GLOVEBOX HA-21I Temperature Profile screen is reached by clicking on GLOVEBOX TEMPERATURE on FURNACE OVERVIEW screen. The graph in this display shows temperature readings for all three HA-21I glovebox thermocouples. The indication on the FURNACE OVERVIEW screen is the highest of these readings. Click on graph to return to FURNACE OVERVIEW.
- A full screen alarm status is reached by clicking on either alarm status box on FURNACE OVERVIEW screen or on any of the FURNACE screens. Click on the alarm status box to return to FURNACE OVERVIEW.
- Off-Gas Fan Control screen is reached by clicking on OFF-GAS FAN on FURNACE OVERVIEW display. The off-gas fans are started from this display that also includes a graph of furnace off-gas temperatures. Click on Furnace Overview button to return to FURNACE OVERVIEW screen.

6.2 Vertical Denitration Calciner Program

The RLL provides interlocks for VDC operation. These interlocks in association with hardwired interlocks provide VDC control.

Filter blowback is ultimately controlled by operation of solenoid valve EV-230-A. Indicating light IL-230-D on the control panel illuminates when filter blowback is active. The following conditions must be satisfied before EV-230-A will OPEN and IL-230-D will illuminate:

- Blowback control sequence started
- VDC Vacuum > 5" water
- Temperature control thermocouple working

The above interlocks will only disrupt power to EV-230-A. The filter blowback sequence must be stopped with the computer from the BLOWBACK AND ATOMIZING AIR screen.

When filter blowback is started, the SSC portion of the control configuration sequences through the blowback of each filter as follows:

- EV-230-A energizes to provide air in accumulator tank for blowback
- EV-230-G energizes to isolate DPS-230-A and prevent spurious Calciner Filter Diff Pressure High alarms. This also inactivates the VDC LOW VACUUM alarm on the computer.
- EV-230-B, EV-230-C, or EV-230-D energizes for one second to blowback associated filter.
- After short delay to allow VDC pressure to stabilize, EV-230-G de-energizes and reactivates VDC LOW VACUUM alarm.
- EV-230-A de-energizes and the accumulator tank recharges with air.
- After 30 second delay (cycle for each filter is about 45 second and 2½ minutes for all three filters), the sequence is repeated for the next filter.

Process repeats until filter blowback is stopped by pressing BLOWBACK STOP button on BLOWBACK AND ATOMIZING AIR screen.

6.2 Vertical Denitration Calciner Program (cont.)

Phase Separator Tank Level Control uses two level elements. The goal is to maintain tank level between the High and High-High level elements. When solution reaches High-High Level Element LEHH-230-1, EV-230-H and IL-230-H are energized. Power to EV-230-H and IL-230-H is latched ON until High Level Element LEH-230-1 no longer detects solution. When EV-230-H energizes, air is supplied to DOV-230-H, DOV-230-HA, and DOV-230-HB to set up transfer of solution from Phase Separator Tank (PST) to a Spent Scrubber Solution Receiver Tank (SSSRT). When LEH-230-1 no longer detects liquid, EV-230-H de-energizes and removes air to DOV-230-H, DOV-230-HA, and DOV-230-HB. The flow path from PST to scrubber is restored. An alarm (PHASE SEPARATOR PUMP OUT) is configured on the computer to annunciated if solution level in the PST does not drop below the LEH-230-1 within 30 seconds of activation of LEHH-230-1.

The EV-230-H button on the SCRUBBER screen will also open solenoid valve EV-230-H. The valve will only open when the level in the PST is between the LEHH-230-1 and LEH-230-1 level probes. Valve EV-230-H will close once level is below the LEH-230-1 level probe or EV-230-H button is depressed.

Feed Receipt Tank (FRT) transfer to Feed Pump Tank (FPT) is controlled by DOV-230-F. When EV-230-F is energized, air is supplied to DOV-230-F and opens the valve. Weight factor transmitter WFT-230-1 sends a level signal for the FPT to the PLC. A software interlock de-energizes EV-230-F when FPT high weight factor alarm activates.

The following condition will prevent starting or cause shutdown of the Feed Pump, P-230-A.

- High-High Vacuum Trap Level
- Low Atomizing Air Pressure
- Low Atomizing Air Flow
- VDC Low Temperature
- Temperature Control Thermocouple Failure
- Stalled Agitator
- VDC Low Vacuum

These conditions latch and must clear before the feed pump can be restarted. In addition, the feed pump must be stopped with the FPT PUMP STOP button on VDC screen before it can be started. The FPT PUMP START button is ineffective until all interlocks are satisfied. This ensures operator action must take place to restart the feed pump.

6.2 Vertical Denitration Calciner Program (cont.)

Atomizing Air solenoid valve, EV-230-K, closes under the following conditions. Button EV-230-K remains inoperable until these conditions clear.

- Low Atomizing Air Pressure
- Stalled Agitator
- Low VDC Vacuum
- Temperature Control Thermocouple Failure

Button EV-230-K on BLOWBACK AND ATOMIZING AIR screen is used to position valve EV-230-K. Position indication is below the valve on the screen. The interlocking signals do not latch and allows EV-230-K to reopen automatically when condition clears.

The **VDC Low Temperature Alarm** is programmed to only be active after VDC HEATING CYCLE is running and temperature has exceeded 975°C. Pressing VDC HEATING CYCLE STOP button deactivates alarm.

pH Control of scrubber tank is achieved by comparing the signal from PHT-230-1 with a set point. The caustic pump, P-230-B, is energized when pH of recycled scrubber solution falls below the set point. Pressing the pH CONTROL START button on the SCRUBBER screen begins automatic control. The pH CONTROL BYPASS button starts caustic pump and will be used when problems exist with pH control system (element, transmitter, etc.). If the control bypass is used, the pump rate of P-230-B will be set based on feed rate and acid concentration. The pH CONTROL CAUSTIC ADDITION button starts caustic pump for a 15-second addition.

Process Vacuum to the VDC is isolated with solenoid valve EV-230-L. Control of valve EV-230-L is from the control panel, but the vacuum trap high-high level interlock is setup in the software. Detection of solution by the Vacuum Trap (VT) high-high level element, LEHH-230-2, closes EV-230-L 5 seconds after stopping feed pump, atomizing air, and caustic pump. This delay prevents pressurization of the VDC by allowing the vacuum to remove residual off-gases generated from feed solution and atomizing air.

6.2 Vertical Denitration Calciner Program (cont.)

The **GRAPHICAL SCREENS** designed for VDC operation consist of following.

- VDC screen is used to monitor VDC temperatures (control, dome, off-gas, baseplate, and agitator motor), VDC Vacuum, OFF-GAS filter differential pressure, feed pump tank weight factor, and active alarms.

The VDC HEATING CYCLE START and STOP buttons are used for heating cycle control. The feed pump is controlled with the FPT PUMP START and STOP buttons. Associated interlocks must be satisfied before either START button will work.

The SCRUBBER and BLOWBACK AND ATOMIZING AIR screens are accessible from the VDC display.

- SCRUBBER screen is used to monitor scrubber temperature, scrubber solution pH, phase separator tank level elements, vacuum trap high-high level element, P-230-B operation state, valve positions, and active alarms.

Control for PST level is automatically performed using signals from the high and high-high level elements located in the PST. Solenoid valve EV-230-H opens when solution in the PST reaches the high-high level element and closes when the high level element no longer detects solution. When EV-230-H is open, the transfer route to pump from the PST to the SSSRTs is established. The EV-230-H push button will also open solenoid valve EV-230-H. However, this action cannot override automatic PST level control and close EV-230-H.

Control of caustic pump, P-230-B, is done from this display. Caustic pump operating states are as follows:

pH CONTROL START - Starts automatic control of pH using setpoints.

ph CONTROL STOP - Stops automatic control of pH.

BYPASS - Turns ON caustic pump for manual control of scrubber solution pH. Flow rate is adjusted dependent upon Pu nitrate feed rate and acid concentration. Pressing the BYPASS button again turns OFF the caustic pump.

ADDITION - Starts the caustic pump (P-230-B) for a preset time to add caustic to the scrubber and then automatically turns off. The current setting is 15 seconds.

The VDC and SPENT SCRUBBER SOLUTION RECEIVER TANK screens can be reached from the SCRUBBER display.

6.2 Vertical Denitration Calciner Program (cont.)

- BLOWBACK AND ATOMIZING AIR display is used to monitor and control filter blowback and atomizing air to the VDC feed nozzle. An alarm panel is provided to acknowledge and view alarms.

Solenoid valve EV-230-K provides isolation of VDC process from the air bottle stations. Flow switch and pressure switch indications for atomizing air are shown on display. Position control is with the EV-230-K push button. Position indication is shown below the valve.

Filter blowback is controlled with the BLOWBACK START and STOP buttons. The START button will work only when all associated interlocks are satisfied. The valve position for EV-230-A, EV-230-B, EV-230-C, EV-230-D, and EV-230-G can be monitored on screen when filter blowback sequence is running.

The VDC screen is the only accessible screen from the BLOWBACK AND ATOMIZING AIR display.

- SPENT SCRUBBER WASTE TANKS DISPLAY IS USED TO MONITOR the weight factor indications for SSSRT-1 AND SSSRT-2. No other control is done from this display. An alarm panel is provided to acknowledge and view alarms.

The SCRUBBER screen is accessible from the SPENT SCRUBBER WASTE TANKS display.

APPENDIX A
ADDRESS CONFIGURATION INFORMATION

Module Address Information						
Address	Module Type	Slot-Point	Input/Output	Config Input/Output	Point Name	Description
000	UAI	A-1	4-20 mA	1-5 V	CCTTEMP	Denitrator Control Temperature Input (0 - 1200°C)
001	UAI	A-2	4-20 mA	1-5 V	DOMETEMP	Denitrator Dome Temperature Input (0 - 1200°C)
002	UAI	A-3	4-20 mA	1-5 V	OGTEMP	Off-Gas Tubing Temp Input (0 - 1200°C)
003	UAI	A-4	4-20 mA	1-5 V	SCTKTEMP	Off-Gas Scrubber Tank Temperature Input (0 - 100°C)
004	UAI	A-5	4-20 mA	1-5 V	AMTEMP	Denitrator Agitator Motor Temperature Input (0 - 100°C)
005	UAI	A-6	4-20 mA	1-5 V	TEMP120	VDC Baseplate Temperature 120° from Feed Nozzle
006	UAI	A-7	4-20 mA	1-5 V	TEMP240	VDC Baseplate Temperature 240° from Feed Nozzle
007	UAI	A-8				
008	UAI	A-9				
009	UAI	A-10	4-20 mA	1-5 V	FPTWF	Feed Pump Tank Weight Factor (0 - 40 "H ₂ O)
010	UAI	A-11	4-20 mA	1-5 V	SSRT1WF	Spent Scrubber Receiver Tank #1 Weight Factor (0 - 60 "H ₂ O)
011	UAI	A-12	4-20 mA	1-5 V	SSRT2WF	Spent Scrubber Receiver Tank #2 Weight Factor (0 - 60 "H ₂ O)
012	UAI	A-13	4-20 mA	1-5 V	STKPH	Scrubber Tank pH Reading
013	UAI	A-14	4-20 mA	1-5 V	DP_CALGB	Differential Pressure Glovebox to Calciner (0 - 50 "H ₂ O)

Module Address Information						
Address	Module Type	Slot-Point	Input/Output	Config Input/Output	Point Name	Description
014	UAI	A-15	4-20 mA	1-5 V	DPCALOFF	Differential Pressure Calciner to Off-gas (0 - 150 "H ₂ O)
015	UAI	A-16				
Addresses 16 to 31 are not usable.						
032	UAI	B-1	Type K TC	Type K TC	TE21I1	Control TC for FUR-21I-1
033	UAI	B-2	Type K TC	Type K TC	TE21I2	High Temp. for FUR-21I-1
034	UAI	B-3	Type K TC	Type K TC	TE21I3	Control TC for FUR-21I-2
035	UAI	B-4	Type K TC	Type K TC	TE21I4	High Temp. for FUR-21I-2
036	UAI	B-5	Type K TC	Type K TC	TE21I5	Control TC for FUR-21I-3
037	UAI	B-6	Type K TC	Type K TC	TE21I6	High Temp. for FUR-21I-3
038	UAI	B-7	Type K TC	Type K TC	TE21I7	Glovebox HA-21I Temperature
039	UAI	B-8	Type K TC	Type K TC	TE21I8	Glovebox HA-21I Temperature
040	UAI	B-9	Type K TC	Type K TC	TE21I9	Glovebox HA-21I Temperature
041	UAI	B-10	Type K TC	Type K TC	TE21I10	Off-gas Temp for FUR-21I-1
042	UAI	B-11	Type K TC	Type K TC	TE21I11	Off-gas Temp for FUR-21I-2
043	UAI	B-12	Type K TC	Type K TC	TE21I12	Off-gas Temp for FUR-21I-3
044	UAI	B-13				
045	UAI	B-14				
046	UAI	B-15				
047	UAI	B-16				
Addressed 48 to 63 are not usable.						

Module Address Information						
Address	Module Type	Slot-Point	Input/Output	Config Input/Output	Point Name	Description
064	AO	C-3/ C-4	0-100%	4-20 mA	OP_CAL/ EIC230A	SCR Signal for Denitrator Shell Heater (EIC 230A)
065	AO	C-T1/ C-T2	0-100%	4-20 mA	OP_CAL/ EIC230B	SCR Signal for Denitrator Dome Heater (EIC 230B)
066	AO	C-B3/ C-9				
067	AO	C-14/ C-15				
Addressed 68 to 71 are not usable.						
072	AO	D-3/ D-4	0-100%	4-20 mA	OP21I1	SCR Signal for FUR-21I-1
073	AO	D-T1/ D-T2	0-100%	4-20 mA	OP21I2	SCR Signal for FUR-21I-2
074	AO	D-B3/ D-9	0-100%	4-20 mA	OP21I3	SCR Signal for FUR-21I-3
075	AO	D-14/ D-15				
Addressed 76 to 79 are not usable.						
080	DI	E-1	ON/OFF	ON/OFF	LS21I1	Limit Switch for FUR-21I-1
081	DI	E-2	ON/OFF	ON/OFF	LS21I2	Limit Switch for FUR-21I-2
082	DI	E-3	ON/OFF	ON/OFF	LS21I3	Limit Switch for FUR-21I-3
083	DI	E-4	ON/OFF	ON/OFF	FAN_ON	Either Vacuum Fan #1 or #2 are ON.
084	DI	E-5	ON/OFF	ON/OFF	EMERG_FD	Field Emergency Stop Button Indication
085	DI	E-6				
086	DI	E-7				
087	DI	E-8				
088	DI	E-9				

Module Address Information						
Address	Module Type	Slot-Point	Input/Output	Config Input/Output	Point Name	Description
089	DI	E-10				
090	DI	E-11				
091	DI	E-12				
092	DI	E-13				
093	DI	E-14				
094	DI	E-15				
095	DI	E-16				
096	DO	F-1	ON/OFF	ON/OFF	PWR21I1	Contactor for FUR-21I-1
097	DO	F-2	ON/OFF	ON/OFF	PWR21I2	Contactor for FUR-21I-2
098	DO	F-3	ON/OFF	ON/OFF	PWR21I3	Contactor for FUR-21I-3
099	DO	F-4	ON/OFF	ON/OFF	HS_VAC1	Start/Stop Vacuum Fan #1
100	DO	F-5	ON/OFF	ON/OFF	HS_VAC2	Start/Stop Vacuum Fan #2
101	DO	F-6				
102	DO	F-7				
103	DO	F-8				
104	DO	F-9				
105	DO	F-10				
106	DO	F-11				
107	DO	F-12				
108	DO	F-13				
109	DO	F-14				
110	DO	F-15				
111	DO	F-16				
112	DO	G-1	ON/OFF	ON/OFF	FEEDPUMP	Feed Pump Relay
113	DO	G-2	ON/OFF	ON/OFF	NAOHPUMP	NaOH Pump Relay

Module Address Information						
Address	Module Type	Slot-Point	Input/Output	Config Input/Output	Point Name	Description
114	DO	G-3	ON/OFF	ON/OFF	IL_230D	Blowback Filter Power Light ON
115	DO	G-4	ON/OFF	ON/OFF	EV_230A	EV-230-A (3-way solenoid for accumulation tank)
116	DO	G-5	ON/OFF	ON/OFF	EV_230B	EV-230-B (Blowback for filter B)
117	DO	G-6	ON/OFF	ON/OFF	EV_230C	EV-230-C (Blowback for filter C)
118	DO	G-7	ON/OFF	ON/OFF	EV_230D	EV-230-D (Blowback for filter D)
119	DO	G-8	ON/OFF	ON/OFF	EV_230F	Position Control for EV-230-F
120	DO	G-9	ON/OFF	ON/OFF	EV_230K	EV-230-K (Feed Nozzle Air)
121	DO	G-10	ON/OFF	ON/OFF	EV_230H	EV-230-H (PST discharge control valve)
122	DO	G-11	ON/OFF	ON/OFF	IL_230H	Waste Transfer from PST to SSSRTs.
123	DO	G-12	ON/OFF	ON/OFF	EV_230G	Contactor for EV-230-G (DPS-230-A isolation)
124	DO	G-13	ON/OFF	ON/OFF	EV_230L	26" Vacuum Isolation Valve
125	DO	G-14				
126	DO	G-15	ON/OFF	ON/OFF	WFA_WT1	SSSRT-1 Weight Factor Alarm
127	DO	G-16	ON/OFF	ON/OFF	WFA_WT2	SSSRT-2 Weight Factor Alarm
128	DI	H-1	ON/OFF	ON/OFF	HL_VACK	High High Level Element VT
129	DI	H-2	ON/OFF	ON/OFF	PS_AIRFN	Pressure Switch for Air to Feed Nozzle
130	DI	H-3	ON/OFF	ON/OFF	FS_AIRFN	Flow Switch for Air to Feed Nozzle

Module Address Information						
Address	Module Type	Slot-Point	Input/Output	Config Input/Output	Point Name	Description
131	DI	H-4	ON/OFF	ON/OFF	HL_PHSTK	High Level Element PST
132	DI	H-5	ON/OFF	ON/OFF	HHL_PHTK	High High Level Element PST
133	DI	H-6	ON/OFF	ON/OFF	AGT_MOV	Agitator Motion Sensor Input
134	DI	H-7				
135	DI	H-8				
136	DI	H-9				
137	DI	H-10				
138	DI	H-11				
139	DI	H-12				
140	DI	H-13				
141	DI	H-14				
142	DI	H-15				
143	DI	H-16				

Ladder Logic Address Information		
Ladder Address	Point Name	Description
300	HS EMERG	HA-21I Emergency Stop
301	TAH21I	HA-21I High Temperature Alarm
302	SP 21I1	Start/Stop FUR-21I-1
303	TA21I1	FUR-21I-1 Deviation Alarm
304	TAH21I1	FUR-21I-1 High Temperature Alarm
305	SP 21I2	Start/Stop FUR-21I-2
306	TA21I2	FUR-21I-2 Deviation Alarm
307	TAH21I2	FUR-21I-2 High Temperature Alarm
308	SP 21I3	Start/Stop FUR-21I-3
309	TA21I3	FUR-21I-3 Deviation Alarm
310	TAH21I3	FUR-21I-3 High Temperature Alarm
324	HS FPUMP	VDC Feed Pump Start/Stop Signal
350	FPTWFALM	Feed Pump Tank WF Alarm Signal
401	VDCLOSIG	VDC <950°C signal from PID Block
402	TEMP ALM	VDC Low Temperature Alarm Signal
403	VDCTCFAL	VDC Control Thermocouple Failure
410	PS ALM	Atomizing Low Pressure Alarm Signal
411	FS ALM	Atomizing Low Flow Alarm Signal
420	HS 230K	Atomizing Air Control Valve Signal
421	TIMER	Timer Signal for Caustic Addition
430	HS STOHP	Start P-230-B for Timed Addition
431	ADD SIG	Timed Caustic Addition Control Signal
432	HS OHPMP	P-230-B Start/Stop for pH Control
433	PH PUMP	pH Control Signal for P-230-B

Ladder Logic Address Information		
Ladder Address	Point Name	Description
434	HS OHPBY	pH Control Bypass/P-230-B Start/Stop
435	TIME SG	pH Control Timed Caustic Addition Control Signal
440	HS 230H	Manual Switch for EV-230-H
441	EV230H	Manual Control for PST Level (EV-230-H)
442	HIHI LV	Auto Control Signal for PST Level
443	PST TNK	PST Latch Signal
450	OVERTIM	PST Pump Out Overtime Alarm Signal
460	EV230L	Disable signal for EV-230-L
500	HS BBACK	Blowback Start Signal
501	EV 230A	EV-230-A SSC Open Signal
502	EV 230B	EV-230-B SSC Open Signal
503	EV 230C	EV-230-C SSC Open Signal
504	EV 230D	EV-230-D SSC Open Signal
505	EV 230G	EV-230-G SSC Open Signal
506	IL BBACK	Blowback Indicator Light
540	FP SHUT	Feed Pump Shutdown Interlock Signal
550	VDCLOVAC	Calciner Low Vacuum Signal
560	HH LVL	Vacuum Trap High High Level

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APPENDIX B
CCC BLOCK DIAGRAMS

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APPENDIX C
CCC CONTROL BLOCK CONFIGURATION REPORT

Control Block Configuration - FURNAL
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Block Number: 1
 Block Type: WDIG

<u>Input Label</u>	<u>Block</u>	(connected to)	<u>Type</u>	<u>Output</u>	<u>Tagname</u>
*X					HS_EMERG

Configuration Parameter Value
ADDRESS 300

Block Number: 2
 Block Type: WDIG

<u>Input Label</u>	<u>Block</u>	(connected to)	<u>Type</u>	<u>Output</u>	<u>Tagname</u>
*X					HS_VAC1

Configuration Parameter Value
ADDRESS 99

Block Number: 3
 Block Type: WDIG

<u>Input Label</u>	<u>Block</u>	(connected to)	<u>Type</u>	<u>Output</u>	<u>Tagname</u>
*X					HS_VAC2

Configuration Parameter Value
ADDRESS 100

Control Block Configuration - FURNAL
Sep 19 1999 13:30 PM

Block Number: 7
 Block Type: UAI

<u>Configuration Parameter</u>	<u>Value</u>
START ADR	32
INPUT ADR	38
I/O TYP	LOCAL
INPUT TYP	DIR SENSOR
CHAR	K TC
CHAR UNIT	DEG C
AI HI	1315.56
AI LO	-17.78
SCAN RATE	0.8 SEC
SW FILTER	2 SEC
BURNOUT	ENABLED
CRD FSAFE	UPSCALE
PROCESSNG	NONE
BIAS/%CO	0.00
EMISSIV	0.00

Block Number: 8
 Block Type: UAI

<u>Configuration Parameter</u>	<u>Value</u>
START ADR	32
INPUT ADR	39
I/O TYP	LOCAL
INPUT TYP	DIR SENSOR
CHAR	K TC
CHAR UNIT	DEG C
AI HI	1315.56
AI LO	-17.78
SCAN RATE	0.8 SEC
SW FILTER	2 SEC
BURNOUT	ENABLED
CRD FSAFE	UPSCALE
PROCESSNG	NONE
BIAS/%CO	0.00
EMISSIV	0.00

Block Number: 9
 Block Type: UAI

Configuration Parameter	Value
START ADR	32
INPUT ADR	40
I/O TYP	LOCAL
INPUT TYP	DIR SENSOR
CHAR	K TC
CHAR UNIT	DEG C
AI HI	1315.56
AI LO	-17.78
SCAN RATE	0.8 SEC
SW FILTER	2 SEC
BURNOUT	ENABLED
CRD FSAFE	UPSCALE
PROCESSNG	NONE
BIAS/CO	0.00
EMISSIV	0.00

Block Number: 10
 Block Type: MMA

Input Label	Block	Type	Output	Tagname
X1	9	UAI	OUT	TE21I9
X2	8	UAI	OUT	TE21I8
X3	7	UAI	OUT	TE21I7
X4		SYS	SCO	
X5		SYS	SCO	
X6		SYS	SCO	

Configuration Parameter	Value
NO.INPUTS	3
DEV	-1.00

Block Number: 11
 Block Type: CMPR

Input Label	Block	Type	Output	Tagname
X	10	MMA	MAX	NC70.00
Y				TE21IMAX

Control Block Configuration - FURNAL
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Block Number: 12
 Block Type: WDIG

	(connected to)	
<u>Input Label</u>	<u>Type</u>	<u>Output</u>
X	CMPR	X<Y
<u>Block</u>		
11		

Tagname
TAH21I

Configuration Parameter Value
ADDRESS 301

Block Number: 20
 Block Type: WDIG

	(connected to)	
<u>Input Label</u>	<u>Type</u>	<u>Output</u>
*X		
<u>Block</u>		

Tagname
SP_21I1

Configuration Parameter Value
ADDRESS 302

Block Number: 23
 Block Type: SPP

	(connected to)	
<u>Input Label</u>	<u>Type</u>	<u>Output</u>
NPGM		
NSEG	SYS	SC1
PV	UAI	OUT
*GSH	SYS	SC0
*RST		
*HLD	SYS	SC0
*RUN		
*SET		
*HRP	SYS	SC0
*HSK	SYS	SC0

Tagname
PN21I1

STOP21I1

STRT21I1
 SET21I1

Configuration Parameter Value
SPAR 0.00

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Control Block Configuration - FURNCAL
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Block Number: 24
 Block Type: UAI

Configuration Parameter	Value
START ADR	32
INPUT ADR	32
I/O TYP	LOCAL
INPUT TYP	DIR SENSOR
CHAR	K TC
CHAR UNIT	DEG C
AI HI	1315.56
AI LO	-17.78
SCAN RATE	0.8 SEC
SW FILTER	2 SEC
BURNOUT	ENABLED
CRD FSAFE	UPSCALE
PROCESSNG	NONE
BIAS/%CO	0.00
EMISSIV	0.00

Block Number: 25
 Block Type: PID1

(connected to)

Input Label	Block	Type	Output	Tagname
PV	24	UAI	OUT	
RSP	23	SPP	SP	SP21I1

Configuration Parameter	Value
GAIN	5.00
RATE MIN	0.00
RSET MIN	1.00
CONT ALG	PID A
PV HI	1200.00
PV LO	0.00
SP TRACK	TRACK RSP
RSP UNITS	ENGR
INIT MODE	AUTO RSP
PWR MODE	LAST MODE
PWR OUT	FAILSAFE
SP HiLIM	1000.00
SP LoLIM	0.00
ACTION	REVERSE
OUTHILIM	100.00
OUTLOLIM	0.00
FAILSAFE	0.00
A1S1 VAL	0.00
A1S2 VAL	0.00
A2S1 VAL	20.00
A2S2 VAL	20.00
A1S1TYPE	NONE
A1S2TYPE	NONE
A2S1TYPE	DEV LO
A2S2TYPE	DEV HI
AL HYST	0.10
TXFR ALG	DISABLED
REG ADDR	4096
AT TYPE	SP ONLY
SP STEP	100.00
AT STATE	ENABLE

Control Block Configuration - FURNCAL
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Block Number: 26
Block Type: AO

<u>Input Label</u>	<u>Block</u>	(connected to)		<u>Tagname</u>
<u>X</u>	<u>25</u>	<u>Type</u>	<u>Output</u>	<u>OP21I1</u>
		<u>PID1</u>	<u>OUT</u>	

<u>Configuration Parameter</u>	<u>Value</u>
<u>ADDRESS</u>	<u>72</u>
X HI	100.00
X LO	0.00

Block Number: 27
Block Type: WDIG

<u>Input Label</u>	<u>Block</u>	(connected to)		<u>Tagname</u>
<u>*X</u>	<u>25</u>	<u>Type</u>	<u>Output</u>	<u>TA21I1</u>
		<u>PID1</u>	<u>AL2*</u>	

<u>Configuration Parameter</u>	<u>Value</u>
<u>ADDRESS</u>	<u>303</u>

Block Number: 28
Block Type: UAI

<u>Configuration Parameter</u>	<u>Value</u>
<u>START ADR</u>	<u>32</u>
<u>INPUT ADR</u>	<u>33</u>
<u>I/O TYP</u>	<u>LOCAL</u>
<u>INPUT TYP</u>	<u>DIR SENSOR</u>
<u>CHAR</u>	<u>K TC</u>
<u>CHAR UNIT</u>	<u>DEG C</u>
<u>AI HI</u>	<u>1315.56</u>
<u>AI LO</u>	<u>0.00</u>
<u>SCAN RATE</u>	<u>0.8 SEC</u>
<u>SW FILTER</u>	<u>2 SEC</u>
<u>BURNOUT</u>	<u>ENABLED</u>
<u>CRD FSAFE</u>	<u>UPSCALE</u>
<u>PROCESSNG</u>	<u>NONE</u>
<u>BIAS/CO</u>	<u>0.00</u>
<u>EMISSIV</u>	<u>0.00</u>

Control Block Configuration - FURNAL
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Block Number: 29
Block Type: CMPR

	(connected to)	Tagname
Input Label	Type	TE21I2
X	UAI	NC1050
Y	OUT	
Block	Output	
28	OUT	

Block Number: 30
Block Type: WDIG

	(connected to)	Tagname
Input Label	Type	TAH21I1
*X	CMPR	
Block	Output	
29	X>Y*	

Configuration Parameter	Value
ADDRESS	304

Block Number: 31
Block Type: UAI

Configuration Parameter	Value
START ADR	32
INPUT ADR	41
I/O TYP	LOCAL
INPUT TYP	DIR SENSOR
CHAR	K TC
CHAR UNIT	DEG C
AI HI	1315.56
AI LO	-17.78
SCAN RATE	0.8 SEC
SW FILTER	2 SEC
BURNOUT	ENABLED
CRD FSAFE	UPSCALE
PROCESSNG	NONE
BIAS/%CO	0.00
EMISSIV	0.00

Block Number: 40
Block Type: WDIG

	(connected to)	Tagname
Input Label	Type	SP_21I2
*X	Output	
Block	Output	

Configuration Parameter	Value
ADDRESS	305

Control Block Configuration - FURNAL
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Block Number: 43
Block Type: SPP

Input Label	Block	(connected to) Type	Output	Tagname
NPGM				PN21I2
NSEG		SYS	SC1	
PV	44	UAI	OUT	
*GSH		SYS	SC0	
*RST				STOP21I2
*HLD		SYS	SC0	
*RUN				STR21I2
*SET				SET21I2
*HRP		SYS	SC0	
*HSK		SYS	SC0	

Configuration Parameter Value
SPAR 0.00

Block Number: 44
Block Type: UAI

Configuration Parameter	Value
START ADR	32
INPUT ADR	34
I/O TYP	LOCAL
INPUT TYP	DIR SENSOR
CHAR	K TC
CHAR UNIT	DEG C
AI HI	1315.56
AI LO	-17.78
SCAN RATE	0.8 SEC
SW FILTER	2 SEC
BURNOUT	ENABLED
CRD FSAFE	UPSCALE
PROCESSNG	NONE
BIAS/%CO	0.00
EMISSIV	0.00

Control Block Configuration - FURNAL
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Block Number: 45
 Block Type: PID1

(connected to)

Input Label	Block	Type	Output	Tagname
PV	44	UAI	OUT	
RSP	43	SPP	SP	SP21I2

Configuration Parameter

Configuration Parameter	Value
GAIN	5.00
RATE MIN	0.00
RSET MIN	1.00
CONT ALG	PID A
PV HI	1200.00
PV LO	0.00
SP TRACK	TRACK RSP
RSP UNITS	ENGR
INIT MODE	AUTO RSP
PWR MODE	LAST MODE
PWR OUT	FAILSAFE
SP HiLim	1000.00
SP LoLim	0.00
ACTION	REVERSE
OUTHilim	100.00
OUTLOlim	0.00
FAILSAFE	0.00
A1S1 VAL	0.00
A1S2 VAL	0.00
A2S1 VAL	20.00
A2S2 VAL	20.00
A1S1TYPE	NONE
A1S2TYPE	NONE
A2S1TYPE	DEV LO
A2S2TYPE	DEV HI
AL HYST	0.10
TXFR ALG	DISABLED
REG ADDR	4096
AT TYPE	SP ONLY
SP STEP	100.00
AT STATE	ENABLE

Control Block Configuration - FURNCAL
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Block Number: 46
 Block Type: AO

(connected to)

<u>Input Label</u>	<u>Block</u>	<u>Type</u>	<u>Output</u>	<u>Tagname</u>
X	45	PID1	OUT	OP21I2

<u>Configuration Parameter</u>	<u>Value</u>
<u>ADDRESS</u>	73
X HI	100.00
X LO	0.00

Block Number: 47
 Block Type: WDIG

(connected to)

<u>Input Label</u>	<u>Block</u>	<u>Type</u>	<u>Output</u>	<u>Tagname</u>
X	45	PID1	AL2	TA21I2

<u>Configuration Parameter</u>	<u>Value</u>
<u>ADDRESS</u>	306

Block Number: 48
 Block Type: UAI

<u>Configuration Parameter</u>	<u>Value</u>
<u>START ADR</u>	32
<u>INPUT ADR</u>	35
<u>I/O TYP</u>	LOCAL
<u>INPUT TYP</u>	DIR SENSOR
<u>CHAR</u>	K TC
<u>CHAR UNIT</u>	DEG C
<u>AI HI</u>	1315.56
<u>AI LO</u>	-17.78
<u>SCAN RATE</u>	0.8 SEC
<u>SW FILTER</u>	2 SEC
<u>BURNOUT</u>	ENABLED
<u>CRD FSAFE</u>	UPSCALE
<u>PROCESSNG</u>	NONE
<u>BIAS/%CO</u>	0.00
<u>EMISSIV</u>	0.00

Control Block Configuration - FURNCAL
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Block Number: 49
Block Type: CMPR

<u>Input Label</u>	<u>Block</u>	(connected to)	<u>Tagname</u>
X	48	Type UAI	TE21I4
Y		Output OUT	NC1050

Block Number: 50
Block Type: WDIG

<u>Input Label</u>	<u>Block</u>	(connected to)	<u>Tagname</u>
*X	49	Type CMPR	TAH21I2
		Output X>Y*	

<u>Configuration Parameter</u>	<u>Value</u>
ADDRESS	307

Block Number: 51
Block Type: UAI

<u>Configuration Parameter</u>	<u>Value</u>
START ADR	32
INPUT ADR	42
I/O TYP	LOCAL
INPUT TYP	DIR SENSOR
CHAR	K TC
CHAR UNIT	DEG C
AI HI	1315.56
AI LO	-17.78
SCAN RATE	0.8 SEC
SW FILTER	2 SEC
BURNOUT	ENABLED
CRD FSAFE	UPSCALE
PROCESSNG	NONE
BIAS/%CO	0.00
EMISSIV	0.00

Block Number: 60
Block Type: WDIG

<u>Input Label</u>	<u>Block</u>	(connected to)	<u>Tagname</u>
*X		Type Output	SP_21I3

<u>Configuration Parameter</u>	<u>Value</u>
ADDRESS	308

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Control Block Configuration - FURNCAL
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Block Number: 63
 Block Type: SPP

Input Label	Block	(connected to) Type	Output	Tagname
NPGM				PN21I3
NSEG		SYS	SC1	
PV	64	UAI	OUT	
*GSH		SYS	SC0	
*RST				STOP21I3
*HLD		SYS	SC0	
*RUN				STRT21I3
*SET				SET21I3
*HRP		SYS	SC0	
*HSK		SYS	SC0	

Configuration Parameter	Value
SPAR	0.00

Block Number: 64
 Block Type: UAI

Configuration Parameter	Value
START ADR	32
INPUT ADR	36
I/O TYP	LOCAL
INPUT TYP	DIR SENSOR
CHAR	K TC
CHAR UNIT	DEG C
AI HI	1315.56
AI LO	-17.78
SCAN RATE	0.8 SEC
SW FILTER	2 SEC
BURNOUT	ENABLED
CRD FSAFE	UPSCALE
PROCESSNG	NONE
BIAS/SCO	0.00
EMISSIV	0.00

Control Block Configuration - FURNAL
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Block Number: 65
 Block Type: PID1

Input Label	Block	Type	Output	Tagname
PV	64	UAI	OUT	
RSP	63	SPP	SP	SP21I3

(connected to)

Configuration Parameter	Value
GAIN	5.00
RATE MIN	0.00
RSET MIN	1.00
CONT ALG	PID A
PV HI	1200.00
PV LO	0.00
SP TRACK	TRACK RSP
RSP UNITS	ENGR
INIT MODE	AUTO RSP
PWR MODE	LAST MODE
PWR OUT	FAILSAFE
SP HILIM	1000.00
SP LOLIM	0.00
ACTION	REVERSE
OUTHILIM	100.00
OUTLOLIM	0.00
FAILSAFE	0.00
A1S1 VAL	0.00
A1S2 VAL	0.00
A2S1 VAL	20.00
A2S2 VAL	20.00
A1S1TYPE	NONE
A1S2TYPE	NONE
A2S1TYPE	DEV LO
A2S2TYPE	DEV HI
AL HYST	0.10
TXFR ALG	DISABLED
REG ADDR	4096
AT TYPE	SP ONLY
SP STEP	100.00
AT STATE	ENABLE

Control Block Configuration - FURNAL
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Block Number: 66
Block Type: AO

(connected to)
Input Label Block Type Output
X 65 PID1 OUT

Tagname
OP21I3

Configuration Parameter Value
ADDRESS 74

X HI 100.00
X LO 0.00

Block Number: 67
Block Type: WDIG

(connected to)
Input Label Block Type Output
X 65 PID1 AL2

Tagname
TA21I3

Configuration Parameter Value
ADDRESS 309

Block Number: 68
Block Type: UAI

Configuration Parameter Value
START ADR 32

INPUT ADR 37
I/O TYP LOCAL
INPUT TYP DIR SENSOR
CHAR K TC
CHAR UNIT DEG C
AI HI 1315.56
AI LO -17.78
SCAN RATE 0.8 SEC
SW FILTER 2 SEC
BURNOUT ENABLED
CRD FSAFE UPSCALE
PROCESSNG NONE
BIAS/%CO 0.00
EMISSIV 0.00

Control Block Configuration - FURNAL
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Block Number: 69
 Block Type: CMPR

	(connected to)	Tagname
<u>Input Label</u>	<u>Type</u>	<u>TE21I6</u>
X	UAI	NC1050
<u>Block</u>	<u>Output</u>	
68	OUT	

Block Number: 70
 Block Type: WDIG

	(connected to)	Tagname
<u>Input Label</u>	<u>Type</u>	<u>TAH21I3</u>
*X	CMPR	
<u>Block</u>	<u>Output</u>	
69	X>Y*	

<u>Configuration Parameter</u>	<u>Value</u>
ADDRESS	310

Block Number: 71
 Block Type: UAI

<u>Configuration Parameter</u>	<u>Value</u>
START ADR	32
INPUT ADR	43
I/O TYP	LOCAL
INPUT TYP	DIR SENSOR
CHAR	K TC
CHAR UNIT	DEG C
AI HI	1315.56
AI LO	-17.78
SCAN RATE	0.8 SEC
SW FILTER	2 SEC
BURNOUT	ENABLED
CRD FSAFE	UPSCALE
PROCESSNG	NONE
BIAS/%CO	0.00
EMISSIV	0.00

Control Block Configuration - FURNAL
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Block Number: 100
 Block Type: UAI

Configuration Parameter	Value
START ADR	0
INPUT ADR	0
I/O TYP	LOCAL
INPUT TYP	1 TO 5 V
CHAR	LINEAR
CHAR UNIT	NONE
AI HI	1200.00
AI LO	0.00
SCAN RATE	0.8 SEC
SW FILTER	2 SEC
BURNOUT	DISABLED
CRD FSAFE	UPSCALE
PROCESSNG	NONE
BIAS/%CO	0.00
EMISSIV	0.00

Block Number: 101
 Block Type: SPP

Input Label	Block	(connected to) Type	Output	Tagname
NPGM				NC13.00
NSEG		SYS	SC1	
PV	100	UAI	OUT	CCTEMP
*GSH		SYS	SC0	
*RST				CALRST
*HLD		SYS	SC0	
*RUN				CALSTRT
*SET				CALSET
*HRP		SYS	SC0	
*HSK		SYS	SC0	
Configuration Parameter				Value
SPAR				0.00

Control Block Configuration - FURNCAL
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Block Number: 102
 Block Type: PID1

Input Label	Block	(connected to)	Tagname
		Type	
PV	100	UAI	CCITEMP
RSP	101	SPP	CALSETPT

Configuration Parameter	Value
GAIN	5.00
RATE MIN	0.00
RSET MIN	1.00
CONT ALG	PID A
PV HI	1200.00
PV LO	0.00
SP TRACK	TRACK RSP
RSP UNITS	ENGR
INIT MODE	AUTO RSP
PWR MODE	LAST MODE
PWR OUT	FAILSAFE
SP HiLim	1000.00
SP LoLim	0.00
ACTION	REVERSE
OUTHilim	100.00
OUTLOlim	0.00
FAILSAFE	0.00
A1S1 VAL	1050.00
A1S2 VAL	0.00
A2S1 VAL	950.00
A2S2 VAL	0.00
A1S1TYPE	PV HI
A1S2TYPE	NONE
A2S1TYPE	PV HI
A2S2TYPE	NONE
AL HYST	0.10
TXFR ALG	DISABLED
REG ADDR	4096
AT TYPE	SP ONLY
SP STEP	100.00
AT STATE	DISABLE

Control Block Configuration - FURNAL
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Block Number: 103
 Block Type: WDIG

Input Label	Block	(connected to)	Tagname
X	102	Type PID1	Output AL1
		Value 403	VDCTCFAL

Configuration Parameter
 ADDRESS

Block Number: 104
 Block Type: WDIG

Input Label	Block	(connected to)	Tagname
X	102	Type PID1	Output AL2
		Value 401	VDCLOSIG

Configuration Parameter
 ADDRESS

Block Number: 105
 Block Type: SW

Input Label	Block	(connected to)	Tagname
X	102	Type PID1	Output OUT
Y			NC0.000
SY	106	RDIG	OUT

Block Number: 106
 Block Type: RDIG

Configuration Parameter
 ADDRESS

Block Number: 107
 Block Type: AO

Input Label	Block	(connected to)	Tagname
X	105	Type SW	Output OUT
		Value 64	OP_CAL

Configuration Parameter
 ADDRESS

X HI 100.00
 X LO 0.00

Control Block Configuration - FURNCAL
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Block Number: 108
 Block Type: AO

<u>Input Label</u>	<u>Block</u>	(connected to)	<u>Tagname</u>
X	105	<u>Type</u> SW	OP_CAL
<u>Configuration Parameter</u>			
<u>ADDRESS</u>		<u>Value</u>	
X HI		65	
X LO		100.00	
		0.00	

Block Number: 109
 Block Type: CMPR

<u>Input Label</u>	<u>Block</u>	(connected to)	<u>Tagname</u>
X	100	<u>Type</u> UAI	CCTEMP
Y		<u>Output</u> OUT	NC975.0

Block Number: 110
 Block Type: WDIG

<u>Input Label</u>	<u>Block</u>	(connected to)	<u>Tagname</u>
*X	109	<u>Type</u> CMPR	VDC975SG
		<u>Output</u> X>Y*	

Block Number: 115
 Block Type: WDIG

<u>Input Label</u>	<u>Block</u>	(connected to)	<u>Tagname</u>
*X		<u>Type</u>	HS_FPUMP

Block Number: 116
 Block Type: WDIG

<u>Input Label</u>	<u>Block</u>	(connected to)	<u>Tagname</u>
*X		<u>Type</u>	HS_230K
<u>Configuration Parameter</u>			
<u>ADDRESS</u>		<u>Value</u>	
		324	
		420	

Tagname
HS_230H

<u>Tagname</u>	
FPTWF	
NC80.00	

Tagname
FPTWFAIM

50

Control Block Configuration - FURNCAL
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Block Number: 130
 Block Type: PB

<u>Input Label</u>	<u>Block</u>	(connected to)	<u>Tagname</u>
<u>X</u>		<u>Type</u> <u>Output</u>	<u>HS_STOHP</u>

<u>Configuration Parameter</u>	<u>Value</u>
<u>ADDRESS</u>	<u>430</u>

Block Number: 131
 Block Type: WDIG

<u>Input Label</u>	<u>Block</u>	(connected to)	<u>Tagname</u>
<u>*X</u>		<u>Type</u> <u>Output</u>	<u>HS_OHPMP</u>

<u>Configuration Parameter</u>	<u>Value</u>
<u>ADDRESS</u>	<u>432</u>

Block Number: 132
 Block Type: UAI

<u>Configuration Parameter</u>	<u>Value</u>
<u>START ADR</u>	<u>0</u>
<u>INPUT ADR</u>	<u>12</u>
<u>I/O TYP</u>	<u>LOCAL</u>
<u>INPUT TYP</u>	<u>1 TO 5 V</u>
<u>CHAR</u>	<u>LINEAR</u>
<u>CHAR UNIT</u>	<u>NONE</u>
<u>AI HI</u>	<u>14.00</u>
<u>AI LO</u>	<u>0.00</u>
<u>SCAN RATE</u>	<u>0.8 SEC</u>
<u>SW FILTER</u>	<u>2 SEC</u>
<u>BURNOUT</u>	<u>DISABLED</u>
<u>CRD FSAFE</u>	<u>UPSCALE</u>
<u>PROCESSNG</u>	<u>NONE</u>
<u>BIAS/3CO</u>	<u>0.00</u>
<u>EMISSION</u>	<u>0.00</u>

Block Number: 133
 Block Type: CMPR

<u>Input Label</u>	<u>Block</u>	(connected to)	<u>Tagname</u>
<u>X</u>	<u>132</u>	<u>Type</u> <u>Output</u>	<u>STKPH</u>
<u>Y</u>		<u>OUT</u>	<u>NC12.50</u>

Control Block Configuration - FURNCAL
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Block Number: 134
 Block Type: WDIG

<u>Input Label</u>	<u>Block</u>	(connected to)	<u>Tagname</u>
*X	133	Type CMR	PH_PUMP
		X<Y*	

Configuration Parameter
ADDRESS Value
 433

Block Number: 135
 Block Type: WDIG

<u>Input Label</u>	<u>Block</u>	(connected to)	<u>Tagname</u>
*X		Type Output	HS_OHPBY

Configuration Parameter
ADDRESS Value
 434

Block Number: 140
 Block Type: UAI

<u>Configuration Parameter</u>	<u>Value</u>
START ADR	0
INPUT ADR	10
I/O TYP	LOCAL
INPUT TYP	1 TO 5 V
CHAR	LINEAR
CHAR UNIT	NONE
AI HI	133.00
AI LO	0.00
SCAN RATE	0.8 SEC
SW FILTER	2 SEC
BURNOUT	DISABLED
CRD FSAFE	UPSCALE
PROCESSNG	NONE
BIAS/%CO	0.00
EMISSIV	0.00

Block Number: 141
 Block Type: CMR

<u>Input Label</u>	<u>Block</u>	(connected to)	<u>Tagname</u>
X	140	Type UAI	SSRTIWF
Y		Output OUT	NC80.00

Control Block Configuration - FURNCAL
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Block Number: 142
 Block Type: WDIG

(connected to)
 Type Output
 CMPR X>Y*
 Tagname
 SSRT1WFA

Input Label Block
 *X 141

Configuration Parameter Value
 ADDRESS 126

Block Number: 143
 Block Type: UAI

Configuration Parameter Value
 START ADR 0
 INPUT ADR 11
 I/O TYP LOCAL
 INPUT TYP 1 TO 5 V
 CHAR LINEAR
 CHAR UNIT NONE
 AI HI 133.00
 AI LO 0.00
 SCAN RATE 0.8 SEC
 SW FILTER OFF
 BURNOUT DISABLED
 CRD FSAFE UPSCALE
 PROCESSNG NONE
 BIAS/%CO 0.00
 EMISSIV 0.00

Block Number: 144
 Block Type: CMPR

(connected to)
 Type Output
 UAI OUT
 Tagname
 SSRT2WF
 NC80.00

Input Label Block
 X 143
 Y

Block Number: 145
 Block Type: WDIG

(connected to)
 Type Output
 CMPR X>Y*
 Tagname
 SSRT2WFA

Input Label Block
 *X 144

Configuration Parameter Value
 ADDRESS 127

Block Number: 150
Block Type: UAI

Configuration Parameter	Value
START ADR	0
INPUT ADR	14
I/O TYP	LOCAL
INPUT TYP	1 TO 5 V
CHAR	LINEAR
CHAR UNIT	NONE
AI HI	150.00
AI LO	0.00
SCAN RATE	0.8 SEC
SW FILTER	2 SEC
BURNOUT	DISABLED
CRD FSAFE	UPSCALE
PROCESSNG	NONE
BIAS/%CO	0.00
EMISSIV	0.00

Block Number: 160
Block Type: UAI

Configuration Parameter	Value
START ADR	0
INPUT ADR	13
I/O TYP	LOCAL
INPUT TYP	1 TO 5 V
CHAR	LINEAR
CHAR UNIT	NONE
AI HI	50.00
AI LO	0.00
SCAN RATE	0.8 SEC
SW FILTER	2 SEC
BURNOUT	DISABLED
CRD FSAFE	UPSCALE
PROCESSNG	NONE
BIAS/%CO	0.00
EMISSIV	0.00

Control Block Configuration - FURNCAL
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Block Number: 161
 Block Type: CMPR

<u>Input Label</u>	<u>Block</u> 160	(connected to) <u>Type</u> UAI	<u>Output</u> OUT	<u>Tagname</u> DP_CALGB NC5.000
X				
Y				

Block Number: 162
 Block Type: WDIG

<u>Input Label</u> *X	<u>Block</u> 161	(connected to) <u>Type</u> CMPR	<u>Output</u> X<Y*	<u>Tagname</u> VDCLOVAC

<u>Configuration Parameter</u> ADDRESS	<u>Value</u> 550
---	---------------------

Block Number: 170
 Block Type: UAI

<u>Configuration Parameter</u>	<u>Value</u>
START ADR	0
INPUT ADR	1
I/O TYP	LOCAL
INPUT TYP	1 TO 5 V
CHAR	LINEAR
CHAR UNIT	NONE
AI HI	1200.00
AI LO	0.00
SCAN RATE	0.8 SEC
SW FILTER	2 SEC
BURNOUT	DISABLED
CRD FSAFE	UPSCALE
PROCESSNG	NONE
BIAS/%CO	0.00
EMISSIV	0.00

Control Block Configuration - FURNCAL
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Block Number: 171
 Block Type: UAI

Configuration Parameter	Value
START ADR	0
INPUT ADR	2
I/O TYP	LOCAL
INPUT TYP	1 TO 5 V
CHAR	LINEAR
CHAR UNIT	NONE
AI HI	1200.00
AI LO	0.00
SCAN RATE	0.8 SEC
SW FILTER	2 SEC
BURNOUT	DISABLED
CRD FSAFE	UPSCALE
PROCESSNG	NONE
BIAS/%CO	0.00
EMISSIV	0.00

Block Number: 172
 Block Type: UAI

Configuration Parameter	Value
START ADR	0
INPUT ADR	4
I/O TYP	LOCAL
INPUT TYP	1 TO 5 V
CHAR	LINEAR
CHAR UNIT	NONE
AI HI	100.00
AI LO	0.00
SCAN RATE	0.8 SEC
SW FILTER	2 SEC
BURNOUT	DISABLED
CRD FSAFE	UPSCALE
PROCESSNG	NONE
BIAS/%CO	0.00
EMISSIV	0.00

Block Number: 175
 Block Type: UAI

Configuration Parameter	Value
START ADR	0
INPUT ADR	3
I/O TYP	LOCAL
INPUT TYP	1 TO 5 V
CHAR	LINEAR
CHAR UNIT	NONE
AI HI	100.00
AI LO	0.00
SCAN RATE	0.8 SEC
SW FILTER	2 SEC
BURNOUT	DISABLED
CRD FSAFE	UPSCALE
PROCESSNG	NONE
BIAS/%CO	0.00
EMISSIV	0.00

Block Number: 176
 Block Type: CMPR

Input Label	Block	(connected to)	Tagname
X	175	Type	SCTKTEMP
Y		Output	NC38.00

Block Number: 180
 Block Type: UAI

Configuration Parameter	Value
START ADR	0
INPUT ADR	5
I/O TYP	LOCAL
INPUT TYP	1 TO 5 V
CHAR	LINEAR
CHAR UNIT	NONE
AI HI	1200.00
AI LO	0.00
SCAN RATE	0.8 SEC
SW FILTER	2 SEC
BURNOUT	DISABLED
CRD FSAFE	UPSCALE
PROCESSNG	NONE
BIAS/%CO	0.00
EMISSIV	0.00

Block Number: 181
 Block Type: UAI

Configuration Parameter	Value
START ADR	0
INPUT ADR	6
I/O TYP	LOCAL
INPUT TYP	1 TO 5 V
CHAR	LINEAR
CHAR UNIT	NONE
AI HI	1200.00
AI LO	0.00
SCAN RATE	0.8 SEC
SW FILTER	2 SEC
BURNOUT	DISABLED
CRD FSAFE	UPSCALE
PROCESSNG	NONE
BIAS/%CO	0.00
EMISSIV	0.00

Control Block Configuration - FURNAL
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Block Number: 200
Block Type: WDIG

<u>Input Label</u>	<u>Block</u>	<u>(connected to)</u>		<u>Tagname</u>
<u>*X</u>	<u>Type</u>	<u>Type</u>	<u>Output</u>	<u>HS_BBCK</u>
<u>Configuration Parameter</u>	<u>Value</u>			
<u>ADDRESS</u>	<u>500</u>			

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APPENDIX D
CCC POINT CONFIGURATION REPORT

Loop Points

CALTEMP	Description: Security Areas: Scan Time (seconds): Block /Num: Decimal Place: Engineering Units: Engineering Limit High: Engineering Limit Low: PC Spvsr Alarm Enabled:	CALCINER TEMPERATURE CONTROLLER none, none, none 2:0 PID1 102 0 DEG C 1200 0.000 No
TC_21I1	Description: Security Areas: Scan Time (seconds): Block /Num: Decimal Place: Engineering Units: Engineering Limit High: Engineering Limit Low: PC Spvsr Alarm Enabled:	TEMPERATURE CONTROLLER FUR-21I-1 none, none, none 5:0 PID1 25 1 DEG C 1200 0.000 No
TC_21I2	Description: Security Areas: Scan Time (seconds): Block /Num: Decimal Place: Engineering Units: Engineering Limit High: Engineering Limit Low: PC Spvsr Alarm Enabled:	TEMPERATURE CONTROLLER FUR-21I-2 none, none, none 1:0 PID1 45 1 DEG C 1200 0.000 No

Loop Points

TC_21I3 Description: TEMPERATURE CONTROLLER FUR-21I-3
Security Areas: none, none, none
Scan Time (seconds): 1:0
Block /Num: PID1 65
Decimal Place: 1
Engineering Units: DEG C
Engineering Limit High: 1200
Engineering Limit Low: 0.000
PC Spvsr Alarm Enabled: No

Set Point Program Points

CALPROG Description: SETPOINT PROGRAMS FOR DENITRATOR
Security Areas: none, none, none
Scan Time (seconds): 2:0
Block /Num: SPP 101

TP_21I1 Description: TEMPERATURE PROGRAMS FOR FUR-21I-1
Security Areas: none, none, none
Scan Time (seconds): 2:0
Block /Num: SPP 23

TP_21I2 Description: TEMPERATURE PROGRAMS FUR-21I-2
Security Areas: none, none, none
Scan Time (seconds): 2:0
Block /Num: SPP 43

TP_21I3 Description: TEMPERATURE PROGRAMS FUR-21I-3
Security Areas: none, none, none
Scan Time (seconds): 2:0
Block /Num: SPP 63

Analog Signal Points

AMTEMP Description: CALCINER AGITATOR MOTOR TEMPERATURE
 Security Areas: none, none, none
 Scan Time (seconds): 2:0
 Block /Num: UAI 172
 Output: OUT
 Decimal Place: 1
 Engineering Units: DEG C
 Engineering Limit High: 1200
 Engineering Limit Low: 0.000
 Communication Address: 172:1
 PC Spvsr Alarm Enabled: No

CALSETPT Description: TEMPERATURE SET POINT TO PID BLOCK
 Security Areas: none, none, none
 Scan Time (seconds): 2:0
 Block /Num: SPP 101
 Output: SP
 Decimal Place: 0
 Engineering Units:
 Engineering Limit High: 1000
 Engineering Limit Low: 0.000
 Communication Address: 101:8
 PC Spvsr Alarm Enabled: No

Analog Signal Points

CCTTEMP Description: CALCINER CONTROL TEMPERATURE
Security Areas: none, none, none
Scan Time (seconds): 2:0
Block /Num: UAI 100
Output: OUT
Decimal Place: 0
Engineering Units: DEG C
Engineering Limit High: 1200
Engineering Limit Low: 0.000
Communication Address: 100:1
PC Spvsr Alarm Enabled: No

DOMETEMP Description: CALCINER DOME TEMPERATURE
Security Areas: none, none, none
Scan Time (seconds): 2:0
Block /Num: UAI 170
Output: OUT
Decimal Place: 1
Engineering Units: DEG C
Engineering Limit High: 1200
Engineering Limit Low: 0.000
Communication Address: 170:1
PC Spvsr Alarm Enabled: No

Point Configuration - FURNAL
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Analog Signal Points

DPCALOFF Description: DP CALCINER TO OFF-GAS
 Security Areas: none, none, none
 Scan Time (seconds): 5:0
 Block /Num: UAI 150
 Output: OUT
 Decimal Place: 0
 Engineering Units: VOLTS
 Engineering Limit High: 5.000
 Engineering Limit Low: 1.000
 Communication Address: 150:1
 PC SpvSr Alarm Enabled: No

DP_CALGB Description: DP CALCINER TO GB
 Security Areas: none, none, none
 Scan Time (seconds): 5:0
 Block /Num: UAI 160
 Output: OUT
 Decimal Place: 0
 Engineering Units: VOLTS
 Engineering Limit High: 5.000
 Engineering Limit Low: 1.000
 Communication Address: 160:1
 PC SpvSr Alarm Enabled: No

Analog Signal Points

FPTWF Description: FEED PUMP TANK WEIGHT FACTOR
 Security Areas: none, none, none
 Scan Time (seconds): 5:0
 Block /Num: UAI 120
 Output: OUT
 Decimal Place: 0
 Engineering Units: %
 Engineering Limit High: 100.0
 Engineering Limit Low: 0.000
 Communication Address: 120:1
 PC Spvsvr Alarm Enabled: No

OGTEMP Description: CALCINER OFF-GAS TEMPERATURE
 Security Areas: none, none, none
 Scan Time (seconds): 2:0
 Block /Num: UAI 171
 Output: OUT
 Decimal Place: 1
 Engineering Units: DEG C
 Engineering Limit High: 1200
 Engineering Limit Low: 0.000
 Communication Address: 171:1
 PC Spvsvr Alarm Enabled: No

Point Configuration - FURNAL
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Analog Signal Points

OP21I1 Description: CONTROLLER OUTPUT FUR-21I-1
 Security Areas: none, none, none
 Scan Time (seconds): 5:0
 Block /Num: PID1 25
 Output: OUT
 Decimal Place: 0
 Engineering Units: %
 Engineering Limit High: 100.0
 Engineering Limit Low: 0.000
 Communication Address: 25:10
 PC Spvsvr Alarm Enabled: No

OP21I2 Description: CONTROLLER OUTPUT FUR-21I-2
 Security Areas: none, none, none
 Scan Time (seconds): 5:0
 Block /Num: PID1 45
 Output: OUT
 Decimal Place: 0
 Engineering Units: %
 Engineering Limit High: 100.0
 Engineering Limit Low: 0.000
 Communication Address: 45:10
 PC Spvsvr Alarm Enabled: No

OP21I3	Description:	CONTROLLER OUTPUT FUR-21I-3

```

Description:
Security Areas:
Scan Time (seconds):
Block /Num:
Output:
Decimal Place:
Engineering Units:
Engineering Limit High:
Engineering Limit Low:
Communication Address:
PC SpvSr Alarm Enabled:

```

```

OP_CAL
Description:
Security Areas:
Scan Time (seconds):
Block /Num:
Output:
Decimal Place:
Engineering Units:
Engineering Limit High:
Engineering Limit Low:
Communication Address:
PC Spvsvr Alarm Enabled:
VDC CONTROLLER OUTPUT
none, none, none
5:0
SW 105
OUT
1
1200
0.000
105:1
No

```

Analog Signal Points

SCTKTEMP Description: SCRUBBER TANK TEMPERATURE
Security Areas: none, none, none
Scan Time (seconds): 2:0
Block /Num: UAI 175
Output: OUT
Decimal Place: 1
Engineering Units: DEG C
Engineering Limit High: 1200
Engineering Limit Low: 0.000
Communication Address: 175:1
PC Spvsr Alarm Enabled: NO

SP21I1 Description: SET POINT FUR-21I-1
Security Areas: none, none, none
Scan Time (seconds): 5:0
Block /Num: SPP 23
Output: SP
Decimal Place: 0
Engineering Units: DEG C
Engineering Limit High: 1200
Engineering Limit Low: 0.000
Communication Address: 23:8
PC Spvsr Alarm Enabled: NO

Analog Signal Points

SP21I2	Description:	SET POINT FUR-21I-2
	Security Areas:	none, none, none
	Scan Time (seconds):	5:0
	Block /Num:	SPP 43
	Output:	SP
	Decimal Place:	0
	Engineering Units:	DEG C
	Engineering Limit High:	1200
	Engineering Limit Low:	0.000
	Communication Address:	43:8
	PC Spvsvr Alarm Enabled:	No
SP21I3	Description:	SET POINT FUR-21I-3
	Security Areas:	none, none, none
	Scan Time (seconds):	5:0
	Block /Num:	SPP 63
	Output:	SP
	Decimal Place:	0
	Engineering Units:	DEG C
	Engineering Limit High:	1200
	Engineering Limit Low:	0.000
	Communication Address:	63:8
	PC Spvsvr Alarm Enabled:	No

Analog Signal Points

SSRT1WF Description: SSRT1 WEIGHT FACTOR HIGH
 Security Areas: none, none, none
 Scan Time (seconds): 5:0
 Block /Num: UAI 140
 Output: OUT
 Decimal Place: 0
 Engineering Units: %
 Engineering Limit High: 100.0
 Engineering Limit Low: 0.000
 Communication Address: 140:1
 PC Spvsvr Alarm Enabled: No

SSRT2WF Description: SPENT SCRUBBER RECEIVER TANK 2 WF
 Security Areas: none, none, none
 Scan Time (seconds): 2:0
 Block /Num: UAI 143
 Output: OUT
 Decimal Place: 0
 Engineering Units: %
 Engineering Limit High: 100.0
 Engineering Limit Low: 0.000
 Communication Address: 143:1
 PC Spvsvr Alarm Enabled: No

Point Configuration - FURNAL
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Analog Signal Points

STKPH Description: SCRUBBER TANK pH READING
Security Areas: none, none, none
Scan Time (seconds): 2:0
Block /Num: UAI 132
Output: OUT
Decimal Place: 0
Engineering Units: 14.00
Engineering Limit High: 0.000
Engineering Limit Low: 132:1
Communication Address: 132:1
PC SpvSr Alarm Enabled: Yes
Alarm Area: B
Alarm Priority: High
High-High Limit: 14.00
High Limit: 14.00
Low Limit: 12.00
Low-Low Limit: 0.000
Rate of Change: 14.00
Dead Band: 0.5000

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TE21I10 Description: OFF GAS TEMPERATURE FUR-21I-1
Security Areas: none, none, none
Scan Time (seconds): 2:0
Block /Num: UAI 31
Output: OUT
Decimal Place: 1
Engineering Units: DEG C
Engineering Limit High: 1200
Engineering Limit Low: 0.000
Communication Address: 31:1
PC SpvSr Alarm Enabled: No

Point Configuration - FURNAL
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Analog Signal Points

TE21I11 Description: OFF GAS TEMPERATURE FUR-21I-2
 Security Areas: none, none, none
 Scan Time (seconds): 2:0
 Block /Num: UAI 51
 Output: OUT
 Decimal Place: 1
 Engineering Units: DEG C
 Engineering Limit High: 1200
 Engineering Limit Low: 0.000
 Communication Address: 51:1
 PC SpvSr Alarm Enabled: No

TE21I12 Description: OFF GAS TEMPERATURE FUR-21I-3
 Security Areas: none, none, none
 Scan Time (seconds): 3:0
 Block /Num: UAI 71
 Output: OUT
 Decimal Place: 1
 Engineering Units: DEG C
 Engineering Limit High: 1200
 Engineering Limit Low: 0.000
 Communication Address: 71:1
 PC SpvSr Alarm Enabled: No

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Analog Signal Points

TE21I2 Description: High Temperature FUR-21I-1
 Security Areas: none, none, none
 Scan Time (seconds): 2:0
 Block /Num: UAI 28
 Output: OUT
 Decimal Place: 1
 Engineering Units: DEG C
 Engineering Limit High: 1200
 Engineering Limit Low: 0.000
 Communication Address: 28:1
 PC SpvSr Alarm Enabled: No

TE21I4 Description: High Temperature FUR-21I-2
 Security Areas: none, none, none
 Scan Time (seconds): 2:0
 Block /Num: UAI 48
 Output: OUT
 Decimal Place: 1
 Engineering Units: DEG C
 Engineering Limit High: 1200
 Engineering Limit Low: 0.000
 Communication Address: 48:1
 PC SpvSr Alarm Enabled: No

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Analog Signal Points

TE21I6 Description: High Temperature FUR-21I-3
 Security Areas: none, none, none
 Scan Time (seconds): 2:0
 Block /Num: UAI 68
 Output: OUT
 Decimal Place: 1
 Engineering Units: DEG C
 Engineering Limit High: 1200
 Engineering Limit Low: 0.000
 Communication Address: 68:1
 PC SpvSr Alarm Enabled: No

TE21I7 Description: GLOVEBOX HA-21I TE
 Security Areas: none, none, none
 Scan Time (seconds): 2:0
 Block /Num: UAI 7
 Output: OUT
 Decimal Place: 1
 Engineering Units: DEG C
 Engineering Limit High: 100.0
 Engineering Limit Low: 0.000
 Communication Address: 7:1
 PC SpvSr Alarm Enabled: No

Point Configuration - FURNAL
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Analog Signal Points

TE21I8 Description: GLOVEBOX HA-21I TE
 Security Areas: none, none, none
 Scan Time (seconds): 2:0
 Block /Num: UAI 8
 Output: OUT
 Decimal Place: 1
 Engineering Units: DEG C
 Engineering Limit High: 100.0
 Engineering Limit Low: 0.000
 Communication Address: 8:1
 PC Spvsvr Alarm Enabled: No

TE21I9 Description: GLOVEBOX HA-21I TE
 Security Areas: none, none, none
 Scan Time (seconds): 2:0
 Block /Num: UAI 9
 Output: OUT
 Decimal Place: 1
 Engineering Units: DEG C
 Engineering Limit High: 100.0
 Engineering Limit Low: 0.000
 Communication Address: 9:1
 PC Spvsvr Alarm Enabled: No

Point Configuration - FURNAL
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Analog Signal Points

TE211MAX Description: GLOVEBOX HA-211 HIGH TEMPERATURE
 Security Areas: none, none, none
 Scan Time (seconds): 5:0
 Block /Num: MMA 10
 Output: MAX
 Decimal Place: 0
 Engineering Units: DEG C
 Engineering Limit High: 1200
 Engineering Limit Low: 0.000
 Communication Address: 10:2
 PC Spvsvr Alarm Enabled: No

TEMP120 Description: BASE PLATE TEMP 120 DEG FROM FEED
 Security Areas: none, none, none
 Scan Time (seconds): 5:0
 Block /Num: UAI 180
 Output: OUT
 Decimal Place: 1
 Engineering Units: DEG C
 Engineering Limit High: 1200
 Engineering Limit Low: 0.000
 Communication Address: 180:1
 PC Spvsvr Alarm Enabled: No

Analog Signal Points

TEMP240 Description: BASE PLATE TEMP 240 DEG FROM FEED
Security Areas: none, none, none
Scan Time (seconds): 5:0
Block /Num: UAI 181
Output: OUT
Decimal Place: 1
Engineering Units: DEG C
Engineering Limit High: 1200
Engineering Limit Low: 0.000
Communication Address: 181:1
PC Spvsr Alarm Enabled: No

Digital Signal Points

FPTWFALM Description: FEED PUMP TANK HIGH WEIGHT FACTOR
Security Areas: none, none, none
Scan Time (seconds): 2:0
Block /Num: CMPR 121
Output: X>Y*
Off Label: OFF
On Label: ON
Communication Address: 121:1
Op Panel Alarm Enabled: No
PC Spvsr Alarm Enabled: Yes
Alarm Area: B
Alarm Priority: High

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PH_PUMP Description: SIGNAL TO RUN NAOH PUMP
Security Areas: none, none, none
Scan Time (seconds): 2:0
Block /Num: CMPR 133
Output: X<Y*
Off Label: OFF
On Label: ON
Communication Address: 133:3
Op Panel Alarm Enabled: No
PC Spvsr Alarm Enabled: No

Digital Signal Points

SCTMPALM Description: SCRUBBER HIGH TEMPERATURE
Security Areas: none, none, none
Scan Time (seconds): 2:0
Block /Num: CMPR 176
Output: X>Y*
Off Label: OFF
On Label: ON
Communication Address: 176:1
Op Panel Alarm Enabled: No
PC Spvsr Alarm Enabled: Yes
Alarm Area: B
Alarm Priority: High

SSRT1WFA Description: SSRT-1 WEIGHT FACTOR HIGH
Security Areas: none, none, none
Scan Time (seconds): 2:0
Block /Num: CMPR 141
Output: X>Y*
Off Label: OFF
On Label: ON
Communication Address: 141:1
Op Panel Alarm Enabled: No
PC Spvsr Alarm Enabled: Yes
Alarm Area: B
Alarm Priority: Medium

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SSRT2WFA Description: SSRT-2 WEIGHT FACTOR HIGH
Security Areas: none, none, none
Scan Time (seconds): 2:0
Block /Num: CMPR 144
Output: X>Y*
Off Label: OFF
On Label: ON
Communication Address: 144:1
Op Panel Alarm Enabled: No
PC Spvsr Alarm Enabled: Yes
Alarm Area: B
Alarm Priority: Medium

Digital Signal Points

TA21I1 Description: DEVIATION ALARM FUR-21I-1
Security Areas: none, none, none
Scan Time (seconds): 2:0
Block /Num: PID1 25
Output: AL2*
Off Label: OFF
On Label: ON
Communication Address: 25:9
Op Panel Alarm Enabled: No
PC Spvsr Alarm Enabled: Yes
Alarm Area: A
Alarm Priority: Low

TA21I2 Description: DEVIATION ALARM FUR-21I-2
Security Areas: none, none, none
Scan Time (seconds): 2:0
Block /Num: PID1 45
Output: AL2*
Off Label: OFF
On Label: ON
Communication Address: 45:9
Op Panel Alarm Enabled: No
PC Spvsr Alarm Enabled: Yes
Alarm Area: A
Alarm Priority: Low

TA21I3 Description: DEVIATION ALARM FUR-21I-3
Security Areas: none, none, none
Scan Time (seconds): 2:0
Block /Num: PID1 65
Output: AL2*
Off Label: OFF
On Label: ON
Communication Address: 65:9
Op Panel Alarm Enabled: No
PC Spvsr Alarm Enabled: Yes
Alarm Area: A
Alarm Priority: Low

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Digital signal Points

TAH21I1 Description: GLOVEBOX 21I HIGH TEMP
 Security Areas: none, none, none
 Scan Time (seconds): 2:0
 Block /Num: CMPR 11
 Output: X<Y*
 Off Label: OFF
 On Label: ON
 Communication Address: 11:3
 Op Panel Alarm Enabled: No
 PC SpvSr Alarm Enabled: Yes
 Alarm Area: A
 Alarm Priority: High

TAH21I1 Description: FUR-21I-1 HIGH TEMPERATURE
 Security Areas: none, none, none
 Scan Time (seconds): 2:0
 Block /Num: CMPR 29
 Output: X>Y*
 Off Label: OFF
 On Label: ON
 Communication Address: 29:1
 Op Panel Alarm Enabled: No
 PC SpvSr Alarm Enabled: Yes
 Alarm Area: A
 Alarm Priority: High

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TAH21I2 Description: FUR-21I-2 HIGH TEMPERATURE
 Security Areas: none, none, none
 Scan Time (seconds): 2:0
 Block /Num: CMPR 49
 Output: X>Y*
 Off Label: OFF
 On Label: ON
 Communication Address: 49:1
 Op Panel Alarm Enabled: No
 PC SpvSr Alarm Enabled: Yes
 Alarm Area: A
 Alarm Priority: High

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HNF-SD-CP-CSWD-018, Rev 2

Digital Signal Points

TAH21I3 Description: FUR-21I-3 HIGH TEMPERATURE
 Security Areas: none, none, none
 Scan Time (seconds): 2:0
 Block /Num: CMPR 69
 Output: X>Y*
 Off Label: OFF
 On Label: ON
 Communication Address: 69:1
 Op Panel Alarm Enabled: No
 PC SpvSr Alarm Enabled: Yes
 Alarm Area: A
 Alarm Priority: High

VDC975SG Description: VDC 975 C SIGNAL FOR LOW TEMP ALARM
 Security Areas: none, none, none
 Scan Time (seconds): 2:0
 Block /Num: CMPR 109
 Output: X>Y*
 Off Label: OFF
 On Label: ON
 Communication Address: 109:1
 Op Panel Alarm Enabled: No
 PC SpvSr Alarm Enabled: No

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VDCLOSIG Description: VDC LOW TEMPERATURE SIGNAL
 Security Areas: none, none, none
 Scan Time (seconds): 2:0
 Block /Num: PID1 102
 Output: AL2*
 Off Label: OFF
 On Label: ON
 Communication Address: 102:9
 Op Panel Alarm Enabled: No
 PC SpvSr Alarm Enabled: No

Digital Signal Points

VDCLOVAC Description: VDC LOW VACUUM
Security Areas: none, none, none
Scan Time (seconds): 2:0
Block /Num: CMPR 161
Output: X<Y*
Off Label: OFF
On Label: ON
Communication Address: 161:3
Op Panel Alarm Enabled: No
PC Spvsvr Alarm Enabled: Yes
Alarm Area: B
Alarm Priority: Medium

VDCTCFAL Description: VDC CONTROL THERMOCOUPLE FAILURE
Security Areas: none, none, none
Scan Time (seconds): 2:0
Block /Num: PID1 102
Output: AL1*
Off Label: OFF
On Label: ON
Communication Address: 102:8
Op Panel Alarm Enabled: No
PC Spvsvr Alarm Enabled: Yes
Alarm Area: B
Alarm Priority: High

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Analog Operator Points

FUR21I1 Description: NUMBER FOR HA-21I FURNACE 1

Security Areas: none, none, none

Scan Time (seconds): 2:0

Decimal Place: 0

Engineering Units:

Engineering Limit High: 1000

Engineering Limit Low: 0.000

Communication Address: 251:17

PC SpvSr Alarm Enabled: No

FUR21I2 Description: NUMBER FOR HA-21I FURNACE 2

Security Areas: none, none, none

Scan Time (seconds): 2:0

Decimal Place: 0

Engineering Units:

Engineering Limit High: 1000

Engineering Limit Low: 0.000

Communication Address: 251:19

PC SpvSr Alarm Enabled: No

FUR21I3 Description: NUMBER FOR HA-21I FURNACE 3

Security Areas: none, none, none

Scan Time (seconds): 2:0

Decimal Place: 0

Engineering Units:

Engineering Limit High: 1000

Engineering Limit Low: 0.000

Communication Address: 251:18

PC SpvSr Alarm Enabled: No

Analog Operator Points

PN21I1 Description: PROGRAM NUMBER FUR-21I-1

Security Areas: none, none, none
 Scan Time (seconds): 2:0
 Decimal Place: 0
 Engineering Units:
 Engineering Limit High: 50.00
 Engineering Limit Low: 0.000
 Communication Address: 251:3
 PC Spvsvr Alarm Enabled: No

PN21I2 Description: PROGRAM NUMBER FUR-21I-2

Security Areas: none, none, none
 Scan Time (seconds): 2:0
 Decimal Place: 0
 Engineering Units:
 Engineering Limit High: 50.00
 Engineering Limit Low: 0.000
 Communication Address: 251:0
 PC Spvsvr Alarm Enabled: No

PN21I3 Description: PROGRAM NUMBER FUR-21I-3

Security Areas: none, none, none
 Scan Time (seconds): 2:0
 Decimal Place: 0
 Engineering Units:
 Engineering Limit High: 50.00
 Engineering Limit Low: 0.000
 Communication Address: 251:1
 PC Spvsvr Alarm Enabled: No

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Digital Operator Points

CALRST	Description:	RESET SWITCH
	Security Areas:	none, none, none
	Scan Time (seconds):	2:0
	Off Label:	OFF
	On Label:	ON
	Communication Address:	251:35
	Op Panel Alarm Enabled:	No
	PC Spvsr Alarm Enabled:	No
CALSET	Description:	SET CALCINER PROGRAM NUMBER
	Security Areas:	none, none, none
	Scan Time (seconds):	2:0
	Off Label:	OFF
	On Label:	ON
	Communication Address:	251:31
	Op Panel Alarm Enabled:	No
	PC Spvsr Alarm Enabled:	No
CALSTRT	Description:	CALCINER PROGRAM START BUTTON
	Security Areas:	none, none, none
	Scan Time (seconds):	2:0
	Off Label:	OFF
	On Label:	ON
	Communication Address:	251:21
	Op Panel Alarm Enabled:	No
	PC Spvsr Alarm Enabled:	No
HS_230H	Description:	HAND SWITCH FOR EV-230H
	Security Areas:	none, none, none
	Scan Time (seconds):	2:0
	Off Label:	OFF
	On Label:	ON
	Communication Address:	251:16
	Op Panel Alarm Enabled:	No
	PC Spvsr Alarm Enabled:	No

Digital Operator Points

HS_230K Description: EV-230-K POSITION HANDSWITCH
 Security Areas: none, none, none
 Scan Time (seconds): 2:0
 Off Label: OFF
 On Label: ON
 Communication Address: 251:12
 Op Panel Alarm Enabled: No
 PC SpvSr Alarm Enabled: No

HS_BBACK Description: START/STOP FILTER BLOWBACK
 Security Areas: none, none, none
 Scan Time (seconds): 2:0
 Off Label: OFF
 On Label: ON
 Communication Address: 251:7
 Op Panel Alarm Enabled: No
 PC SpvSr Alarm Enabled: No

HS_EMERG Description: EMERGENCY STOP BUTTON
 Security Areas: none, none, none
 Scan Time (seconds): 2:0
 Off Label: OFF
 On Label: ON
 Communication Address: 251:2
 Op Panel Alarm Enabled: No
 PC SpvSr Alarm Enabled: No

HS_FPUMP Description: HANDSWITCH FOR FEED PUMP
 Security Areas: none, none, none
 Scan Time (seconds): 2:0
 Off Label: OFF
 On Label: ON
 Communication Address: 251:6
 Op Panel Alarm Enabled: No
 PC SpvSr Alarm Enabled: No

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Digital Operator Points

HS_OHPBY Description: CAUSTIC PUMP INTERLOCK BYPASS
Security Areas: none, none, none
Scan Time (seconds): 2:0
Off Label: OFF
On Label: ON
Communication Address: 251:15
Op Panel Alarm Enabled: No
PC Spvsr Alarm Enabled: No

HS_OHPMP Description: NaOH PUMP START/STOP
Security Areas: none, none, none
Scan Time (seconds): 2:0
Off Label: OFF
On Label: ON
Communication Address: 251:13
Op Panel Alarm Enabled: No
PC Spvsr Alarm Enabled: No

HS_STOHP Description: NaOH PUMP 10 SECOND RUN
Security Areas: none, none, none
Scan Time (seconds): 2:0
Off Label: OFF
On Label: ON
Communication Address: 251:14
Op Panel Alarm Enabled: No
PC Spvsr Alarm Enabled: No

HS_VAC1 Description: START BUTTON FOR VACUUM PUMP 1
Security Areas: none, none, none
Scan Time (seconds): 2:0
Off Label: OFF
On Label: ON
Communication Address: 251:4
Op Panel Alarm Enabled: No
PC Spvsr Alarm Enabled: No

Digital Operator Points

HS_VAC2 Description: START BUTTON FOR VACUUM PUMP 2

Security Areas: none, none, none

Scan Time (seconds): 2:0

Off Label: OFF

On Label: ON

Communication Address: 251:5

Op Panel Alarm Enabled: No

PC SpvSr Alarm Enabled: No

SET21I1 Description: SETS PROGRAM NUMBER TO SPP

Security Areas: none, none, none

Scan Time (seconds): 2:0

Off Label: OFF

On Label: ON

Communication Address: 251:27

Op Panel Alarm Enabled: No

PC SpvSr Alarm Enabled: No

SET21I2 Description: SETS PROGRAM NUMBER TO SPP

Security Areas: none, none, none

Scan Time (seconds): 2:0

Off Label: OFF

On Label: ON

Communication Address: 251:29

Op Panel Alarm Enabled: No

PC SpvSr Alarm Enabled: No

SET21I3 Description: SETS PROGRAM NUMBER TO SPP

Security Areas: none, none, none

Scan Time (seconds): 2:0

Off Label: OFF

On Label: ON

Communication Address: 251:28

Op Panel Alarm Enabled: No

PC SpvSr Alarm Enabled: No

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Digital Operator Points

SP_21I1	Description:	STOP BUTTON FOR FUR-21I-1
	Security Areas:	none, none, none
	Scan Time (seconds):	2:0
	Off Label:	OFF
	On Label:	ON
	Communication Address:	251:8
	Op Panel Alarm Enabled:	No
	PC Spvsr Alarm Enabled:	No
SP_21I2	Description:	STOP BUTTON FUR-21I-2
	Security Areas:	none, none, none
	Scan Time (seconds):	2:0
	Off Label:	OFF
	On Label:	ON
	Communication Address:	251:9
	Op Panel Alarm Enabled:	No
	PC Spvsr Alarm Enabled:	No
SP_21I3	Description:	STOP BUTTON FUR-21I-3
	Security Areas:	none, none, none
	Scan Time (seconds):	2:0
	Off Label:	OFF
	On Label:	ON
	Communication Address:	251:11
	Op Panel Alarm Enabled:	No
	PC Spvsr Alarm Enabled:	No
STOP21I1	Description:	STOP HA-21I FURNACE 1 PROGRAM
	Security Areas:	none, none, none
	Scan Time (seconds):	2:0
	Off Label:	OFF
	On Label:	ON
	Communication Address:	251:26
	Op Panel Alarm Enabled:	No
	PC Spvsr Alarm Enabled:	No

HA-21I FURNACE 2 PROGRAM
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Digital Operator Points

STOP21I2 Description: STOP HA-21I FURNACE 2 PROGRAM
Security Areas: none, none, none
Scan Time (seconds): 2:0
Off Label: OFF
On Label: ON
Communication Address: 251:22
Op Panel Alarm Enabled: No
PC Spvsr Alarm Enabled: No

STOP21I3 Description: STOP HA-21I FURNACE 3 PROGRAM
Security Areas: none, none, none
Scan Time (seconds): 2:0
Off Label: OFF
On Label: ON
Communication Address: 251:23
Op Panel Alarm Enabled: No
PC Spvsr Alarm Enabled: No

STR21I1 Description: START HA-21I FURNACE 1 PROGRAM
Security Areas: none, none, none
Scan Time (seconds): 2:0
Off Label: OFF
On Label: ON
Communication Address: 251:25
Op Panel Alarm Enabled: No
PC Spvsr Alarm Enabled: No

STR21I2 Description: START HA-21I FURNACE 2 PROGRAM
Security Areas: none, none, none
Scan Time (seconds): 2:0
Off Label: OFF
On Label: ON
Communication Address: 251:10
Op Panel Alarm Enabled: No
PC Spvsr Alarm Enabled: No

Digital Operator Points

STRT21I3 Description: START HA-21I FURNACE 3 PROGRAM
Security Areas: none, none, none
Scan Time (seconds): 2:0
Off Label: OFF
On Label: ON
Communication Address: 251:24
Op Panel Alarm Enabled: No
PC Spvsvr Alarm Enabled: No

Digital I/O Points

AGT_MOV Description: AGITATOR STALLED
Security Areas: none, none, none
Scan Time (seconds): 2:0
I/O Address: 133
View Only: YES
Off Label: OFF
On Label: ON
Op Panel Alarm Enabled: No
PC Spvsvr Alarm Enabled: Yes
Alarm Area: B
Alarm Priority: High

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EMERG_FD Description: EMERGENCY STOP INDICATION FROM FIELD
Security Areas: none, none, none
Scan Time (seconds): 2:0
I/O Address: 84
View Only: YES
Off Label: OFF
On Label: ON
Op Panel Alarm Enabled: No
PC Spvsvr Alarm Enabled: No

Digital I/O Points

EV_230A	Description:	POSITION EV-230-A
	Security Areas:	none, none, none
	Scan Time (seconds):	2:0
	I/O Address:	115
	View Only:	YES
	Off Label:	OFF
	On Label:	ON
	Op Panel Alarm Enabled:	No
	PC Spvsvr Alarm Enabled:	No
EV_230B	Description:	POSITION EV-230-B
	Security Areas:	none, none, none
	Scan Time (seconds):	2:0
	I/O Address:	116
	View Only:	YES
	Off Label:	OFF
	On Label:	ON
	Op Panel Alarm Enabled:	No
	PC Spvsvr Alarm Enabled:	No
EV_230C	Description:	POSITION EV-230-C
	Security Areas:	none, none, none
	Scan Time (seconds):	2:0
	I/O Address:	117
	View Only:	YES
	Off Label:	OFF
	On Label:	ON
	Op Panel Alarm Enabled:	No
	PC Spvsvr Alarm Enabled:	No
EV_230D	Description:	POSITION EV-230-D
	Security Areas:	none, none, none
	Scan Time (seconds):	2:0
	I/O Address:	118
	View Only:	YES
	Off Label:	OFF
	On Label:	ON
	Op Panel Alarm Enabled:	No
	PC Spvsvr Alarm Enabled:	No

Digital I/O Points

EV_230F	Description:	EV-230-F POSITION SIGNAL
	Security Areas:	none, none, none
	Scan Time (seconds):	2:0
	I/O Address:	119
	View Only:	YES
	Off Label:	OFF
	On Label:	ON
	Op Panel Alarm Enabled:	No
	PC Spvsvr Alarm Enabled:	No
EV_230G	Description:	POSITION EV-230-G
	Security Areas:	none, none, none
	Scan Time (seconds):	2:0
	I/O Address:	123
	View Only:	YES
	Off Label:	OFF
	On Label:	ON
	Op Panel Alarm Enabled:	No
	PC Spvsvr Alarm Enabled:	No
EV_230H	Description:	POSITION EV-230-H
	Security Areas:	none, none, none
	Scan Time (seconds):	2:0
	I/O Address:	121
	View Only:	NO
	Off Label:	OFF
	On Label:	ON
	Op Panel Alarm Enabled:	No
	PC Spvsvr Alarm Enabled:	No
EV_230K	Description:	EV-230-K POSITION
	Security Areas:	none, none, none
	Scan Time (seconds):	2:0
	I/O Address:	120
	View Only:	YES
	Off Label:	OFF
	On Label:	ON
	Op Panel Alarm Enabled:	No
	PC Spvsvr Alarm Enabled:	No

Digital I/O Points

EV_230L	Description:	POWER TO EV-230-L
	Security Areas:	none, none, none
	Scan Time (seconds):	2:0
	I/O Address:	124
	View Only:	YES
	Off Label:	OFF
	On Label:	ON
	Op Panel Alarm Enabled:	No
	PC Spvsr Alarm Enabled:	No
FAN_ON	Description:	OFF-GAS FAN POWER INDICATION
	Security Areas:	none, none, none
	Scan Time (seconds):	2:0
	I/O Address:	83
	View Only:	YES
	Off Label:	OFF
	On Label:	ON
	Op Panel Alarm Enabled:	No
	PC Spvsr Alarm Enabled:	No
FEEDPUMP	Description:	FEED PUMP CONTROL
	Security Areas:	none, none, none
	Scan Time (seconds):	2:0
	I/O Address:	112
	View Only:	NO
	Off Label:	OFF
	On Label:	ON
	Op Panel Alarm Enabled:	No
	PC Spvsr Alarm Enabled:	No
FS_AIRFN	Description:	ATOMIZING AIR LOW FLOW
	Security Areas:	none, none, none
	Scan Time (seconds):	2:0
	I/O Address:	130
	View Only:	YES
	Off Label:	OFF
	On Label:	ON
	Op Panel Alarm Enabled:	No
	PC Spvsr Alarm Enabled:	No

Sep 19 1999 13:41 PM

Digital I/O Points

FS_ALM Description: ATOMIZING AIR LOW FLOW
 Security Areas: none, none, none
 Scan Time (seconds): 2:0
 I/O Address: 411
 View Only: YES
 Off Label: OFF
 On Label: ON
 Op Panel Alarm Enabled: No
 PC Spvsvr Alarm Enabled: Yes
 Alarm Area: B
 Alarm Priority: High

HHL_PHTK Description: HIGH-HIGH LEVEL PHASE SEPARATOR TANK
 Security Areas: none, none, none
 Scan Time (seconds): 2:0
 I/O Address: 132
 View Only: YES
 Off Label: OFF
 On Label: ON
 Op Panel Alarm Enabled: No
 PC Spvsvr Alarm Enabled: No

97

HL_PHSTK Description: HIGH LEVEL PHASE SEPARATOR TANK
 Security Areas: none, none, none
 Scan Time (seconds): 2:0
 I/O Address: 131
 View Only: YES
 Off Label: OFF
 On Label: ON
 Op Panel Alarm Enabled: No
 PC Spvsvr Alarm Enabled: No

COMMUNICATION - FURNAL
Sep 19 1999 13:41 PM

Digital I/O Points

HL_VACTK Description: HIGH-HIGH LEVEL VACUUM TRAP
 Security Areas: none, none, none
 Scan Time (seconds): 2:0
 I/O Address: 128
 View Only: NO
 Off Label: OFF
 On Label: ON
 Op Panel Alarm Enabled: No
 PC Spvsr Alarm Enabled: No

IL_230D Description: OUTPUT SIGNAL TO IL-230-D
 Security Areas: none, none, none
 Scan Time (seconds): 2:0
 I/O Address: 114
 View Only: YES
 Off Label: OFF
 On Label: ON
 Op Panel Alarm Enabled: No
 PC Spvsr Alarm Enabled: No

IL_230H Description: INDICATING LIGHT FOR EV-230-H
 Security Areas: none, none, none
 Scan Time (seconds): 2:0
 I/O Address: 122
 View Only: NO
 Off Label: OFF
 On Label: ON
 Op Panel Alarm Enabled: No
 PC Spvsr Alarm Enabled: No

IL_BBACK Description: IDICATING LIGHT FOR FILTER BLOWBACK
 Security Areas: none, none, none
 Scan Time (seconds): 2:0
 I/O Address: 506
 View Only: NO
 Off Label: OFF
 On Label: ON
 Op Panel Alarm Enabled: No
 PC Spvsr Alarm Enabled: No

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Digital I/O Points

LS21I1	Description:	DOOR LIMIT SWITCH FUR-21I-1
	Security Areas:	none, none, none
	Scan Time (seconds):	2:0
	I/O Address:	80
	View Only:	YES
	Off Label:	OFF
	On Label:	ON
	Op Panel Alarm Enabled:	No
	PC Spvsr Alarm Enabled:	No
LS21I2	Description:	DOOR LIMIT SWITCH FUR-21I-2
	Security Areas:	none, none, none
	Scan Time (seconds):	2:0
	I/O Address:	81
	View Only:	YES
	Off Label:	OFF
	On Label:	ON
	Op Panel Alarm Enabled:	No
	PC Spvsr Alarm Enabled:	No
LS21I3	Description:	DOOR LIMIT SWITCH FURN-21I-3
	Security Areas:	none, none, none
	Scan Time (seconds):	2:0
	I/O Address:	82
	View Only:	YES
	Off Label:	OFF
	On Label:	ON
	Op Panel Alarm Enabled:	No
	PC Spvsr Alarm Enabled:	No
NAOHPUMP	Description:	CAUSTIC PUMP CONTROL
	Security Areas:	none, none, none
	Scan Time (seconds):	2:0
	I/O Address:	113
	View Only:	YES
	Off Label:	OFF
	On Label:	ON
	Op Panel Alarm Enabled:	No
	PC Spvsr Alarm Enabled:	No

Digital I/O Points

PST_PALM Description: PST PUMPOUT DELAY
Security Areas: none, none, none
Scan Time (seconds): 2:0
I/O Address: 450
View Only: YES
Off Label: OFF
On Label: ON
Op Panel Alarm Enabled: No
PC Spvsr Alarm Enabled: Yes
Alarm Area: B
Alarm Priority: High

PS_AIRFN Description: ATOMIZING AIR LOW PRESSURE
Security Areas: none, none, none
Scan Time (seconds): 2:0
I/O Address: 129
View Only: YES
Off Label: OFF
On Label: ON
Op Panel Alarm Enabled: No
PC Spvsr Alarm Enabled: No

100

PS_ALM Description: ATOMIZING AIR LOW PRESSURE
Security Areas: none, none, none
Scan Time (seconds): 2:0
I/O Address: 410
View Only: YES
Off Label: OFF
On Label: ON
Op Panel Alarm Enabled: No
PC Spvsr Alarm Enabled: Yes
Alarm Area: B
Alarm Priority: High

Digital I/O Points

PWR21I1 Description: POWER INDICATION FUR-21I-1
 Security Areas: none, none, none
 Scan Time (seconds): 2:0
 I/O Address: 96
 View Only: YES
 Off Label: OFF
 On Label: ON

Op Panel Alarm Enabled: No
 PC Spvsr Alarm Enabled: No

PWR21I2 Description: POWER INDICATION FUR-21I-2
 Security Areas: none, none, none
 Scan Time (seconds): 2:0
 I/O Address: 97
 View Only: YES
 Off Label: OFF
 On Label: ON

Op Panel Alarm Enabled: No
 PC Spvsr Alarm Enabled: No

PWR21I3 Description: POWER INIDICATION FUR-21I-3
 Security Areas: none, none, none
 Scan Time (seconds): 2:0
 I/O Address: 98
 View Only: YES
 Off Label: OFF
 On Label: ON

Op Panel Alarm Enabled: No
 PC Spvsr Alarm Enabled: No

PWR_230A Description: POWER TO EV-230-A
 Security Areas: none, none, none
 Scan Time (seconds): 2:0
 I/O Address: 501
 View Only: NO
 Off Label: OFF
 On Label: ON

Op Panel Alarm Enabled: No
 PC Spvsr Alarm Enabled: No

Digital I/O Points

PWR_230B Description: POWER TO EV-230-B
Security Areas: none, none, none
Scan Time (seconds): 2:0
I/O Address: 502
View Only: NO
Off Label: OFF
On Label: ON
Op Panel Alarm Enabled: No
PC Spvsr Alarm Enabled: No

PWR_230C Description: POWER TO EV-230-C
Security Areas: none, none, none
Scan Time (seconds): 2:0
I/O Address: 503
View Only: NO
Off Label: OFF
On Label: ON
Op Panel Alarm Enabled: No
PC Spvsr Alarm Enabled: No

PWR_230D Description: POWER TO EV-230-D
Security Areas: none, none, none
Scan Time (seconds): 2:0
I/O Address: 504
View Only: NO
Off Label: OFF
On Label: ON
Op Panel Alarm Enabled: No
PC Spvsr Alarm Enabled: No

PWR_230G Description: POWER TO EV-230-G
Security Areas: none, none, none
Scan Time (seconds): 2:0
I/O Address: 505
View Only: NO
Off Label: OFF
On Label: ON
Op Panel Alarm Enabled: No
PC Spvsr Alarm Enabled: No

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Digital I/O PointsTEMP_ALM Description: VDC LOW TEMPERATURE

Security Areas: none, none, none

Scan Time (seconds): 2:0

I/O Address: 402

View Only: YES

Off Label: OFF

On Label: ON

Op Panel Alarm Enabled: No

PC Spvsnr Alarm Enabled: Yes

Alarm Area: B

Alarm Priority: High

VACTRAP Description: VACUUM TRAP HIGH HIGH LEVEL

Security Areas: none, none, none

Scan Time (seconds): 2:0

I/O Address: 560

View Only: YES

Off Label: OFF

On Label: OFF

Op Panel Alarm Enabled: No

PC Spvsnr Alarm Enabled: Yes

Alarm Area: B

Alarm Priority: High

VDCPRGRN Description: VDC PROGRAM RUNNING

Security Areas: none, none, none

Scan Time (seconds): 2:0

I/O Address: 404

View Only: YES

Off Label: OFF

On Label: ON

Op Panel Alarm Enabled: No

PC Spvsnr Alarm Enabled: No

10#3
Ans 9-27-99

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AMS-92799
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APPENDIX E
PCS LADDER LOGIC

AMS 9-27-99
1085

HONEYWELL

623-60 MS-DOS

620 LOADER

Version 4.2

Wed Sep 08 18:48 1999

```
+-----+
! Title:VDC AND THERMAL STABILIZATION !
+-----+
!
+-----+
! Date:09/08/99! !Programmer:Lane Cunningham !
+-----+
```

Stand-Alone Mode - Diagnostics Do Not Apply

----Wed Sep 08 18:48 1999

Ladder Logic Listing

!PAGE 1 VDC AND THERMAL STABILIZATION

09/08/99

!Line # 1

! Line # Cross-Ref of addr 96
*1

HA21I	HA21I	STRT/STP	FUR-21I-1	FUR-21I-1	FUR21I1	FIELD	START
EMERGENCY	HTAS	BUTTON	DEVIATION	HI TEMP	DOOR	EMERGENCY	FUR21I1
STOP		FUR-21I-1	ALARM	ALARM	LMT SWITCH	STOP BUT.	CONTACTOR
HSEMERG	TAH21I	SP_21I1	TA21I1	TAH21I1	LS21I1	EMERG_F	PWR21I1
300	301	302	303	304	80	84	96

----] [-----]/[-----] [-----]/[-----]/[-----] [-----] [-----] ()----

(0) (0) (0) (0) (0) (0) (0)

!Line # 2

! Line # Cross-Ref of addr 97
*2

HA21I	HA21I	STRT/STP	FUR-21I-2	FUR-21I-2	FUR21I2	FIELD	START
EMERGENCY	HTAS	BUTTON	DEVIATION	HI TEMP	DOOR	EMERGENCY	FUR21I2
STOP		FUR-21I-2	ALARM	ALARM	LMT SWITCH	STOP BUT.	CONTACTOR
HSEMERG	TAH21I	SP_21I2	TA21I2	TAH21I2	LS21I2	EMERG_F	PWR21I2
300	301	305	306	307	81	84	97

----] [-----]/[-----] [-----]/[-----]/[-----] [-----] [-----] ()----

(0) (0) (0) (0) (0) (0) (0)

!Line # 3

! Line # Cross-Ref of addr 98
*3

HA21I	HA21I	STRT/STP	FUR-21I-3	FUR-21I-3	FUR21I3	FIELD	START
EMERGENCY	HTAS	BUTTON	DEVIATION	HI TEMP	DOOR	EMERGENCY	FUR21I3
STOP		FUR-21I-3	ALARM	ALARM	LMT SWITCH	STOP BUT.	CONTACTOR
HSEMERG	TAH21I	SP_21I3	TA21I3	TAH21I3	LS21I3	EMERG_F	PWR21I3
300	301	308	309	310	82	84	98

----] [-----]/[-----] [-----]/[-----]/[-----] [-----] [-----] ()----

(0) (0) (0) (0) (0) (0) (0)

!Line # 4

! Line # Cross-Ref of addr 115
*4

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Ladder Logic Listing

PAGE 2 VDC AND THERMAL STABILIZATION

09/08/99

!Line # 4

!BLOWBACK	POSITION	VDC LOW	CONTROL	ACCUMULA
!CONTROL	CONTROL	VACUUM	TEMP TC	TANK
!SIGNAL	FOR	<5" H2O	FAILURE	VALVE
! HS_BBAC	EV_230A	VDCLOVC	VDCTCFA	EV_230A
! 500	501	550	403	115
+---] [-----] [-----]/[-----]/[-----]				()
(0)	(0)	(0)	(0)	

!Line # 5

! Line # Cross-Ref of addr 116
! *5

!BLOWBACK	POSITION	BLOWBACK
!CONTROL	CONTROL	FILTER B
!SIGNAL	FOR	VALVE
! HS_BBAC	EV_230B	EV_230B
! 500	502	116
+---] [-----] [-----]		()
(0)	(0)	

!Line # 6

! Line # Cross-Ref of addr 117
! *6

!BLOWBACK	POSITION	BLOWBACK
!CONTROL	CONTROL	FILTER C
!SIGNAL	FOR	VALVE
! HS_BBAC	EV_230C	EV_230C
! 500	503	117
+---] [-----] [-----]		()
(0)	(0)	

!Line # 7

! Line # Cross-Ref of addr 118
! *7

-----Wed Sep 08 18:48 1999

Ladder Logic Listing

PAGE 3 VDC AND THERMAL STABILIZATION

09/08/99

Line # 7

BLOWBACK POSITION
CONTROL CONTROL
SIGNAL FOR
HS_BBAC EV_230D
500 504

BLOWBACK!
FILTER D!
VALVE
EV_230D!
118

-----] [-----] [-----] ()-----

(0) (0)

Line # 8

Line # Cross-Ref of addr 123
*8

BLOWBACK POSITION
CONTROL CONTROL
SIGNAL FOR
HS_BBAC EV_230G
500 505

DPS
ISOLATION
VALVE
EV_230G!
123

-----] [-----] [-----] ()-----

(0) (0)

Line # 9

Line # Cross-Ref of addr 114
*9

BLOWBACK CONTROL VDC LOW INDICATOR
CONTROL TEMP TC VACUUM LIGHT FOR
SIGNAL FAILURE <5" H2O BLOWBACK
HS_BBAC VDCTCFA VDCLOVC IL_BBAC
500 403 550 506

FILTER
BLOWBACK!
LIGHT
IL_230D!
114

-----] [-----]/[-----]/[-----] [-----] ()-----

(0) (0) (0) (0)

!Line # 10

!Line # Cross-Ref of addr 443
! *10 , *11 , 14

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Ladder Logic Listing

!PAGE 4 VDC AND THERMAL STABILIZATION

09/08/99

!Line # 10

!PST HI-HI

!LEVEL

!ALARM

! HHL_PHT

! 132

+---] [----- (L) ---+

! (0)

!Line # 11

!Line # Cross-Ref of addr 443
! *10 , *11 , 14

!PST HIGH

!LEVEL

!ALARM

! HL PHST

! 131

+---]/[----- (U) ---+

! (0)

!Line # 12

!Line # Cross-Ref of addr 441
! *12 , *13 , 14 , 17

!MANUAL

!SWITCH

!FOR

EV 230H !
LATCHED !
POSITION!

EV230H !
441 !
--(L)--+

! (0)

!Line # 13

```
! Line # Cross-Ref of addr 441
! *12 ,*13 , 14 , 17
```

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Ladder Logic Listing

!PAGE 5 VDC AND THERMAL STABILIZATION

09/08/99

!Line # 13

!PST HIGH
!LEVEL
!ALARM
! HL PHST
! 131

```
EV_230H !
LATCHED !
POSITION!
  EV230H !
    441 !
```

$$+ \frac{1}{\lambda}] / [- \frac{1}{\lambda}] = (U) +$$

! (0)

!Line # 14

```
! Line # Cross-Ref of addr 122
! *14
```

```
!EV 230H
!LATCHED
!POSITION
! EV230H
! 441
```

PST DISCH
CONTROL !
LIGHT !
IL 230H!
122 !

[illegible]

```

! (12 ) !
!PHASE SEP!
!TANK      !
!LATCH     !
! PST TNK  !
!   443    !

```

+---] [---+

(10)

!Line # 15

! Line # Cross-Ref of addr 442

! *15 ,*16 , 17

!PST HI-HI

!LEVEL

!ALARM

! HHL_PHT

! 132

+---] [----- (L) +

(0)

!Line # 16

! Line # Cross-Ref of addr 442

! *15 ,*16 , 17

----Wed Sep 08 18:48 1999

Ladder Logic Listing

!PAGE 6 VDC AND THERMAL STABILIZATION

09/08/99

!Line # 16

!PST HIGH

!LEVEL

!ALARM

! HL_PHST

! 131

+---]/[----- (U) +

(0)

!Line # 17

! Line # Cross-Ref of addr 121

! *17 , 18 ,/19

!EV 230H

!LATCHED

!POSITION

! EV230H

! 441

+---] [----- () +

PST HI-HI

LEVEL

CONTROL !

HIHI LV!

442

(L)

PST HI-HI

LEVEL

CONTROL !

HIHI LV!

442

(U)

PST DISCH

CONTROL !

VALVE

EV 230H!

121

()

```

! (12  ) !
!PST HI-HI!
!LEVEL    !
!CONTROL  !
! HIHI LV !
!   442   !
+----] [----+

```

```

! (15  )

```

```

!Line #    18

```

```

!   Line # Cross-Ref of addr  450
!   *18   ,*19

```

```

----Wed Sep 08 18:48 1999

```

```

Ladder Logic Listing

```

```

!PAGE      7      VDC AND THERMAL STABILIZATION

```

```

09/08/99

```

```

!Line #    18

```

```

!PST DISCH +-----+
!CONTROL   !
!VALVE     !
! EV_230H  !          OUT +
!   121    !
+---] [---+ TRN

```

```

PST PUMP!
OUT ALM !
OVERTIME!
OVERTIM!
450     !
(L)-----

```

```

! (17  )

```

```

4100
(0  )
PRS
30

```

```

!PST HIGH  !

```

```

4101

```



```
|LEVEL      |          (0  ) |
|ALARM      |          ACC   |
| HL PHST   |          0     |
| 131       |          |
+---] [---+ RST
|
| (0  ) +-----+
```

```
|Line #      19
|
| Line # Cross-Ref of addr 450
| *18 ,*19
```

```
|PST DISCH          PST PUMP|
|CONTROL            OUT ALM |
|VALVE              OVERTIME|
| EV 230H           OVERTIM|
| 121               450    |
+---]/[------(U)---
|
| (17  )
```

```
|Line #      20
|
| Line # Cross-Ref of addr 119
| *20
```

```
----Wed Sep 08 18:48 1999                                Ladder Logic Listing
|
|PAGE      8      VDC AND THERMAL STABILIZATION                                09/08/99
```

```
|Line #      20
|
|FPT WF            FEED TANK|
|INTERLOCK         TRANSFER|
|SIGNAL TO         VALVE    |
| EV 230F          EV 230F|
| 350              119    |
+---]/[------( )---
|
| (0  )
```

!Line # 21

! Line # Cross-Ref of addr 540
 ! *21 ,*22 ,*23 ,*24 ,*25 ,*26 ,*27 ,*28 ,/29

!HI-HI LVL
 !VACM TRAP
 !SWITCH
 ! HL_VACT
 ! 128

FEED PUMP
 SHUTDOWN!
 INTERLOCK
 FP SHUT!
 540 !

+---]/[------(L)---

! (0)

!Line # 22

! Line # Cross-Ref of addr 540
 ! *21 ,*22 ,*23 ,*24 ,*25 ,*26 ,*27 ,*28 ,/29

!LO PRESSR
 !FEED NOZL
 !SWITCH
 ! PS_AIRF
 ! 129

FEED PUMP
 SHUTDOWN!
 INTERLOCK
 FP SHUT!
 540 !

+---]/[------(L)---

! (0)

!Line # 23

! Line # Cross-Ref of addr 540
 ! *21 ,*22 ,*23 ,*24 ,*25 ,*26 ,*27 ,*28 ,/29

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Ladder Logic Listing

!PAGE 9 VDC AND THERMAL STABILIZATION

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!Line # 23

!LO FLOW
 !FEED NOZL
 !SWITCH
 ! FS_AIRF
 ! 130

FEED PUMP
 SHUTDOWN!
 INTERLOCK
 FP SHUT!
 540 !

```

] / [ (L)
(0 )

Line # 24

Line # Cross-Ref of addr 540
*21 ,*22 ,*23 ,*24 ,*25 ,*26 ,*27 ,*28 ,/29

VDC LOW FEED PUMP
TEMP ALM SHUTDOWN!
ACTIVATE INTERLOCK
VDCLOSI FP SHUT!
401 540
] / [ (L)
(0 )

Line # 25

Line # Cross-Ref of addr 540
*21 ,*22 ,*23 ,*24 ,*25 ,*26 ,*27 ,*28 ,/29

CONTROL FEED PUMP
TEMP TC SHUTDOWN!
FAILURE INTERLOCK
VDCTCFA FP SHUT!
403 540
] [ (L)
(0 )

Line # 26

Line # Cross-Ref of addr 540
*21 ,*22 ,*23 ,*24 ,*25 ,*26 ,*27 ,*28 ,/29

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PAGE 10 VDC AND THERMAL STABILIZATION 09/08/99
Line # 26

```

!AGITATOR	FEED PUMP
!MOTION	SHUTDOWN!
!ALARM	INTERLOCK
! AGT MOV	FP SHUT!
! 133	540 !
+---] [-----	----- (L) ---+

(0)

Line # 27

Line #	Cross-Ref of	addr	540
*21	,*22	,*23	,*24
	,*25	,*26	,*27
	,*28	,/29	

!VDC LOW	FEED PUMP
!VACUUM	SHUTDOWN!
!<5" H2O	INTERLOCK
! VDCLOVC	FP SHUT!
! 550	540 !
+---] [-----	----- (L) ---+

(0)

Line # 28

Line #	Cross-Ref of	addr	540
*21	,*22	,*23	,*24
	,*25	,*26	,*27
	,*28	,/29	

! HI-HI LVL	! LO PRESSR	! LO FLOW	! AGITATOR	! VDC LOW	! CONTROL
! VACM TRAP	! FEED NOZL	! FEED NOZL	! MOTION	! TEMP ALM	! TEMP TC
! SWITCH	! SWITCH	! SWITCH	! ALARM	! ACTIVATE	! FAILURE
! HL VACT	! PS AIRF	! FS AIRF	! AGT MOV	! VDCLOSI	! VDCTCF
! 128	! 129	! 130	! 133	! 401	! 403
+---] [-----	+---] [-----	+---] [-----	+---] [-----	+---] [-----	+---] [-----
(0)	(0)	(0)	(0)	(0)	(0)

Line # 29

Line #	Cross-Ref of	addr	112
*29			

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Ladder Logic Listing

!PAGE 11 VDC AND THERMAL STABILIZATION

09/08/99

!Line # 29

!FEED PUMP CALCINER
 !SHUTDOWN FEED PUMP
 !INTERLOCK START
 ! FP SHUT HSFPUMP
 ! 540 324

FEED PUMP
 POWER
 CONTROL
 FEEDPUM
 112

+---]/[-----] [-----]----- () ---+

! (21) (0)

!Line # 30

! Line # Cross-Ref of addr 402
 ! *30

!VDC LOW
 !TEMP ALM
 !ACTIVATE
 ! VDCLOSI
 ! 401

VDC LOW
 TEMP
 ALARM
 TEMP_AL
 402

+---]/[-----]----- () ---+

! (0)

!Line # 31

! Line # Cross-Ref of addr 421
 ! *31 ,/32

(31)

Line # 33

Line # Cross-Ref of addr 435
*33 ,*34 , 35 ,*35 , 38

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Ladder Logic Listing

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09/08/99

Line # 33

CAUSTIC SCRUBBER
PUMP TANK PH
START CONTROL
HS_OHPM PH_PUMP
432 433

PH CONTRL
NaOH TIME
ADDITION!
TIME SG!
435

---] [-----] [-----] (L)---

(0) (0)

Line # 34

Line # Cross-Ref of addr 435
*33 ,*34 , 35 ,*35 , 38

CAUSTIC
PUMP
START
HS_OHPM
432

PH CONTRL
NaOH TIME
ADDITION!
TIME SG!
435

---]/[-----] (U)---

(0)

Line # 35

Line # Cross-Ref of addr 435
*33 ,*34 , 35 ,*35 , 38

! HS_STOH
! 430

ADD SIG!

431

+---] [----- (L)-----

! (0)

!Line # 37

! Line # Cross-Ref of addr 431
! *36 , 37 , 37 , *37 , 38

----Wed Sep 08 18:48 1999

Ladder Logic Listing

!PAGE 15 VDC AND THERMAL STABILIZATION

09/08/99

!Line # 37

!TIMED +-----+
!CAUSTIC !
!ADDITION !
! ADD SIG ! OUT +
! 431 !

TIMED
CAUSTIC
ADDITION!
ADD SIG!
431

+---] [-----+ TRN +----- (U)-----

! (36)

4104
(0)
PRS
15.0

!TIMED
!CAUSTIC
!ADDITION
! ADD SIG
! 431

4105
(0)
ACC
0.0

+---] [-----+ RST

! (36)

!Line # 38

Line # Cross-Ref of addr 113
 *38

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Ladder Logic Listing

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09/08/99

Line # 38

TIMED
 CAUSTIC
 ADDITION
 ADD SIG
 431

CAUSTIC
 PUMP
 CONTROL
 NAOHPUM
 113

---] [---+

(36)
 PH CONTRL
 NaOH TIME
 ADDITION
 TIME SG
 435

---] [---+

(33)
 NaOH PUMP
 BYPASS
 START/STP
 HS OHPB
 434

---] [---+

! (0)

!Line # 39

!Line # Cross-Ref of addr 460
!*39 ,*40 ,/41

----Wed Sep 08 18:48 1999

Ladder Logic Listing

!PAGE 17 VDC AND THERMAL STABILIZATION

09/08/99

!Line # 39

!HI-HI LVL +-----+ +

!VACM TRAP !

!SWITCH !

! HL_VACT !

! 128 !

+---]/[---+ TRN

! (0) !

! 4106 !

! (0) !

! PRS !

! 5.0 !

!26" VACUM !

! 4107 !

EV-230-L!

DISABLE !

SIGNAL !

EV230L !

460 !

-(L)---

```

ISOLATION !           (0 ) !
VALVE      !           ACC !
EV_230L    !           0.0 !
 124       !           !
+---] [----+ RST       !
(41 ) +-----+

```

Line # 40

Line # Cross-Ref of addr 460
 *39 ,*40 ,/41

```

HI-HI LVL
VACM TRAP
SWITCH
HL_VACT
 128

```

```

EV-230-L
DISABLE
SIGNAL
EV230L
 460

```

```

+---] [-----]----- (U)
(0 )

```

Line # 41

Line # Cross-Ref of addr 124
 39 ,*41

---Wed Sep 08 18:48 1999

Ladder Logic Listing

PAGE 18 VDC AND THERMAL STABILIZATION

09/08/99

Line # 41

```

EV-230-L
DISABLE
SIGNAL
EV230L
 460

```

```

26" VACUM
ISOLATION
VALVE
EV 230L
 124

```

```

+---]/[-----]----- ( )
(39 )

```

!Line # 42

```
! Line # Cross-Ref of addr 560
! *42
```

```
!HI-HI LVL
!VACM TRAP
!SWITCH
! HL_VACT
! 128
```

VACTRAP
HI-HI
LEVEL
HH LVL
560

$$+ \dots] / [\dots] () \dots +$$

! (0)

!Line # 43

! Line # Cross-Ref of addr 410
! *43

!LO PRESSR
!FEED NOZL
!SWITCH
! PS_AIRF
! 129

ATOMIZING
AIR LOW !
PRESSURE!
PS_ALM !
410 !

$$+---]/[------()---+$$

! (0)

!Line # 44

```
! Line # Cross-Ref of addr 411
! *44
```

-----Wed Sep 08 18:48 1999

Ladder Logic Listing

!PAGE 19 VDC AND THERMAL STABILIZATION

09/08/99

!Line # 44

!LO FLOW
!FEED NOZL
!SWITCH
! FS AIRF
! 130

ATOMIZING
AIR LOW !
FLOW !
FS ALM !
411 !

```

+----- Cross Reference Legend -----+
!" Line#="-] [- -]BR[-      "tLine#"-TMR/CTR          "mLine#"-MATRIX REF. ADDR      !
!"/Line#="-]\[-            "fLine#"-[FP]-          "MLine#"-MATRIX OUTPUT ADDR    !
!"^Line#="-]\[-            "FLine#"-[FP]-          "bLine#"-[B2]-  <B2>-          !
!"vLine#="-]\[-            "eLine#"-error addr for: "SLine#"-[S2]-  <I2>-  SEQNCR!
!"zLine#"-[Z]-              -[+]-  -[-]-  -[*]-  -[/]-  "sLine#"-SEQNCR STEP #          !
!"*Line#"-(-) - (R) -        -[BCD]- -[BIN]- -[INT]-  "pLine#"-[PUL]-          !
!  -(L)-  -(U)-  -(BW)-      -[SQRT]--[ABS]-          "PLine#"-[PSH]-          !
+-----+

```

128

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APPENDIX F
SEQUENTIAL CONTROL CHART DIAGRAMS

Page 1

BLOWBACK B

EV_A DISCHARGE POSITION EV A TO DISCHARGE AND EV_G TO OPEN

CONTINUATION CONDITIONS

Operand	Operand
A BLOWBACK B.T	>=00:00:30

Condition Logic

A

CONTROL INSTRUCTIONS

Qual	Assign variable:	Equal to:
E A	PWR_230A	ON
E A	PWR_230G	ON

OPEN EV_B

POSITION EV B TO OPEN

CONTINUATION CONDITIONS

Operand	Operand
A EV A DISCHARGE.T	>=00:00:02

Condition Logic

A

CONTROL INSTRUCTIONS

Qual	Assign variable:	Equal to:
E A	PWR_230B	ON

CLOSE EV_B

POSITION EV B TO CLOSE

CONTINUATION CONDITIONS

Operand	Operand
A OPEN EV_B.T	>=00:00:02

Condition Logic

A

CONTROL INSTRUCTIONS

Qual	Assign variable:	Equal to:
E A	PWR_230B	OFF

RESET_B

RESET VALVE EV_A AND EV_G

CONTINUATION CONDITIONS

Operand	Operand
A CLOSE EV_B.T	>=00:00:05

Condition Logic

A

CONTROL INSTRUCTIONS

BLOWBACK B	Qual	Assign variable:	Equal to:
	E A	PWR_230G	OFF
	E A	PWR_230A	OFF

Page 1

BLOWBACK C

EV_A DISCHARG POSITION EV A TO DISCHARGE AND EV_G TO OPEN
CONTINUATION CONDITIONS

Operand	Operand
A BLOWBACK C.T	>=00:00:30

Condition Logic

A

CONTROL INSTRUCTIONS		
Qual	Assign variable:	Equal to:
E A	PWR_230A	ON
E A	PWR_230G	ON

OPEN EV_C POSITION EV C TO OPEN
CONTINUATION CONDITIONS

Operand	Operand
A EV A DISCHARG.T	>=00:00:02

Condition Logic

A

CONTROL INSTRUCTIONS		
Qual	Assign variable:	Equal to:
E A	PWR_230C	ON

CLOSE EV_C POSITION EV C TO CLOSE
CONTINUATION CONDITIONS

Operand	Operand
A OPEN EV_C.T	>=00:00:02

Condition Logic

A

CONTROL INSTRUCTIONS		
Qual	Assign variable:	Equal to:
E A	PWR_230C	OFF

RESET_C RESET POSITION OF EV_A AND EV_G
CONTINUATION CONDITIONS

Operand	Operand
A CLOSE EV_C.T	>=00:00:05

Condition Logic

A

CONTROL INSTRUCTIONS		
Qual	Assign variable:	Equal to:
E A	PWR_230A	OFF
E A	PWR_230G	OFF

Page 1

BLOWBACK D

EV_A DISCHAR POSITION EV A TO DISCHARGE AND EV_G TO OPEN
CONTINUATION CONDITIONS

Operand	Operand
A BLOWBACK D.T	>=00:00:30

Condition Logic
A

CONTROL INSTRUCTIONS	
Qual	Assign variable: Equal to:
E A	PWR_230A ON
E A	PWR_230G ON

OPEN EV_D POSITION EV D TO OPEN
CONTINUATION CONDITIONS

Operand	Operand
A EV A DISCHAR.T	>=00:00:02

Condition Logic
A

CONTROL INSTRUCTIONS	
Qual	Assign variable: Equal to:
E A	PWR_230D ON

CLOSE EV_D POSITION EV-D TO CLOSE
CONTINUATION CONDITIONS

Operand	Operand
A OPEN EV_D.T	>=00:00:02

Condition Logic
A

CONTROL INSTRUCTIONS	
Qual	Assign variable: Equal to:
E A	PWR_230D OFF

RESET_D RESET POSITION OF VALVES EV_A AND EV_G
CONTINUATION CONDITIONS

Operand	Operand
A CLOSE EV_D.T	>=00:00:05

Condition Logic
A

BLOWBACK D

CONTROL INSTRUCTIONS	
Qual	Assign variable: Equal to:
E A	PWR_230A OFF
E A	PWR_230G OFF

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APPENDIX G
SET POINT PROGRAMS

SET POINT PROGRAM PROFILE NO. 1 - OXIDE

PAGE 1

Segment	1	3	5	7	8
Event 1					
Event 2					
Event 3					
Event 4					
Event 5					
Event 6					
Event 7					
Event 8					
Event 9					
Event 10					
Event 11					

Program Number: 1
Program Name: OXIDE
Engineering Units: deg C
Number of Segments: 10
Date of last edit session: Sep 01 1999 19:29 PM

Segment	Setpoint	Ramp/Time	Gsband	Events											
				1	2	3	4	5	6	7	8	9	10	11	12
1 RAMP		5.000													
2 SOAK	500.0	00:00:00	0.000												
3 RAMP		3.333													
4 SOAK	700.0	00:00:00	0.000												
5 RAMP		2.080													
6 SOAK	900.0	00:00:00	0.000												
7 RAMP		1.250													
8 SOAK	1000	02:00:00	10.00												
9 NA		0.000													
10 NA	0.000	00:00:00	0.000												

SET POINT PROGRAM PROFILE NO. 2 - METAL

PAGE 3

Segment	1	3	5	7	8
Event 1					
Event 2					
Event 3					
Event 4					
Event 5					
Event 6					
Event 7					
Event 8					
Event 9					
Event 10					
Event 11					

Set Point Program Configuration - FURNAL
Sep 20 1999 08:28 AM

PAGE 4

Program Number: 2
 Program Name: METAL
 Engineering Units: deg C
 Number of Segments: 10
 Date of last edit session: Sep 01 1999 19:52 PM

Segment	Setpoint	Ramp/Time	Gsband	Events											
1	RAMP	5.000		1	2	3	4	5	6	7	8	9	10	11	12
2	SOAK	500.0	00:00:00	0.000											
3	RAMP		3.333												
4	SOAK	700.0	00:00:00	0.000											
5	RAMP		2.080												
6	SOAK	900.0	00:00:00	0.000											
7	RAMP		1.250												
8	SOAK	1000	02:00:00	10.00											
9	NA		0.000												
10	NA	0.000	00:00:00	0.000											

SET POINT PROGRAM PROFILE NO. 3 - RECYCLE

Segment	1	3	5	7	8
Event 1					
Event 2					
Event 3					
Event 4					
Event 5					
Event 6					
Event 7					
Event 8					
Event 9					
Event 10					
Event 11					

Set Point Program Configuration - FURNCAL
Sep 20 1999 08:28 AM

PAGE 6

Program Number: 3
 Program Name: RECYCLE
 Engineering Units: deg C
 Number of Segments: 10
 Date of last edit session: Sep 07 1999 17:06 PM

Segment	Setpoint	Ramp/Time	Gsband	1	2	3	4	5	6	7	8	9	10	11	12
1	RAMP	5.000													
2	SOAK	500.0	00:00:00				10.00								
3	RAMP		3.333												
4	SOAK	700.0	00:00:00				0.000								
5	RAMP		2.083												
6	SOAK	900.0	00:00:00				0.000								
7	RAMP		1.250												
8	SOAK	1000	04:00:00				10.00								
9	NA		0.000												
10	NA	0.000	00:00:00				0.000								

SET POINT PROGRAM PROFILE NO. 4 - OXIDE-2

PAGE 7

Segment	1	3	5	6
Event 1				
Event 2				
Event 3				
Event 4				
Event 5				
Event 6				
Event 7				
Event 8				
Event 9				
Event 10				
Event 11				

Program Number: 4
 Program Name: OXIDE-2
 Engineering Units: deg C
 Number of Segments: 10
 Date of last edit session: Sep 01 1999 19:53 PM

Segment	Setpoint	Ramp/Time	Gsband	1	2	3	4	5	6	7	8	9	10	11	12
1	RAMP	3.333													
2	SOAK	700.0	00:00:00	0.000											
3	RAMP	2.080													
4	SOAK	900.0	00:00:00	0.000											
5	RAMP	1.250													
6	SOAK	1000	02:00:00	10.00											
7	NA	0.000													
8	NA	0.000	00:00:00	0.000											
9	NA	0.000													
10	NA	0.000	00:00:00	0.000											

SET POINT PROGRAM PROFILE NO. 5 - OXIDE-3

PAGE 9

Segment	1	3	4
Event 1			
Event 2			
Event 3			
Event 4			
Event 5			
Event 6			
Event 7			
Event 8			
Event 9			
Event 10			
Event 11			

Set Point Program Configuration - FURNCAL
Sep 20 1999 08:28 AM

Program Number: 5
 Program Name: OXIDE-3
 Engineering Units: deg C
 Number of Segments: 10
 Date of last edit session: Sep 01 1999 19:53 PM

Segment	Setpoint	Ramp/Time	Gsband	Events											
1	RAMP	2.080		1	2	3	4	5	6	7	8	9	10	11	12
2	SOAK	900.0	00:00:00	0.000											
3	RAMP		1.250												
4	SOAK	1000	02:00:00	10.00											
5	NA		0.000												
6	NA	0.000	00:00:00	0.000											
7	NA		0.000												
8	NA	0.000	00:00:00	0.000											
9	NA		0.000												
10	NA	0.000	00:00:00	0.000											

SET POINT PROGRAM PROFILE NO. 6 - OXIDE-4

PAGE 11

Segment	1	2
Event 1		
Event 2		
Event 3		
Event 4		
Event 5		
Event 6		
Event 7		
Event 8		
Event 9		
Event 10		
Event 11		

Set Point Program Configuration - FURNCAL
Sep 20 1999 08:28 AM

PAGE 12

Program Number: 6
 Program Name: OXIDE-4
 Engineering Units: deg C
 Number of Segments: 10
 Date of last edit session: Sep 01 1999 19:53 PM

Segment	Setpoint	Ramp/Time	Gsband	Events											
1	RAMP	1.250		1	2	3	4	5	6	7	8	9	10	11	12
2	SOAK	1000	02:00:00												
3	NA	0.000	0.000												
4	NA	0.000	00:00:00												
5	NA	0.000	0.000												
6	NA	0.000	00:00:00												
7	NA	0.000	0.000												
8	NA	0.000	00:00:00												
9	NA	0.000	0.000												
10	NA	0.000	00:00:00

Segment	1	3	5	6
Event 1				
Event 2				
Event 3				
Event 4				
Event 5				
Event 6				
Event 7				
Event 8				
Event 9				
Event 10				
Event 11				

Set Point Program Configuration - FURNAL
Sep 20 1999 08:28 AM

PAGE 14

Program Number: 7
 Program Name: METAL-2
 Engineering Units: deg C
 Number of Segments: 10
 Date of last edit session: Mar 21 1997 10:41 AM

Segment	Setpoint	Ramp/Time	Gsband	1	2	3	4	5	6	7	8	9	10	11	12
1	RAMP	3.333													
2	SOAK	700.0	00:00:00	0.000											
3	RAMP		2.080												
4	SOAK	900.0	00:00:00	0.000											
5	RAMP		1.250												
6	SOAK	950.0	02:00:00	10.00											
7	NA		0.000												
8	NA	0.000	00:00:00	0.000											
9	NA		0.000												
10	NA	0.000	00:00:00	0.000											

SET POINT PROGRAM PROFILE NO. 8 - METAL-3

Segment	1	3	4
Event 1			
Event 2			
Event 3			
Event 4			
Event 5			
Event 6			
Event 7			
Event 8			
Event 9			
Event 10			
Event 11			

Set Point Program Configuration - FURNAL
Sep 20 1999 08:28 AM

PAGE 16

Program Number: 8
 Program Name: METAL-3
 Engineering Units: deg C
 Number of Segments: 10
 Date of last edit session: Mar 21 1997 10:42 AM

Segment	Setpoint	Ramp/Time	Gsband	Events											
1	RAMP	2.080		1	2	3	4	5	6	7	8	9	10	11	12
2	SOAK	900.0	00:00:00												
3	RAMP	1.250													
4	SOAK	950.0	02:00:00												
5	NA	0.000													
6	NA	0.000	00:00:00												
7	NA	0.000													
8	NA	0.000	00:00:00												
9	NA	0.000													
10	NA	0.000	00:00:00												

SET POINT PROGRAM PROFILE NO. 9 - METAL-4

PAGE 17

Segment	1	2
Event 1		
Event 2		
Event 3		
Event 4		
Event 5		
Event 6		
Event 7		
Event 8		
Event 9		
Event 10		
Event 11		

Set Point Program Configuration - FURNAL
Sep 20 1999 08:28 AM

Program Number: 9
 Program Name: METAL-4
 Engineering Units: deg C
 Number of Segments: 10
 Date of last edit session: Mar 21 1997 10:43 AM

Segment	Setpoint	Ramp/Time	Gsband	1	2	3	4	5	6	7	8	9	10	11	12
1	RAMP	1.250													
2	SOAK	950.0	02:00:00	10.00											
3	NA		0.000												
4	NA	0.000	00:00:00	0.000											
5	NA		0.000												
6	NA	0.000	00:00:00	0.000											
7	NA		0.000												
8	NA	0.000	00:00:00	0.000											
9	NA		0.000												
10	NA	0.000	00:00:00	0.000											

SET POINT PROGRAM PROFILE NO. 10 - RECYCL-2

PAGE 19

Segment	1	3	5	6
Event 1				
Event 2				
Event 3				
Event 4				
Event 5				
Event 6				
Event 7				
Event 8				
Event 9				
Event 10				
Event 11				

Set Point Program Configuration - FURNCAL
Sep 20 1999 08:28 AM

PAGE 20

Program Number: 10
 Program Name: RECYCL-2
 Engineering Units: deg C
 Number of Segments: 10
 Date of last edit session: Sep 07 1999 17:05 PM

Segment	Setpoint	Ramp/Time	Gsband	Events											
				1	2	3	4	5	6	7	8	9	10	11	12
1 RAMP		3.333													
2 SOAK	700.0	00:00:00	0.000												
3 RAMP		2.080													
4 SOAK	900.0	00:00:00	0.000												
5 RAMP		1.250													
6 SOAK	1000	04:00:00	10.00												
7 NA		0.000													
8 NA	0.000	00:00:00	0.000												
9 NA		0.000													
10 NA	0.000	00:00:00	0.000												

SET POINT PROGRAM PROFILE NO. 11 - RECYCL-3

PAGE 21

Segment	1	3	4
Event 1			
Event 2			
Event 3			
Event 4			
Event 5			
Event 6			
Event 7			
Event 8			
Event 9			
Event 10			
Event 11			

Set Point Program Configuration - FURNCAL
Sep 20 1999 08:28 AM

Program Number: 11
 Program Name: RECYCL-3
 Engineering Units: deg C
 Number of Segments: 10
 Date of last edit session: Sep 07 1999 17:05 PM

Segment	Setpoint	Ramp/Time	Gsband	Events											
				1	2	3	4	5	6	7	8	9	10	11	12
1 RAMP		2.080													
2 SOAK	900.0	00:00:00	0.000												
3 RAMP		1.250													
4 SOAK	1000	04:00:00	10.00												
5 NA		0.000													
6 NA	0.000	00:00:00	0.000												
7 NA		0.000													
8 NA	0.000	00:00:00	0.000												
9 NA		0.000													
10 NA	0.000	00:00:00	0.000												

SET POINT PROGRAM PROFILE NO. 12 - RECYCL-4

Segment	1	2
Event 1		
Event 2		
Event 3		
Event 4		
Event 5		
Event 6		
Event 7		
Event 8		
Event 9		
Event 10		
Event 11		

Set Point Program Configuration - FURNAL
Sep 20 1999 08:28 AM

Program Number: 12
 Program Name: RECYCL-4
 Engineering Units: deg C
 Number of Segments: 10
 Date of last edit session: Sep 07 1999 17:05 PM

Segment	Setpoint	Ramp/Time	Gsband	Events											
1	RAMP	1.250		1	2	3	4	5	6	7	8	9	10	11	12
2	SOAK	1000	04:00:00												
3	NA		0.000												
4	NA	0.000	00:00:00												
5	NA		0.000												
6	NA	0.000	00:00:00												
7	NA		0.000												
8	NA	0.000	00:00:00												
9	NA		0.000												
10	NA	0.000	00:00:00												

SET POINT PROGRAM PROFILE NO. 13 - VDC

Segment	12	4
Event 1		
Event 2		
Event 3		
Event 4		
Event 5		
Event 6		
Event 7		
Event 8		
Event 9		
Event 10		
Event 11		

Set Point Program Configuration - FURNCAL
Sep 20 1999 08:28 AM

Program Number: 13
 Program Name: VDC
 Engineering Units: deg C
 Number of Segments: 10
 Date of last edit session: Mar 04 1999 10:57 AM

Segment	Setpoint	Ramp/Time	Gsband	Events											
1	RAMP	8.000		1	2	3	4	5	6	7	8	9	10	11	12
2	SOAK	1000	99:00:00												
3	RAMP		8.000												
4	SOAK	1000	99:00:00												
5	NA		0.000												
6	NA	0.000	00:00:00												
7	NA		0.000												
8	NA	0.000	00:00:00												
9	NA		0.000												
10	NA	0.000	00:00:00												

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APPENDIX H
GRAPHIC DISPLAYS AND REPORTS

FURNACE OVERVIEW

FUR-211-1 FUR-211-2 FUR-211-3

###

###

Emergency
Shutdown

Field Emergency Stop
OFF-GAS FAN
Glovebox Temperature ###. #

Temperature (C)

1200.000

800.000

400.000

0.000

08:47:48 09:07:48 09:27:48 09:47:48

Time

ACK FIELD ON STATUS VALUE DESCRIPTION

PRF

FIELD ON

STATUS

Background graphics

FIX for Windows
Dynamic Properties Report

Report Date: 09/09/99

Report Time: 17:26:04

Report File Name: FURNOVER.ODR

ODF Version: 610

***** Picture-Specific Properties *****

Picture name: FURNOVER.ODF
Picture width: 7.940
Picture height: 5.360
Background Color 0 128 128
Refresh rate: 0.50
Key macro: None
Security area: None
Picture Type: Subpicture
Title bar: No
System menu: No
Resizable: No
Bitmap format: No

Previous Picture

Picture name: FURN211

Tag group: FUR2113

Next Picture

Picture name: FURN211

Tag group: FUR2111

Commands on Open

SQL Commands on Open

Commands on Close

Dynamic Properties Report, FURNOVER.ODR page 2

Object: RECT 2, 350, 4043, 2480

Controllable: 0
Modifiable: 0

Object: TEXT 350, 350, 1110, 550

Text: FUR-21I-1

Object: TEXT 1650, 350, 2410, 550

Text: FUR-21I-2

Object: TEXT 2940, 350, 3700, 550

Text: FUR-21I-3

Object: TEXT 540, 0, 3270, 320

Text: FURNACE OVERVIEW

Object: DATALINK 520, 1600, 890, 1800

Controllable: 0
Modifiable: 0

Tagname: PCS:TC_21I1.F_CV

Visible Background Colors: 255, 255, 255

Object: DATALINK 1840, 1600, 2210, 1800

Controllable: 0
Modifiable: 0

Tagname: PCS:TC_21I2.F_CV

Visible Background Colors: 255, 255, 255

Object: DATALINK 3140, 1600, 3510, 1800

Controllable: 0
Modifiable: 0

Tagname: PCS:TC_21I3.F_CV

Dynamic Properties Report, FURNOVER.ODR page 3

Visible Background Colors: 255, 255, 255

Object: TIME 7250, 30, 7880, 220

Object: DATE 6350, 30, 6980, 220

Object: GROUP 88, 565, 1228, 1604

Controllable: 0

Modifiable: 1

Commands On-Up List

REPLACEPIC FURNOVER FURN211 FUR2111.TGE

Object: GROUP 88, 565, 1228, 1604

Controllable: 0

Modifiable: 0

Object: RECT 1111, 760, 1228, 1406

Controllable: 0

Modifiable: 0

Object: PGON 338, 1418, 533, 1604

Controllable: 0

Modifiable: 0

Object: PGON 900, 1418, 1095, 1604

Controllable: 0

Modifiable: 0

Object: RECT 284, 658, 1170, 1459

Controllable: 0

Modifiable: 0

Object: RECT 190, 775, 1099, 845

Controllable: 0

Modifiable: 0

Object: GROUP 88, 565, 243, 937

Dynamic Properties Report, FURNOVER.ODR page 4

Controllable: 0
Modifiable: 0

Object: RECT 88, 585, 243, 915

Controllable: 0
Modifiable: 0

Object: OVAL 90, 565, 243, 654

Controllable: 0
Modifiable: 0

Object: OVAL 90, 850, 243, 937

Controllable: 0
Modifiable: 0

Object: RECT 103, 854, 228, 904

Controllable: 0
Modifiable: 0

Object: RECT 524, 940, 904, 1242

Controllable: 0
Modifiable: 0

Object: GROUP 439, 852, 1003, 1279

Controllable: 0
Modifiable: 0

Vertical Position

Tagname: PCS:LS2111.F_CV

Low Limit: 0.00 Minimum Offset: -0.25
Hi Limit: 1.00 Maximum Offset: 0.00
Allow Input Properties: 0

Object: RECT 439, 852, 1003, 1279

Controllable: 0
Modifiable: 0

Object: RECT 573, 936, 861, 1092

Dynamic Properties Report, FURNOVER.ODR page 5

Controllable: 0
Modifiable: 0

Object: GROUP 1388, 565, 2528, 1604

Controllable: 0
Modifiable: 1

Commands On-Up List
REPLACEPIC FURNOVER FURN21I FUR21I2.TGE

Object: GROUP 1388, 565, 2528, 1604

Controllable: 0
Modifiable: 0

Object: RECT 2411, 760, 2528, 1406

Controllable: 0
Modifiable: 0

Object: PGON 1638, 1418, 1833, 1604

Controllable: 0
Modifiable: 0

Object: PGON 2200, 1418, 2395, 1604

Controllable: 0
Modifiable: 0

Object: RECT 1584, 658, 2470, 1459

Controllable: 0
Modifiable: 0

Object: RECT 1490, 775, 2399, 845

Controllable: 0
Modifiable: 0

Object: GROUP 1388, 565, 1543, 937

Controllable: 0
Modifiable: 0

Object: RECT 1388, 585, 1543, 915

Dynamic Properties Report, FURNOVER.ODR page 6

Controllable: 0
Modifiable: 0

Object: OVAL 1390, 565, 1543, 654

Controllable: 0
Modifiable: 0

Object: OVAL 1390, 850, 1543, 937

Controllable: 0
Modifiable: 0

Object: RECT 1403, 854, 1528, 904

Controllable: 0
Modifiable: 0

Object: RECT 1824, 940, 2204, 1242

Controllable: 0
Modifiable: 0

Object: GROUP 1739, 852, 2303, 1279

Controllable: 0
Modifiable: 0

Vertical Position

Tagname: PCS:LS21I2.F_CV

Low Limit: 0.00 Minimum Offset: -0.25
Hi Limit: 1.00 Maximum Offset: 0.00
Allow Input Properties: 0

Object: RECT 1739, 852, 2303, 1279

Controllable: 0
Modifiable: 0

Object: RECT 1873, 936, 2161, 1092

Controllable: 0
Modifiable: 0

Object: GROUP 2688, 564, 3828, 1603

Dynamic Properties Report, FURNOVER.ODR page 7

Controllable: 0
Modifiable: 1

Commands On-Up List
REPLACEPIC FURNOVER FURN21I FUR21I3.TGE

Object: GROUP 2688, 564, 3828, 1603

Controllable: 0
Modifiable: 0

Object: RECT 3711, 759, 3828, 1405

Controllable: 0
Modifiable: 0

Object: PGON 2938, 1417, 3133, 1603

Controllable: 0
Modifiable: 0

Object: PGON 3500, 1417, 3695, 1603

Controllable: 0
Modifiable: 0

Object: RECT 2884, 657, 3770, 1458

Controllable: 0
Modifiable: 0

Object: RECT 2790, 774, 3699, 844

Controllable: 0
Modifiable: 0

Object: GROUP 2688, 564, 2843, 936

Controllable: 0
Modifiable: 0

Object: RECT 2688, 584, 2843, 914

Controllable: 0
Modifiable: 0

Dynamic Properties Report, FURNOVER.ODR page 8

Object: OVAL 2690, 564, 2843, 653

Controllable: 0
Modifiable: 0

Object: OVAL 2690, 849, 2843, 936

Controllable: 0
Modifiable: 0

Object: RECT 2703, 853, 2828, 903

Controllable: 0
Modifiable: 0

Object: RECT 3124, 939, 3504, 1241

Controllable: 0
Modifiable: 0

Object: GROUP 3039, 851, 3603, 1278

Controllable: 0
Modifiable: 0

Vertical Position

Tagname: PCS:LS2113.F_CV

Low Limit: 0.00 Minimum Offset: -0.25
Hi Limit: 1.00 Maximum Offset: 0.00
Allow Input Properties: 0

Object: RECT 3039, 851, 3603, 1278

Controllable: 0
Modifiable: 0

Object: RECT 3173, 935, 3461, 1091

Controllable: 0
Modifiable: 0

Object: GROUP 4040, 239, 7899, 2490

Controllable: 0
Modifiable: 1

Commands On-Up List

Dynamic Properties Report, FURNOVER.ODR page 9

REPLACEPIC FURNOVER TEMPGRAF

Object: RECT 4040, 242, 7590, 2271

Controllable: 0
Modifiable: 1Commands On-Up List
REPLACEPIC FURNOVER TEMPGRAF

Object: PENTREND 4042, 239, 7899, 2490

Background color 0, 128, 128
Foreground color 192, 192, 192

X axis

Title: Time
Axis color 192, 192, 192
Label color 0, 0, 0
Number Tic Marks: 4
Number Labels: 4

Y axis

Title: Temperature (C)
Axis color 192, 192, 192
Label color 0, 0, 255
Number Tic Marks: 4
Number Labels: 4

Pen

Tagname (NODE:TAG.FIELD)

Low Limit	High Limit	Color	Marker
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PCS:TC_2111.F_CV			
0.00	1200.00	0, 0, 255	

PCS:TC_2112.F_CV			
0.00	1200.00	255, 0, 255	

PCS:TC_2113.F_CV			
0.00	1200.00	255, 255, 255	

Time Duration = 00:01:00:00

Object: GROUP 19, 2498, 7859, 5120

Controllable: 0
Modifiable: 1Commands On-Up List
REPLACEPIC FURNOVER ALARM

Dynamic Properties Report, FURNOVER.ODR page 10

Object: RECT 19, 2498, 7859, 5120

Controllable: 0
Modifiable: 0

Object: ALMSUM 69, 2549, 7819, 4632

Object: PUSHBUTTON 3205, 4640, 4683, 5068

Commands On-Up List
ALARMACKALL

Text: Acknowledge Alarms

Object: TEXT 1940, 1920, 3480, 2080

Text: Field Emergency Stop

Object: GROUP 1850, 2280, 4020, 2480

Controllable: 0
Modifiable: 1

Commands On-Up List
REPLACEPIC FURNOVER GBT21I

Object: DATALINK 3610, 2270, 4020, 2470

Controllable: 0
Modifiable: 0

Tagname: PCS:TE21IMAX.F_CV

Visible Background Colors: 255, 255, 255

Object: TEXT 1850, 2300, 3560, 2460

Text: Glovebox Temperature

Object: GROUP 1926, 2090, 3890, 2273

Controllable: 0
Modifiable: 1

Commands On-Up List
REPLACEPIC FURNOVER OFFGAS

Dynamic Properties Report, FURNOVER.ODR page 11

Object: TEXT 1926, 2113, 2886, 2273

Text: OFF-GAS FAN

Object: OVAL 3700, 2090, 3890, 2270

Controllable: 0

Modifiable: 0

Foreground Color by value

Tagname: PCS:FAN_ON.F_CV

Blink on new alarm: 0

Value	Color	Property
0	255, 255, 255	VISIBLE
1	255, 0, 0	VISIBLE

Object: OVAL 3710, 1900, 3870, 2060

Controllable: 0

Modifiable: 0

Foreground Color by value

Tagname: PCS:EMERG_FD.F_CV

Blink on new alarm: 0

Value	Color	Property
0.00	255, 255, 255	VISIBLE
1.00	255, 0, 0	VISIBLE

Object: GROUP 8, 1838, 1910, 2478

Controllable: 0

Modifiable: 0

Object: RECT 8, 1838, 1910, 2478

Controllable: 0

Modifiable: 1

Foreground Color by value

Tagname: PCS:HS_EMERG.F_CV

Blink on new alarm: 0

Value	Color	Property
0.00	128, 128, 128	VISIBLE
1	255, 0, 0	VISIBLE

Commands On-Up List

Dynamic Properties Report, FURNOVER.ODR page 12

TOGGLEDIG PCS:HS_EMERG.F_CV
SETVAL PCS:PN21I1.F_CV 0
SETVAL PCS:TP_21I1__C.F_2 1
SETVAL PCS:PN21I2.F_CV 0
SETVAL PCS:TP_21I2__C.F_2 1
SETVAL PCS:PN21I3.F_CV 0
SETVAL PCS:TP_21I3__C.F_2 1

Object: TEXT 440, 1910, 1590, 2410

Text: Emergency
Shutdown

Furnace 21I-#

Furnace
Heating
Output
###.##%

Program : ##

Set Point: ###

Furnace Temperature: ###.##

Furnace High Temperature: ###.##

Off-Gas Temperature: ###.##

Glovebox Temperature: ###.##

OFF-GAS
FAN ON

Furnace Temperature

Time

FIX DMACS for Windows
Dynamic Properties Report

Report Date: 03/05/99

Report Time: 14:47:45

Report File Name: FURN211.ODR

ODF Version: 800f

***** Picture-Specific Properties *****

Picture name: FURN211.ODF
Picture width: 7.940
Picture height: 5.360
Background Color: 0 128 128
Refresh rate: 0.50
Key macro: None
Security area: None
Title bar: No
Bitmap format: No
System menu: No

Previous Picture

Picture name: FURNOVER

Tag group: None

Next Picture

Picture name: FURNOVER

Tag group: None

Commands on Open

SETVAL PCS:FUR2111.F_CV 1

SETVAL PCS:FUR2112.F_CV 2

SETVAL PCS:FUR2113.F_CV 3

Commands on Close

Dynamic Properties Report, FURN211.ODR page 2

Object: TEXT 130, 1740, 820, 1930

Text: Set Point:

Object: TEXT 130, 1940, 1680, 2130

Text: Furnace Temperature:

Object: TEXT 130, 1550, 830, 1740

Text: Program :

Object: DATALINK 860, 1740, 1240, 1950

Controllable: 1

Modifiable: 0

Tagname: ?TEMPSETPOINT

Visible Background Colors: 255, 255, 255

Object: DATALINK 1720, 1930, 2240, 2140

Controllable: 1

Modifiable: 0

Tagname: ?OVENTEMP

Visible Background Colors: 255, 255, 255

Object: TEXT 120, 2570, 1750, 2760

Text: Glovebox Temperature:

Object: DATALINK 1760, 2370, 2280, 2580

Controllable: 1

Modifiable: 0

Tagname: ?OFFGASTEMP

Visible Background Colors: 255, 255, 255

Object: DATALINK 1780, 2580, 2300, 2790

Dynamic Properties Report, FURN211.ODR page 3

Controllable: 1
Modifiable: 0

Tagname: ?GBTEMP

Visible Background Colors: 255, 255, 255

Object: TEXT 120, 2370, 1720, 2570

Text: Off-Gas Temperature:

Object: PENTREND 3328, 142, 7908, 2808

Background color 0, 128, 128
Foreground color 192, 192, 192

X axis

Title: Time

Axis color 192, 192, 192

Label color 0, 0, 0

Number Tic Marks: 4

Number Labels: 4

Y axis

Title: Furnace Temperature

Axis color 192, 192, 192

Label color 0, 0, 0

Number Tic Marks: 4

Number Labels: 4

Pen

Tagname (NODE:TAG.FIELD)

Low Limit	High Limit	Color	Marker
-----------	------------	-------	--------

?OVENTEMP

0.00	1200.00	0, 0, 0	
------	---------	---------	--

?TEMPSETPOINT

0.00	1200.00	255, 0, 0	
------	---------	-----------	--

?OVENHITEMP

0.00	1200.00	255, 255, 0	
------	---------	-------------	--

Time Duration = 00:10:00

Object: TIME 7300, 0, 7930, 190

Object: DATE 6510, 0, 7140, 190

Dynamic Properties Report, FURN211.ODR page 4

Object: TEXT 130, 2150, 2040, 2340

Text: Furnace High Temperature:

Object: DATALINK 2060, 2150, 2580, 2360

Controllable: 0

Modifiable: 0

Tagname: ?OVENHITEMP

Visible Background Colors: 255, 255, 255

Object: DATALINK 870, 1550, 1070, 1760

Controllable: 1

Modifiable: 0

Tagname: ?PROGRAM

Visible Background Colors: 255, 255, 255

Object: OVAL 1710, 430, 2010, 710

Controllable: 0

Modifiable: 0

Foreground Color by value

Tagname: ?POWER

Blink on new alarm: 0

Value	Color	Property
0	255, 255, 255	VISIBLE
1	255, 0, 0	VISIBLE

Object: TEXT 1600, 680, 2180, 1060

Text: Furnace
Heating

Object: GROUP 1590, 1100, 2160, 1490

Controllable: 0

Modifiable: 0

Object: TEXT 2010, 1300, 2160, 1490

Dynamic Properties Report, FURN211.ODR page 5

Text: %

Object: DATALINK 1590, 1300, 2000, 1490

Controllable: 0

Modifiable: 0

Tagname: ?FURNPOWER

Visible Background Colors: 255, 255, 255

Object: TEXT 1610, 1100, 2070, 1290

Text: Output

Object: TEXT 10, 20, 1730, 370

Text: Furnace 211-

Object: DATALINK 1780, 20, 1960, 390

Controllable: 0

Modifiable: 0

Tagname: ?FURNNAME

Visible Background Colors: 255, 255, 255

Object: GROUP 2680, 2050, 3320, 2660

Controllable: 0

Modifiable: 0

Object: OVAL 2825, 2050, 3100, 2310

Controllable: 0

Modifiable: 0

Foreground Color by value

Tagname: PCS:FAN_ON.F_CV

Blink on new alarm: 0

Value	Color	Property
0	255, 255, 255	VISIBLE
1	255, 0, 0	VISIBLE

Object: TEXT 2680, 2340, 3320, 2660

Dynamic Properties Report, FURN21I.ODR page 6

Text: OFF-GAS
FAN ON

Object: GROUP 129, 377, 1430, 1550

Controllable: 0
Modifiable: 1

Command List
REPLACEPIC FURN21I FURNOVER

Object: RECT 1305, 599, 1430, 1325

Controllable: 0
Modifiable: 0

Object: PGON 416, 1342, 636, 1550

Controllable: 0
Modifiable: 0

Object: PGON 1060, 1342, 1279, 1550

Controllable: 0
Modifiable: 0

Object: RECT 357, 493, 1364, 1393

Controllable: 0
Modifiable: 0

Object: RECT 248, 615, 1285, 690

Controllable: 0
Modifiable: 0

Object: GROUP 129, 377, 303, 793

Controllable: 0
Modifiable: 0

Object: RECT 129, 400, 303, 770

Controllable: 0
Modifiable: 0

Object: OVAL 133, 377, 303, 472

Dynamic Properties Report, FURN211.ODR page 7

Controllable: 0
Modifiable: 0

Object: OVAL 133, 699, 303, 793

Controllable: 0
Modifiable: 0

Object: RECT 146, 705, 285, 757

Controllable: 0
Modifiable: 0

Object: RECT 638, 769, 1084, 1100

Controllable: 0
Modifiable: 0

Object: GROUP 534, 696, 1175, 1173

Controllable: 0
Modifiable: 0

Vertical Position

Tagname: ?LS

Low Limit: 0 Minimum Offset: -0
Hi Limit: 1 Maximum Offset: 0
Allow Input Properties: 0

Object: RECT 534, 696, 1175, 1173

Controllable: 0
Modifiable: 0

Object: RECT 686, 789, 1011, 962

Controllable: 0
Modifiable: 0

Object: GROUP -1, 2789, 7769, 5181

Controllable: 0
Modifiable: 1

Command List
REPLACEPIC FURN211 ALARM

Dynamic Properties Report, FURN211.ODR page 8

Object: RECT -1, 2789, 7769, 5180

Controllable: 0
Modifiable: 0

Object: PUSHBUTTON 3183, 4759, 4655, 5181

Command List
ALARMACKALL

Text: Acknowledge Alarms
Command List
ALARMACKALL

Object: ALMSUM 29, 2853, 7699, 4730

Object: PUSHBUTTON 2274, 258, 3166, 628

Command List

Dynamic Properties Report, FURN21I.ODR page 9

```
IF ?TEMPSETPOINT > 0
GOTO 34
ENDIF
IF ?LS == 0
GOTO 34
ENDIF
IF PCS:HS_EMERG.F_CV == 0
GOTO 34
ENDIF
IF PCS:EMERG_FD.F_CV == 0
GOTO 34
ENDIF
IF ?OVENTEMP > 900
SETVAL ?PROGRAM 6
GOTO 26
ENDIF
IF ?OVENTEMP > 700
SETVAL ?PROGRAM 5
GOTO 26
ENDIF
IF ?OVENTEMP > 500
SETVAL ?PROGRAM 4
GOTO 26
ENDIF
SETVAL ?PROGRAM 1
OPENDIG ?PROGSET
OPENDIG ?FURNSTOP
OPENDIG ?FURNSTRT
PAUSE 1
CLOSEDIG ?FURNSTOP
CLOSEDIG ?PROGSET
PAUSE 1
CLOSEDIG ?FURNSTRT
NULL
```

Text: 1-Oxide
Command List

Dynamic Properties Report, FURN211.ODR page 10

```
IF ?TEMPSETPOINT > 0
GOTO 34
ENDIF
IF ?LS == 0
GOTO 34
ENDIF
IF PCS:HS_EMERG.F_CV == 0
GOTO 34
ENDIF
IF PCS:EMERG_FD.F_CV == 0
GOTO 34
ENDIF
IF ?OVENTEMP > 900
SETVAL ?PROGRAM 6
GOTO 26
ENDIF
IF ?OVENTEMP > 700
SETVAL ?PROGRAM 5
GOTO 26
ENDIF
IF ?OVENTEMP > 500
SETVAL ?PROGRAM 4
GOTO 26
ENDIF
SETVAL ?PROGRAM 1
OPENDIG ?PROGSET
OPENDIG ?FURNSTOP
OPENDIG ?FURNSTRT
PAUSE 1
CLOSEDIG ?FURNSTOP
CLOSEDIG ?PROGSET
PAUSE 1
CLOSEDIG ?FURNSTRT
NULL
```

Object: PUSHBUTTON 2275, 615, 3167, 977

Command List

Dynamic Properties Report, FURN21I.ODR page 11

```
IF ?TEMPSETPOINT > 0
GOTO 34
ENDIF
IF ?LS == 0
GOTO 34
ENDIF
IF PCS:HS_EMERG.F_CV == 0
GOTO 34
ENDIF
IF PCS:EMERG_FD.F_CV == 0
GOTO 34
ENDIF
IF ?OVENTEMP > 900
SETVAL ?PROGRAM 9
GOTO 26
ENDIF
IF ?OVENTEMP > 700
SETVAL ?PROGRAM 8
GOTO 26
ENDIF
IF ?OVENTEMP > 500
SETVAL ?PROGRAM 7
GOTO 26
ENDIF
SETVAL ?PROGRAM 2
OPENDIG ?PROGSET
OPENDIG ?FURNSTOP
OPENDIG ?FURNSTRT
PAUSE 1
CLOSEDIG ?FURNSTOP
CLOSEDIG ?PROGSET
PAUSE 1
CLOSEDIG ?FURNSTRT
NULL
```

Text: 2-Metal
Command List

Dynamic Properties Report, FURN211.ODR page 12

```
IF ?TEMPSETPOINT > 0
GOTO 34
ENDIF
IF ?LS == 0
GOTO 34
ENDIF
IF PCS:HS_EMERG.F_CV == 0
GOTO 34
ENDIF
IF PCS:EMERG_FD.F_CV == 0
GOTO 34
ENDIF
IF ?OVENTEMP > 900
SETVAL ?PROGRAM 9
GOTO 26
ENDIF
IF ?OVENTEMP > 700
SETVAL ?PROGRAM 8
GOTO 26
ENDIF
IF ?OVENTEMP > 500
SETVAL ?PROGRAM 7
GOTO 26
ENDIF
SETVAL ?PROGRAM 2
OPENDIG ?PROGSET
OPENDIG ?FURNSTOP
OPENDIG ?FURNSTRT
PAUSE 1
CLOSEDIG ?FURNSTOP
CLOSEDIG ?PROGSET
PAUSE 1
CLOSEDIG ?FURNSTRT
NULL
```

Object: PUSHBUTTON 2278, 972, 3170, 1347

Command List

Dynamic Properties Report, FURN211.ODR page 13

```
IF ?TEMPSETPOINT > 0
GOTO 34
ENDIF
IF ?LS == 0
GOTO 34
ENDIF
IF PCS:HS_EMERG.F_CV == 0
GOTO 34
ENDIF
IF PCS:EMERG_FD.F_CV == 0
GOTO 34
ENDIF
IF ?OVENTEMP > 900
SETVAL ?PROGRAM 12
GOTO 26
ENDIF
IF ?OVENTEMP > 700
SETVAL ?PROGRAM 11
GOTO 26
ENDIF
IF ?OVENTEMP > 500
SETVAL ?PROGRAM 10
GOTO 26
ENDIF
SETVAL ?PROGRAM 3
OPENDIG ?PROGSET
OPENDIG ?FURNSTOP
OPENDIG ?FURNSTRT
PAUSE 1
CLOSEDIG ?FURNSTOP
CLOSEDIG ?PROGSET
PAUSE 1
CLOSEDIG ?FURNSTRT
NULL
```

Text: 3-Recycle
Command List

Dynamic Properties Report, FURN21I.ODR page 14

```

IF ?TEMPSETPOINT > 0
GOTO 34
ENDIF
IF ?LS == 0
GOTO 34
ENDIF
IF PCS:HS_EMERG.F_CV == 0
GOTO 34
ENDIF
IF PCS:EMERG_FD.F_CV == 0
GOTO 34
ENDIF
IF ?OVENTEMP > 900
SETVAL ?PROGRAM 12
GOTO 26
ENDIF
IF ?OVENTEMP > 700
SETVAL ?PROGRAM 11
GOTO 26
ENDIF
IF ?OVENTEMP > 500
SETVAL ?PROGRAM 10
GOTO 26
ENDIF
SETVAL ?PROGRAM 3
OPENDIG ?PROGSET
OPENDIG ?FURNSTOP
OPENDIG ?FURNSTR
PAUSE 1
CLOSEDIG ?FURNSTOP
CLOSEDIG ?PROGSET
PAUSE 1
CLOSEDIG ?FURNSTR
NULL

```

Object: PUSHBUTTON 2277, 1352, 3171, 1763

Command List

```

OPENDIG ?FURNSTOP
OPENDIG ?FURNSTR
PAUSE 1
CLOSEDIG ?FURNSTOP

```

Text: Stop Cycle

Command List

```

OPENDIG ?FURNSTOP
OPENDIG ?FURNSTR
PAUSE 1
CLOSEDIG ?FURNSTOP

```

Off-Gas Fan Control

FIX DMACS for Windows
Dynamic Properties Report

Report Date: 03/05/99

Report Time: 14:49:26

Report File Name: OFFGAS.ODR

ODF Version: 800f

***** Picture-Specific Properties *****

Picture name: OFFGAS.ODF

Picture width: 7.940

Picture height: 5.360

Background Color 0 128 128

Refresh rate: 0.50

Key macro: None

Security area: None

Title bar: Yes

Bitmap format: No

System menu: No

Previous Picture

Picture name: None

Tag group: None

Next Picture

Picture name: None

Tag group: None

Commands on Open

Commands on Close

Dynamic Properties Report, OFFGAS.ODR page 2

Object: PENTREND 3770, 100, 7810, 3960

Background color 0, 128, 128
 Foreground color 192, 192, 192

X axis

Title: AxisTitle

Axis color 192, 192, 192

Label color 0, 0, 0

Number Tic Marks: 4

Number Labels: 4

Y axis

Title: AxisTitle

Axis color 192, 192, 192

Label color 0, 0, 0

Number Tic Marks: 4

Number Labels: 4

Pen

Tagname (NODE:TAG.FIELD)

Low Limit	High Limit	Color	Marker
PCS:TE21I10.F_CV			
0.00	100.00	0, 0, 0	
PCS:TE21I11.F_CV			
0.00	100.00	255, 0, 255	
PCS:TE21I12.F_CV			
0.00	100.00	0, 255, 255	

Time Duration = 00:10:00

Object: PUSHBUTTON 186, 607, 1529, 1007

Command List

REPLACEPIC OFFGAS FURNOVER

Text: Furnace Overview

Command List

REPLACEPIC OFFGAS FURNOVER

Object: RECT 1340, 4170, 2680, 4710

Controllable: 0

Modifiable: 0

Object: LINE 2020, 1740, 2330, 1800

Dynamic Properties Report, OFFGAS.ODR page 3

Controllable: 0

Modifiable: 0

Edge Color by value

Tagname: PCS:HS_VAC2.F_CV

Blink on new alarm: 0

Value	Color	Property
0.00	0, 0, 0	VISIBLE
1	255, 0, 0	VISIBLE

Object: LINE 1665, 1740, 2025, 1800

Controllable: 0

Modifiable: 0

Edge Color by value

Tagname: PCS:HS_VAC1.F_CV

Blink on new alarm: 0

Value	Color	Property
0.00	0, 0, 0	VISIBLE
1	255, 0, 0	VISIBLE

Object: LINE 1970, 1740, 2030, 4200

Controllable: 0

Modifiable: 0

Edge Color by value

Tagname: PCS:FAN_ON.F_CV

Blink on new alarm: 0

Value	Color	Property
0.00	0, 0, 0	VISIBLE
1	255, 0, 0	VISIBLE

Object: PUSHBUTTON 390, 1560, 1560, 1970

Command List

TOGGLEDIG PCS:HS_VAC1.F_CV

Text: Vacuum Fan 1

Command List

TOGGLEDIG PCS:HS_VAC1.F_CV

Object: PUSHBUTTON 2440, 1560, 3610, 1980

Dynamic Properties Report, OFFGAS.ODR page 4

Command List

TOGGLEDIG PCS:HS_VAC2.F_CV

Text: Vacuum Fan 2

Command List

TOGGLEDIG PCS:HS_VAC2.F_CV

Object: LINE 2270, 892, 2330, 1790

Controllable: 0

Modifiable: 0

Edge Color by value

Tagname: PCS:HS_VAC2.F_CV

Blink on new alarm: 0

Value	Color	Property
0.00	0, 0, 0	VISIBLE
1	255, 0, 0	VISIBLE

Object: LINE 1670, 889, 1730, 1800

Controllable: 0

Modifiable: 0

Edge Color by value

Tagname: PCS:HS_VAC1.F_CV

Blink on new alarm: 0

Value	Color	Property
0.00	0, 0, 0	VISIBLE
1	255, 0, 0	VISIBLE

Object: LINE 1674, 890, 2330, 950

Controllable: 0

Modifiable: 0

Edge Color by value

Tagname: PCS:HS_VAC1.F_CV

Blink on new alarm: 0

Value	Color	Property
0.00	0, 0, 0	VISIBLE
1	255, 0, 0	VISIBLE

Object: LINE 2270, 890, 2880, 950

Dynamic Properties Report, OFFGAS.ODR page 5

Controllable: 0
Modifiable: 0

Edge Color by value

Tagname: PCS:FAN_ON.F_CV
Blink on new alarm: 0

Value	Color	Property
0.00	0, 0, 0	VISIBLE
1	255, 0, 0	VISIBLE

Object: GROUP 285, 1211, 1784, 1541

Controllable: 0
Modifiable: 0

Foreground Color by value

Tagname: PCS:HS_VAC1.F_CV
Blink on new alarm: 0

Value	Color	Property
0.00	0, 0, 0	VISIBLE
1	255, 0, 0	VISIBLE

Object: GROUP 285, 1381, 1654, 1541

Controllable: 0
Modifiable: 0

Object: PGON 285, 1401, 1654, 1491

Controllable: 0
Modifiable: 0

Object: RECT 285, 1471, 1654, 1541

Controllable: 0
Modifiable: 0

Object: OVAL 651, 1381, 708, 1431

Controllable: 0
Modifiable: 0

Object: RECT 510, 1381, 586, 1441

Dynamic Properties Report, OFFGAS.ODR page 6

Controllable: 0
Modifiable: 0

Object: RECT 388, 1261, 1775, 1441

Controllable: 0
Modifiable: 0

Object: GROUP 1297, 1211, 1784, 1481

Controllable: 0
Modifiable: 0

Object: GROUP 1503, 1231, 1784, 1461

Controllable: 0
Modifiable: 0

Object: RECT 1503, 1231, 1654, 1461

Controllable: 0
Modifiable: 0

Object: RECT 1503, 1231, 1578, 1461

Controllable: 0
Modifiable: 0

Object: RECT 1644, 1271, 1784, 1441

Controllable: 0
Modifiable: 0

Object: RECT 1644, 1271, 1710, 1441

Controllable: 0
Modifiable: 0

Object: RECT 1297, 1211, 1513, 1481

Controllable: 0
Modifiable: 0

Object: OVAL 1455, 1221, 1513, 1271

Dynamic Properties Report, OFFGAS.ODR page 7

Controllable: 0
Modifiable: 0

Object: OVAL 1362, 1221, 1420, 1271

Controllable: 0
Modifiable: 0

Object: OVAL 1306, 1221, 1364, 1271

Controllable: 0
Modifiable: 0

Object: OVAL 1409, 1221, 1467, 1271

Controllable: 0
Modifiable: 0

Object: RECT 781, 1261, 858, 1441

Controllable: 0
Modifiable: 0

Object: PGON 323, 1221, 811, 1471

Controllable: 0
Modifiable: 0

Object: OVAL 661, 1231, 708, 1281

Controllable: 0
Modifiable: 0

Object: GROUP 848, 1251, 1055, 1461

Controllable: 0
Modifiable: 0

Object: RECT 848, 1251, 1055, 1461

Controllable: 0
Modifiable: 0

Object: OVAL 997, 1391, 1045, 1441

Dynamic Properties Report, OFFGAS.ODR page 8

Controllable: 0
Modifiable: 0

Object: OVAL 997, 1331, 1045, 1381

Controllable: 0
Modifiable: 0

Object: OVAL 866, 1281, 914, 1331

Controllable: 0
Modifiable: 0

Object: OVAL 866, 1341, 914, 1391

Controllable: 0
Modifiable: 0

Object: OVAL 866, 1391, 914, 1441

Controllable: 0
Modifiable: 0

Object: OVAL 997, 1281, 1045, 1331

Controllable: 0
Modifiable: 0

Object: OVAL 651, 1331, 698, 1381

Controllable: 0
Modifiable: 0

Object: OVAL 642, 1281, 698, 1331

Controllable: 0
Modifiable: 0

Object: OVAL 642, 1381, 698, 1431

Controllable: 0
Modifiable: 0

Object: PGON 369, 1251, 595, 1301

AMS 7-27-97
207200A

Dynamic Properties Report, OFFGAS.ODR page 9

Controllable: 0
Modifiable: 0

Object: PGON 361, 1391, 578, 1441

Controllable: 0
Modifiable: 0

Object: PGON 369, 1321, 586, 1371

Controllable: 0
Modifiable: 0

Object: RECT 922, 1421, 998, 1481

Controllable: 0
Modifiable: 0

Object: RECT 1316, 1451, 1354, 1501

Controllable: 0
Modifiable: 0

Object: RECT 1447, 1451, 1494, 1491

Controllable: 0
Modifiable: 0

Object: TEXT 3050, 720, 3630, 1120

Text: To E-4
System

Object: OVAL 1610, 2050, 2380, 2815

Controllable: 0
Modifiable: 0

Object: OVAL 1610, 3000, 2380, 3770

Controllable: 0
Modifiable: 0

Object: TEXT 1720, 3290, 2330, 3490

Dynamic Properties Report, OFFGAS.ODR page 10

Text: Filter #1

Object: TEXT 1710, 2350, 2320, 2550

Text: Filter #2

Object: TEXT 1560, 4240, 2510, 4640

Text: From HA-21I

Furnaces

Object: GROUP 2210, 1211, 5363, 1541

Controllable: 0

Modifiable: 0

Foreground Color by value

Tagname: PCS:HS_VAC2.F_CV

Blink on new alarm: 0

Value	Color	Property
0.00	0, 0, 0	VISIBLE
1	255, 0, 0	VISIBLE

Object: GROUP 2350, 1381, 5363, 1541

Controllable: 0

Modifiable: 0

Object: PGON 2350, 1401, 3810, 1491

Controllable: 0

Modifiable: 0

Object: RECT 2350, 1471, 3810, 1541

Controllable: 0

Modifiable: 0

Object: OVAL 3360, 1381, 3810, 1431

Controllable: 0

Modifiable: 0

Object: RECT 3490, 1381, 3810, 1441

Controllable: 0

Modifiable: 0

Dynamic Properties Report, OFFGAS.ODR page 11

Object: RECT 2220, 1261, 3810, 1441

Controllable: 0
Modifiable: 0

Object: GROUP 2210, 1211, 5363, 1481

Controllable: 0
Modifiable: 0

Object: GROUP 2210, 1231, 5363, 1461

Controllable: 0
Modifiable: 0

Object: RECT 2350, 1231, 3810, 1461

Controllable: 0
Modifiable: 0

Object: RECT 2430, 1231, 3810, 1461

Controllable: 0
Modifiable: 0

Object: RECT 2210, 1271, 3810, 1441

Controllable: 0
Modifiable: 0

Object: RECT 2290, 1271, 3810, 1441

Controllable: 0
Modifiable: 0

Object: RECT 2500, 1211, 3810, 1481

Controllable: 0
Modifiable: 0

Object: OVAL 2500, 1221, 3810, 1271

Controllable: 0
Modifiable: 0

Object: OVAL 2600, 1221, 3810, 1271

Dynamic Properties Report, OFFGAS.ODR page 12

Controllable: 0
Modifiable: 0

Object: OVAL 2660, 1221, 3810, 1271

Controllable: 0
Modifiable: 0

Object: OVAL 2550, 1221, 3810, 1271

Controllable: 0
Modifiable: 0

Object: RECT 3200, 1261, 3810, 1441

Controllable: 0
Modifiable: 0

Object: PGON 3250, 1221, 3810, 1471

Controllable: 0
Modifiable: 0

Object: OVAL 3360, 1231, 3810, 1281

Controllable: 0
Modifiable: 0

Object: GROUP 2990, 1251, 5363, 1461

Controllable: 0
Modifiable: 0

Object: RECT 2990, 1251, 3810, 1461

Controllable: 0
Modifiable: 0

Object: OVAL 3000, 1391, 3810, 1441

Controllable: 0
Modifiable: 0

Object: OVAL 3000, 1331, 3810, 1381

Dynamic Properties Report, OFFGAS.ODR page 13

Controllable: 0
Modifiable: 0

Object: OVAL 3140, 1281, 3810, 1331

Controllable: 0
Modifiable: 0

Object: OVAL 3140, 1341, 3810, 1391

Controllable: 0
Modifiable: 0

Object: OVAL 3140, 1391, 3810, 1441

Controllable: 0
Modifiable: 0

Object: OVAL 3000, 1281, 3810, 1331

Controllable: 0
Modifiable: 0

Object: OVAL 3370, 1331, 3810, 1381

Controllable: 0
Modifiable: 0

Object: OVAL 3370, 1281, 3810, 1331

Controllable: 0
Modifiable: 0

Object: OVAL 3370, 1381, 3810, 1431

Controllable: 0
Modifiable: 0

Object: PGON 3480, 1251, 3810, 1301

Controllable: 0
Modifiable: 0

Object: PGON 3500, 1391, 3810, 1441

Dynamic Properties Report, OFFGAS.ODR page 14

Controllable: 0
Modifiable: 0

Object: PGON 3490, 1321, 3810, 1371

Controllable: 0
Modifiable: 0

Object: RECT 3050, 1421, 3810, 1481

Controllable: 0
Modifiable: 0

Object: RECT 2670, 1451, 3810, 1501

Controllable: 0
Modifiable: 0

Object: RECT 2520, 1451, 3810, 1491

Controllable: 0
Modifiable: 0

Object: TEXT 820, 40, 3320, 350

Text: Off-Gas Fan Control

Object: GROUP 4330, 4000, 7620, 4650

Controllable: 0
Modifiable: 0

Object: TEXT 4330, 4000, 7120, 4200

Text: FUR-211-1 OFF-GAS TEMPERATURE

Object: TEXT 4340, 4220, 7130, 4420

Text: FUR-211-2 OFF-GAS TEMPERATURE

Object: TEXT 4340, 4430, 7130, 4630

Text: FUR-211-3 OFF-GAS TEMPERATURE

Object: DATALINK 7200, 4000, 7610, 4200

Dynamic Properties Report, OFFGAS.ODR page 15

Controllable: 0
Modifiable: 0

Tagname: PCS:TE21I10.F_CV

Visible Background Colors: 255, 255, 255

Object: DATALINK 7200, 4220, 7610, 4420

Controllable: 0
Modifiable: 0

Tagname: PCS:TE21I11.F_CV

Visible Background Colors: 255, 255, 255

Object: DATALINK 7210, 4450, 7620, 4650

Controllable: 0
Modifiable: 0

Tagname: PCS:TE21I12.F_CV

Visible Background Colors: 255, 255, 255

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AGE TIME IN	TAGNAME	STATUS	VALUE DESCRIPTION	PFI
[Empty Table Body]				

Filter ON

Sort TIME

Columns

Delete ALL

Acknowledge Alarms

FIX DMACS for Windows
Dynamic Properties Report

Report Date: 03/05/99
Report Time: 14:46:24

Report File Name: ALARM.ODR
ODF Version: 800f

***** Picture-Specific Properties *****

Picture name: ALARM.ODF
Picture width: 7.940
Picture height: 5.360
Background Color 0 128 128
Refresh rate: 0.50
Key macro: None
Security area: None
Title bar: No
Bitmap format: No
System menu: No

Previous Picture

Picture name: None
Tag group: None

Next Picture

Picture name: None
Tag group: None

Commands on Open
Commands on Close

Dynamic Properties Report, ALARM.ODR page 2

Object: GROUP 40, 89, 7750, 5070

Controllable: 0

Modifiable: 1

Command List

REPLACEPIC ALARM FURNOVER

Object: RECT 40, 89, 7750, 5068

Controllable: 0

Modifiable: 0

Object: PUSHBUTTON 2997, 4613, 4750, 5070

Command List

ALARMACKALL

Text: Acknowledge Alarms

Command List

ALARMACKALL

Object: ALMSUM 163, 179, 7613, 4589

HAZARD OF TEMPERATURE PROFILES

FUR-211-1 TEMPERATURE ###.#
FUR-211-2 TEMPERATURE ###.#
FUR-211-3 TEMPERATURE ###.#

FIX DMACS for Windows
Dynamic Properties Report

Report Date: 03/05/99
Report Time: 14:50:20

Report File Name: TEMPGRAF.ODR
ODF Version: 800f

***** Picture-Specific Properties *****

Picture name: TEMPGRAF.ODF
Picture width: 7.940
Picture height: 5.360
Background Color 0 128 128
Refresh rate: 0.50
Key macro: None
Security area: None
Title bar: No
Bitmap format: No
System menu: No

Previous Picture

Picture name: None
Tag group: None

Next Picture

Picture name: None
Tag group: None

Commands on Open
Commands on Close

Dynamic Properties Report, TEMPGRAF.ODR page 2

Object: TEXT 2220, 60, 5580, 700

Text: HA-211 FURNACE
TEMPERATURE PROFILES

Object: GROUP 580, 4410, 3210, 5060

Controllable: 0
Modifiable: 0

Object: TEXT 580, 4410, 2620, 4610

Text: FUR-211-1 TEMPERATURE

Object: TEXT 580, 4630, 2620, 4830

Text: FUR-211-2 TEMPERATURE

Object: TEXT 580, 4840, 2620, 5040

Text: FUR-211-3 TEMPERATURE

Object: DATALINK 2700, 4420, 3200, 4620

Controllable: 0
Modifiable: 0

Tagname: PCS:TC_2111.F_CV

Visible Background Colors: 255, 255, 255

Object: DATALINK 2710, 4640, 3210, 4840

Controllable: 0
Modifiable: 0

Tagname: PCS:TC_2112.F_CV

Visible Background Colors: 255, 255, 255

Object: DATALINK 2700, 4860, 3200, 5060

Controllable: 0
Modifiable: 0

Tagname: PCS:TC_2113.F_CV

Dynamic Properties Report, TEMPGRAF.ODR page 3

Visible Background Colors: 255, 255, 255

Object: GROUP 40, 680, 7820, 4380

Controllable: 0

Modifiable: 0

Object: RECT 141, 713, 7436, 4316

Controllable: 0

Modifiable: 1

Command List

REPLACEPIC TEMPGRAF FURNOVER

Object: PENTREND 40, 680, 7820, 4380

Background color 0, 128, 128

Foreground color 192, 192, 192

X axis

Title: Time

Axis color 192, 192, 192

Label color 0, 0, 0

Number Tic Marks: 4

Number Labels: 4

Y axis

Title: Temperature (C)

Axis color 192, 192, 192

Label color 0, 0, 255

Number Tic Marks: 4

Number Labels: 4

Pen

Tagname (NODE:TAG.FIELD)

Low Limit	High Limit	Color	Marker
PCS:TC_2111.F_CV	0.00	1200.00	0, 0, 255
PCS:TC_2112.F_CV	0.00	1200.00	255, 0, 255
PCS:TC_2113.F_CV	0.00	1200.00	255, 255, 255

PCS:TC_2111.F_CV

0.00 1200.00 0, 0, 255

PCS:TC_2112.F_CV

0.00 1200.00 255, 0, 255

PCS:TC_2113.F_CV

0.00 1200.00 255, 255, 255

Time Duration = 01:00:00

Glovebox HA-211 Temperature Profile

GLOVEBOX ELEMENT 1 TEMPERATURE ##.#
GLOVEBOX ELEMENT 2 TEMPERATURE ##.#
GLOVEBOX ELEMENT 3 TEMPERATURE ##.#

**FIX DMACS for Windows
Dynamic Properties Report**

Report Date: 03/05/99

Report Time: 14:49:01

Report File Name: GLOVE211.ODR

ODF Version: 800f

******* Picture-Specific Properties *******

Picture name: GBT211.ODF
Picture width: 7.940
Picture height: 5.360
Background Color 0 128 128
Refresh rate: 0.50
Key macro: None
Security area: None
Title bar: No
Bitmap format: No
System menu: No

Previous Picture

Picture name: None

Tag group: None

Next Picture

Picture name: None

Tag group: None

Commands on Open

Commands on Close

Dynamic Properties Report, GLOVE21I.ODR page 2

Object: TEXT 1680, 50, 5980, 370

Text: Glovebox HA-21I Temperature Profile

Object: GROUP 770, 4210, 4480, 4940

Controllable: 0
Modifiable: 0

Object: TEXT 770, 4210, 4074, 4433

Text: GLOVEBOX ELEMENT 1 TEMPERATURE

Object: TEXT 770, 4454, 4074, 4676

Text: GLOVEBOX ELEMENT 2 TEMPERATURE

Object: TEXT 770, 4707, 4074, 4930

Text: GLOVEBOX ELEMENT 3 TEMPERATURE

Object: DATALINK 4127, 4220, 4480, 4453

Controllable: 0
Modifiable: 0

Tagname: PCS:TE21I7.F_CV

Visible Background Colors: 255, 255, 255

Object: DATALINK 4127, 4464, 4480, 4697

Controllable: 0
Modifiable: 0

Tagname: PCS:TE21I8.F_CV

Visible Background Colors: 255, 255, 255

Object: DATALINK 4127, 4707, 4480, 4940

Controllable: 0
Modifiable: 0

Tagname: PCS:TE21I9.F_CV

Dynamic Properties Report, GLOVE211.ODR page 3

Visible Background Colors: 255, 255, 255

Object: GROUP 549, 489, 7319, 4140

Controllable: 0

Modifiable: 1

Command List

REPLACEPIC GBT211 FURNOVER

Object: RECT 636, 579, 7131, 4068

Controllable: 0

Modifiable: 0

Object: PENTREND 549, 489, 7319, 4140

Background color 0, 128, 128

Foreground color 192, 192, 192

X axis

Title: Time

Axis color 192, 192, 192

Label color 0, 0, 0

Number Tic Marks: 4

Number Labels: 4

Y axis

Title: Temperature (C)

Axis color 192, 192, 192

Label color 0, 0, 0

Number Tic Marks: 4

Number Labels: 4

Pen

Tagname (NODE:TAG.FIELD)

Low Limit	High Limit	Color	Marker
PCS:TE2117.F_CV			
0.00	100.00	0, 0, 0	
PCS:TE2118.F_CV			
0.00	100.00	255, 0, 0	
PCS:TE2119.F_CV			
0.00	100.00	0, 0, 255	

Time Duration = 00:10:00

VDC

####

ACK	TIME IN	STATUS	VALUE	DESCRIPTION	PRI
YES	Filter ON	Set TIME	Column	Delete ALL	
ACKNOWLEDGE					

FIX DMACS for Windows
Dynamic Properties Report

Report Date: 03/05/99

Report Time: 14:46:46

Report File Name: CALCINER.ODR

ODF Version: 800f

***** Picture-Specific Properties *****

Picture name: CALCINER.ODF

Picture width: 7.940

Picture height: 5.360

Background Color 0 128 128

Refresh rate: 0.50

Key macro: None

Security area: None

Title bar: Yes

Bitmap format: No

System menu: No

Previous Picture

Picture name: None

Tag group: None

Next Picture

Picture name: None

Tag group: None

Commands on Open

Commands on Close

Dynamic Properties Report, CALCINER.ODR page 2

Object: GROUP 1780, 2780, 2680, 3311

Controllable: 0
Modifiable: 0

Object: LINE 1780, 3251, 2643, 3311

Controllable: 0
Modifiable: 0

Object: LINE 2620, 2780, 2680, 3310

Controllable: 0
Modifiable: 0

Object: LINE 3230, 2040, 3550, 2080

Controllable: 0
Modifiable: 0

Object: LINE 2619, 3160, 3530, 3200

Controllable: 0
Modifiable: 0

Object: LINE 1197, 2590, 1257, 3450

Controllable: 0
Modifiable: 0

Object: PUSHBUTTON 3470, 930, 4320, 1210

Command List
REPLACEPIC CALCINER SCRUBBER

Text: SCRUBBER
Command List
REPLACEPIC CALCINER SCRUBBER

Object: TEXT 2500, 20, 3400, 470

Text: VDC

Object: LINE 1199, 3397, 1560, 3457

Controllable: 0
Modifiable: 0

Dynamic Properties Report, CALCINER.ODR page 3

Object: GROUP 2961, 3507, 3302, 3581

Controllable: 0
Modifiable: 0

Object: OVAL 3235, 3508, 3302, 3574

Controllable: 0
Modifiable: 0

Object: OVAL 3142, 3508, 3210, 3574

Controllable: 0
Modifiable: 0

Object: OVAL 3090, 3514, 3158, 3581

Controllable: 0
Modifiable: 0

Object: OVAL 3004, 3514, 3071, 3581

Controllable: 0
Modifiable: 0

Object: OVAL 2961, 3507, 3029, 3573

Controllable: 0
Modifiable: 0

Object: OVAL 3051, 3507, 3118, 3573

Controllable: 0
Modifiable: 0

Object: OVAL 3195, 3507, 3262, 3573

Controllable: 0
Modifiable: 0

Object: GROUP 3052, 3252, 3171, 3534

Controllable: 0
Modifiable: 0

Object: OVAL 3058, 3252, 3126, 3319

Dynamic Properties Report, CALCINER.ODR page 4

Controllable: 0

Modifiable: 0

Object: OVAL 3105, 3302, 3171, 3368

Controllable: 0
Modifiable: 0

Object: OVAL 3097, 3468, 3165, 3534

Controllable: 0
Modifiable: 0

Object: OVAL 3052, 3422, 3119, 3488

Controllable: 0
Modifiable: 0

Object: OVAL 3095, 3382, 3161, 3449

Controllable: 0
Modifiable: 0

Object: OVAL 3056, 3337, 3126, 3405

Controllable: 0
Modifiable: 0

Object: GROUP 3055, 3254, 3171, 3516

Controllable: 0
Modifiable: 0

Object: OVAL 3101, 3254, 3166, 3319

Controllable: 0
Modifiable: 0

Object: OVAL 3062, 3452, 3127, 3516

Controllable: 0
Modifiable: 0

Object: OVAL 3055, 3304, 3121, 3368

Dynamic Properties Report, CALCINER.ODR page 5

Controllable: 0
Modifiable: 0

Object: OVAL 3057, 3380, 3124, 3445

Controllable: 0
Modifiable: 0

Object: OVAL 3101, 3339, 3167, 3404

Controllable: 0
Modifiable: 0

Object: OVAL 3106, 3423, 3171, 3488

Controllable: 0
Modifiable: 0

Object: PGON 2900, 3196, 3340, 3660

Controllable: 0
Modifiable: 0

Object: LINE 2975, 1130, 3159, 1246

Controllable: 0
Modifiable: 0

Object: OVAL 3033, 3316, 3181, 3380

Controllable: 0
Modifiable: 0

Object: RECT 3035, 2965, 3178, 3358

Controllable: 0
Modifiable: 0

Object: GROUP 2405, 2728, 3414, 3078

Controllable: 0
Modifiable: 0

Object: OVAL 2405, 2878, 3413, 3078

Dynamic Properties Report, CALCINER.ODR page 6

Controllable: 0
Modifiable: 0

Object: RECT 2410, 2825, 3411, 2988

Controllable: 0
Modifiable: 0

Object: OVAL 2406, 2728, 3414, 2928

Controllable: 0
Modifiable: 0

Object: LINE 2405, 2825, 2425, 2993

Controllable: 0
Modifiable: 0

Object: LINE 3393, 2819, 3413, 2999

Controllable: 0
Modifiable: 0

Object: LINE 3160, 3043, 3180, 3362

Controllable: 0
Modifiable: 0

Object: LINE 3033, 3053, 3053, 3363

Controllable: 0
Modifiable: 0

Object: GROUP 2528, 2226, 3294, 2877

Controllable: 0
Modifiable: 0

Object: OVAL 2528, 2736, 3294, 2877

Controllable: 0
Modifiable: 0

Object: RECT 2533, 2226, 3288, 2817

Dynamic Properties Report, CALCINER.ODR . page 8

Controllable: 0
Modifiable: 0

Object: OVAL 2524, 2051, 3288, 2191

Controllable: 0
Modifiable: 0

Object: RECT 2528, 1540, 3284, 2131

Controllable: 0
Modifiable: 0

Object: LINE 3267, 1618, 3287, 2142

Controllable: 0
Modifiable: 0

Object: LINE 2524, 1629, 2544, 2137

Controllable: 0
Modifiable: 0

Object: GROUP 2394, 1337, 3404, 1687

Controllable: 0
Modifiable: 0

Object: OVAL 2394, 1487, 3403, 1687

Controllable: 0
Modifiable: 0

Object: RECT 2400, 1435, 3400, 1597

Controllable: 0
Modifiable: 0

Object: OVAL 2396, 1337, 3404, 1537

Controllable: 0
Modifiable: 0

Object: LINE 2394, 1435, 2414, 1603

Dynamic Properties Report, CALCINER.ODR - page 7

Controllable: 0
Modifiable: 0

Object: LINE 3272, 2303, 3292, 2828

Controllable: 0
Modifiable: 0

Object: LINE 2529, 2315, 2549, 2821

Controllable: 0
Modifiable: 0

Object: GROUP 2400, 2077, 3408, 2428

Controllable: 0
Modifiable: 0

Object: OVAL 2400, 2228, 3408, 2428

Controllable: 0
Modifiable: 0

Object: RECT 2405, 2175, 3406, 2337

Controllable: 0
Modifiable: 0

Object: OVAL 2402, 2077, 3408, 2278

Controllable: 0
Modifiable: 0

Object: LINE 2400, 2175, 2420, 2344

Controllable: 0
Modifiable: 0

Object: LINE 3388, 2170, 3408, 2349

Controllable: 0
Modifiable: 0

Object: GROUP 2524, 1540, 3288, 2191

Dynamic Properties Report, CALCINER.ODR page 9

Controllable: 0
Modifiable: 0

Object: LINE 3383, 1429, 3403, 1608

Controllable: 0
Modifiable: 0

Object: ALMSUM 109, 3689, 7779, 5089

Object: PUSHBUTTON 3160, 5060, 4470, 5370

Command List
ALARMACKALL

Text: ACKNOWLEDGE
Command List
ALARMACKALL

Object: PUSHBUTTON 3570, 3030, 4480, 3290

Command List
REPLACEPIC CALCINER AIRPURGE

Text: AIR
Command List
REPLACEPIC CALCINER AIRPURGE

Object: GROUP 2569, 1267, 3245, 1513

Controllable: 0
Modifiable: 0

Object: GROUP 2890, 1267, 3068, 1432

Controllable: 0
Modifiable: 0

Object: OVAL 2890, 1367, 3068, 1432

Controllable: 0
Modifiable: 0

Object: RECT 2921, 1277, 3036, 1411

Dynamic Properties Report, CALCINER.ODR page 10

Controllable: 0

Modifiable: 0

Object: OVAL 2922, 1387, 3039, 1421

Controllable: 0
Modifiable: 0

Object: OVAL 2922, 1267, 3039, 1300

Controllable: 0
Modifiable: 0

Object: GROUP 3050, 1331, 3245, 1513

Controllable: 0
Modifiable: 0

Object: OVAL 3050, 1444, 3245, 1513

Controllable: 0
Modifiable: 0

Object: RECT 3086, 1343, 3210, 1490

Controllable: 0
Modifiable: 0

Object: OVAL 3087, 1465, 3214, 1502

Controllable: 0
Modifiable: 0

Object: OVAL 3087, 1331, 3214, 1368

Controllable: 0
Modifiable: 0

Object: GROUP 2569, 1323, 2764, 1507

Controllable: 0
Modifiable: 0

Object: OVAL 2569, 1437, 2764, 1507

Dynamic Properties Report, CALCINER.ODR - page 11

Controllable: 0
Modifiable: 0

Object: RECT 2603, 1336, 2729, 1483

Controllable: 0
Modifiable: 0

Object: OVAL 2604, 1458, 2733, 1494

Controllable: 0
Modifiable: 0

Object: OVAL 2604, 1323, 2733, 1361

Controllable: 0
Modifiable: 0

Object: LINE 2971, 1129, 2991, 1288

Controllable: 0
Modifiable: 0

Object: LINE 2671, 1262, 2677, 1347

Controllable: 0
Modifiable: 0

Object: LINE 3148, 1246, 3154, 1356

Controllable: 0
Modifiable: 0

Object: GROUP 2728, 543, 3077, 1478

Controllable: 0
Modifiable: 0

Object: RECT 2670, 662, 2931, 1478

Controllable: 0
Modifiable: 0

Object: GROUP 2728, 543, 3077, 1098

Dynamic Properties Report, CALCINER.ODR page 12

Controllable: 0
Modifiable: 0

Object: GROUP 2728, 543, 3077, 1098

Controllable: 0
Modifiable: 0

Object: OVAL 2729, 984, 3077, 1098

Controllable: 0
Modifiable: 0

Object: RECT 2729, 594, 3075, 1056

Controllable: 0
Modifiable: 0

Object: OVAL 2728, 543, 3075, 657

Controllable: 0
Modifiable: 0

Object: LINE 2729, 594, 2739, 1053

Controllable: 0
Modifiable: 0

Object: LINE 3067, 594, 3077, 1046

Controllable: 0
Modifiable: 0

Object: OVAL 2746, 552, 3047, 641

Controllable: 0
Modifiable: 0

Object: GROUP 2803, 717, 2980, 878

Controllable: 0
Modifiable: 0

Object: PGON 2822, 868, 2832, 878

Dynamic Properties Report, CALCINER.ODR page 13

Controllable: 0
Modifiable: 0

Object: PGON 2803, 717, 2832, 878

Controllable: 0
Modifiable: 0

Object: PGON 2822, 717, 2980, 878

Controllable: 0
Modifiable: 0

Object: PGON 2803, 868, 2980, 878

Controllable: 0
Modifiable: 0

Object: LINE 3270, 1040, 3430, 1080

Controllable: 0
Modifiable: 0

Object: LINE 2644, 1025, 3290, 1293

Controllable: 0
Modifiable: 0

Object: PENTREND 4319, 65, 7918, 2975

Background color 0, 128, 128
Foreground color 192, 192, 192

X axis
Title:

Axis color 192, 192, 192
Label color 0, 0, 0
Number Tic Marks: 4
Number Labels: 4

Y axis

Title: TEMPERATURE (°C)
Axis color 192, 192, 192
Label color 0, 0, 0
Number Tic Marks: 4
Number Labels: 4

Dynamic Properties Report, CALCINER.ODR page 14

Pen

Tagname (NODE.TAG.FIELD)

Low Limit	High Limit	Color	Marker
-----------	------------	-------	--------

PCS:CCTTEMP.F_CV

0.00 1200.00 0, 0, 0

PCS:DOMETEMP.F_CV

0.00 1200.00 0, 255, 0

PCS:TEMP120.F_CV

0.00 1200.00 255, 0, 0

PCS:TEMP240.F_CV

0.00 1200.00 0, 0, 255

PCS:OGTEMP.F_CV

0.00 1200.00 255, 255, 0

Time Duration = 00:10:00

Object: OVAL 550, 2505, 1379, 2710

Controllable: 0

Modifiable: 0

Object: RECT 550, 1226, 1373, 2593

Controllable: 0

Modifiable: 0

Vertical Fill

Tagname: PCS:FPTWF.F_CV

Direction: Up

Low Limit: 0.00 Min Percent: 0.00

Hi Limit: 100.00 Max Percent: 100.00

Object: OVAL 554, 1126, 1390, 1354

Controllable: 0

Modifiable: 0

Object: LINE 1365, 1250, 1385, 2622

Controllable: 0

Modifiable: 0

Object: LINE 548, 1238, 568, 2605

Dynamic Properties Report, CALCINER.ODR page 15.

Controllable: 0
Modifiable: 0

Object: TEXT 730, 1480, 1210, 2280

Text: FEED
PUMP
TANK
WF

Object: DATALINK 780, 2300, 1140, 2520

Controllable: 0
Modifiable: 0

Tagname: PCS:FPTWF.F_CV

Visible Background Colors: 255, 255, 255

Object: GROUP 642, 870, 993, 1263

Controllable: 0
Modifiable: 0

Object: LINE 642, 870, 992, 930

Controllable: 0
Modifiable: 0

Object: LINE 933, 877, 993, 1263

Controllable: 0
Modifiable: 0

Object: TEXT 60, 660, 830, 1140

Text: From Feed
Receipt
Tank

Object: DATE 7270, 50, 7920, 250

Object: TIME 6380, 60, 7050, 260

Object: TEXT 410, 2940, 1130, 3100

Text: FPT PUMP

Object: TEXT 1428, 1981, 2378, 2301

Dynamic Properties Report, CALCINER.ODR page 16

Text: VDC HEATING
CYCLE

Object: TEXT 3540, 1910, 4180, 2230

Text: TO
EV-230-G

Object: TEXT 3570, 2740, 4530, 3060

Text: BLOWBACK &
ATOMIZING

Object: GROUP 1410, 1370, 2360, 1700

Controllable: 0
Modifiable: 0

Object: DATALINK 1520, 1540, 1810, 1700

Controllable: 0
Modifiable: 1

Tagname: PCS:DP_CALGB.F_CV

Visible Background Colors: 255, 255, 255

Require Confirmation: N
Numeric Entry
Low Limit: 0.0 Hi Limit: 100.0
Numeric Data Format: 2, 1, Left Justify

Object: TEXT 1410, 1370, 2360, 1530

Text: VDC VACUUM

Object: TEXT 1830, 1540, 2240, 1700

Text: " H2O

Object: GROUP 2590, 2440, 3270, 2840

Controllable: 0
Modifiable: 0

Object: TEXT 2590, 2440, 3270, 2640

Text: OUTPUT

Object: DATALINK 2650, 2820, 3070, 2840

Dynamic Properties Report, CALCINER.ODR page 17

Controllable: 0
Modifiable: 0

Tagname: PCS:OP_CAL.F_CV

Visible Background Colors: 255, 255, 255

Object: TEXT 3080, 2620, 3250, 2820

Text: %

Object: PUSHBUTTON 1628, 2368, 2266, 2612

Command List

OPENDIG PCS:CALRST.F_CV
OPENDIG PCS:CALSET.F_CV
OPENDIG PCS:CALSTRT.F_CV
PAUSE 1
CLOSEDIG PCS:CALRST.F_CV
CLOSEDIG PCS:CALSET.F_CV
PAUSE 1
CLOSEDIG PCS:CALSTRT.F_CV

Text: START

Command List

OPENDIG PCS:CALRST.F_CV
OPENDIG PCS:CALSET.F_CV
OPENDIG PCS:CALSTRT.F_CV
PAUSE 1
CLOSEDIG PCS:CALRST.F_CV
CLOSEDIG PCS:CALSET.F_CV
PAUSE 1
CLOSEDIG PCS:CALSTRT.F_CV

Object: PUSHBUTTON 1637, 2606, 2276, 2870

Command List

OPENDIG PCS:CALRST.F_CV
OPENDIG PCS:CALSTRT.F_CV
PAUSE 1
CLOSEDIG PCS:CALRST.F_CV

Text: STOP

Command List

OPENDIG PCS:CALRST.F_CV
OPENDIG PCS:CALSTRT.F_CV
PAUSE 1
CLOSEDIG PCS:CALRST.F_CV

Dynamic Properties Report, CALCINER.ODR _ page 18

Object: TEXT 1540, 920, 1870, 1080

Visible/Invisible

Tagname: PCS:AMTEMP.F_CV

Condition: > Value: 50.0

Text: High

Object: PUSHBUTTON 460, 3130, 1056, 3358

Command List

CLOSEDIG PCS:HS_FPUMP.F_CV

Text: START

Command List

CLOSEDIG PCS:HS_FPUMP.F_CV

Object: PUSHBUTTON 459, 3353, 1058, 3600

Command List

OPENDIG PCS:HS_FPUMP.F_CV

Text: STOP

Command List

OPENDIG PCS:HS_FPUMP.F_CV

Object: TEXT 1330, 630, 2190, 930

Text: MOTOR

TEMPERATURE

Object: GROUP 2240, 720, 2650, 870

Controllable: 0

Modifiable: 0

Object: DATALINK 2240, 720, 2560, 870

Controllable: 0

Modifiable: 1

Tagname: PCS:AMTEMP.F_CV

Dynamic Properties Report, CALCINER.ODR .. page 19

Visible Background Colors: 255, 255, 255

Require Confirmation:N

Numeric Entry

Low Limit: 0.0 Hi Limit: 100.0

Numeric Data Format: 3, 1, Left Justify

Object: TEXT 2560, 720, 2650, 870

Text: C

Object: GROUP 3512, 1260, 4246, 1749

Controllable: 0

Modifiable: 0

Object: GROUP 3512, 1593, 4246, 1749

Controllable: 0

Modifiable: 0

Object: DATALINK 3512, 1593, 3846, 1749

Controllable: 0

Modifiable: 1

Tagname: PCS:DPCALOFF.F_CV

Visible Background Colors: 255, 255, 255

Require Confirmation:N

Numeric Entry

Low Limit: 0.0 Hi Limit: 100.0

Numeric Data Format: 3, 1, Left Justify

Object: TEXT 3873, 1593, 4246, 1749

Text: " H2O

Object: TEXT 3540, 1260, 4209, 1573

Text: OFF-GAS

FILTER dP

Object: TEXT 3140, 620, 3850, 940

Visible/Invisible

Tagname: PCS:AGT_MOV.F_CV

Condition: > Value: 0

Dynamic Properties Report, CALCINER.ODR page 20

Text: AGITATOR
STALLED

Object: TEXT 1524, 2989, 1774, 3189

Visible/Invisible

Tagname: PCS:FEEDPUMP.F_CV

Condition: > Value: 0

Text: ON

Object: TEXT 1478, 2988, 1808, 3188

Visible/Invisible

Tagname: PCS:FEEDPUMP.F_CV

Condition: < Value: 1

Text: OFF

Object: PGON 1319, 3471, 1864, 3651

Controllable: 0

Modifiable: 0

Object: GROUP 1380, 3202, 1899, 3650

Controllable: 0

Modifiable: 0

Foreground Color by value

Tagname: PCS:FEEDPUMP.F_CV

Blink on new alarm: 0

Value	Color	Property
0.00	255, 255, 255	VISIBLE
1.00	255, 0, 0	VISIBLE

Object: RECT 1567, 3202, 1899, 3345

Controllable: 0

Modifiable: 0

Object: OVAL 1380, 3202, 1814, 3650

Controllable: 0

Modifiable: 0

Dynamic Properties Report, CALCINER.ODR page 21

Object: TEXT 4660, 2970, 6510, 3130

Text: CONTROL TEMPERATURE

Object: TEXT 4660, 3100, 6210, 3260

Text: DOME TEMPERATURE

Object: TEXT 4660, 3230, 6950, 3390

Text: 120 BASEPLATE TEMPERATURE

Object: TEXT 4660, 3350, 6950, 3510

Text: 240 BASEPLATE TEMPERATURE

Object: DATALINK 7200, 2970, 7530, 3130

Controllable: 0

Modifiable: 0

Tagname: PCS:CCTTEMP.F_CV

Visible Background Colors: 255, 255, 255

Object: DATALINK 7200, 3100, 7530, 3260

Controllable: 0

Modifiable: 0

Tagname: PCS:DOMETEMP.F_CV

Visible Background Colors: 255, 255, 255

Object: DATALINK 7200, 3230, 7530, 3390

Controllable: 0

Modifiable: 0

Tagname: PCS:TEMP120.F_CV

Visible Background Colors: 255, 255, 255

Object: DATALINK 7200, 3360, 7530, 3520

FIX DMACS for Windows
Dynamic Properties Report

Report Date: 03/05/99

Report Time: 14:49:46

Report File Name: SCRUBBER.ODR

ODF Version: 800f

***** Picture-Specific Properties *****

Picture name: SCRUBBER.ODF

Picture width: 7.940

Picture height: 5.360

Background Color 0 128 128

Refresh rate: 0.50

Key macro: None

Security area: None

Title bar: Yes

Bitmap format: No

System menu: No

Previous Picture

Picture name: None

Tag group: None

Next Picture

Picture name: None

Tag group: None

Commands on Open

Commands on Close

SCRUBBER

ACK TIME IN STATUS		VALUE DESCRIPTION	
NEW	Filter ON	Sort: TIME	Columns
		Delete ALL	
Acknowledge			

Dynamic Properties Report, SCRUBBER.ODR page 2

Object: LINE 6437, 928, 7237, 934

Controllable: 0
Modifiable: 0

Object: GROUP 1907, 1003, 2590, 2100

Controllable: 0
Modifiable: 0

Object: GROUP 1907, 1003, 2590, 2100

Controllable: 0
Modifiable: 0

Object: OVAL 1910, 1839, 2590, 2100

Controllable: 0
Modifiable: 0

Object: RECT 1911, 1095, 2583, 1983

Controllable: 0
Modifiable: 0

Object: OVAL 1910, 1003, 2590, 1266

Controllable: 0
Modifiable: 0

Object: LINE 1907, 1133, 1927, 1966

Controllable: 0
Modifiable: 0

Object: LINE 2566, 1149, 2586, 1979

Controllable: 0
Modifiable: 0

Object: GROUP 2030, 1081, 2520, 1200

Controllable: 0
Modifiable: 0

Object: OVAL 2350, 1090, 2520, 1200

Dynamic Properties Report, SCRUBBER.ODR -- page 3

Controllable: 0
Modifiable: 0

Object: OVAL 2030, 1081, 2150, 1170

Controllable: 0
Modifiable: 0

Object: TEXT 1960, 1490, 2570, 1650

Text: CAUSTIC

Object: GROUP 6768, 501, 6821, 925

Controllable: 0
Modifiable: 0

Object: LINE 6792, 501, 6800, 925

Controllable: 0
Modifiable: 0

Object: RECT 6768, 723, 6820, 773

Controllable: 0
Modifiable: 0

Object: RECT 6769, 540, 6821, 590

Controllable: 0
Modifiable: 0

Object: RECT 6768, 634, 6820, 684

Controllable: 0
Modifiable: 0

Object: GROUP 6149, 498, 6191, 736

Controllable: 0
Modifiable: 0

Object: LINE 6169, 498, 6177, 736

Controllable: 0
Modifiable: 0

Dynamic Properties Report, SCRUBBER.ODR page 4

Object: RECT 6149, 648, 6190, 702

Controllable: 0

Modifiable: 0

Object: RECT 6150, 548, 6191, 602

Controllable: 0

Modifiable: 0

Object: LINE 441, 3138, 5930, 3198

Controllable: 0

Modifiable: 0

Object: GROUP 2482, 640, 5040, 709

Controllable: 0

Modifiable: 0

Object: LINE 2521, 659, 5040, 679

Controllable: 0

Modifiable: 0

Object: GROUP 4117, 648, 5021, 709

Controllable: 0

Modifiable: 0

Object: RECT 4200, 652, 4249, 706

Controllable: 0

Modifiable: 0

Object: RECT 4282, 652, 4331, 707

Controllable: 0

Modifiable: 0

Object: RECT 4366, 652, 4415, 706

Controllable: 0

Modifiable: 0

Object: RECT 4445, 651, 4495, 706

Dynamic Properties Report, SCRUBBER.ODR page 5

Controllable: 0
Modifiable: 0

Object: RECT 4532, 651, 4581, 706

Controllable: 0
Modifiable: 0

Object: RECT 4621, 652, 4669, 706

Controllable: 0
Modifiable: 0

Object: RECT 4709, 650, 4758, 705

Controllable: 0
Modifiable: 0

Object: RECT 4802, 651, 4850, 705

Controllable: 0
Modifiable: 0

Object: RECT 4889, 648, 4940, 706

Controllable: 0
Modifiable: 0

Object: RECT 4975, 655, 5021, 709

Controllable: 0
Modifiable: 0

Object: RECT 4117, 654, 4165, 708

Controllable: 0
Modifiable: 0

Object: GROUP 3171, 648, 4076, 709

Controllable: 0
Modifiable: 0

Object: RECT 3255, 652, 3303, 706

Dynamic Properties Report, SCRUBBER.ODR page 6

Controllable: 0
Modifiable: 0

Object: RECT 3336, 652, 3386, 707

Controllable: 0
Modifiable: 0

Object: RECT 3420, 652, 3469, 706

Controllable: 0
Modifiable: 0

Object: RECT 3500, 651, 3549, 706

Controllable: 0
Modifiable: 0

Object: RECT 3586, 651, 3636, 706

Controllable: 0
Modifiable: 0

Object: RECT 3675, 652, 3724, 706

Controllable: 0
Modifiable: 0

Object: RECT 3763, 650, 3813, 705

Controllable: 0
Modifiable: 0

Object: RECT 3856, 651, 3905, 705

Controllable: 0
Modifiable: 0

Object: RECT 3944, 648, 3995, 706

Controllable: 0
Modifiable: 0

Object: RECT 4029, 655, 4076, 709

Dynamic Properties Report, SCRUBBER.ODR page 7

Controllable: 0
Modifiable: 0

Object: RECT 3171, 654, 3220, 708

Controllable: 0
Modifiable: 0

Object: GROUP 2482, 640, 3124, 698

Controllable: 0
Modifiable: 0

Object: RECT 2566, 642, 2614, 696

Controllable: 0
Modifiable: 0

Object: RECT 2647, 642, 2697, 697

Controllable: 0
Modifiable: 0

Object: RECT 2731, 642, 2780, 696

Controllable: 0
Modifiable: 0

Object: RECT 2811, 641, 2860, 696

Controllable: 0
Modifiable: 0

Object: RECT 2897, 641, 2947, 696

Controllable: 0
Modifiable: 0

Object: RECT 2986, 642, 3035, 696

Controllable: 0
Modifiable: 0

Object: RECT 3074, 640, 3124, 695

Dynamic Properties Report, SCRUBBER.ODR page 8

Controllable: 0
Modifiable: 0

Object: RECT 2482, 644, 2531, 698

Controllable: 0
Modifiable: 0

Object: LINE 1630, 2360, 1690, 3130

Controllable: 0
Modifiable: 0

Object: PUSHBUTTON 50, 50, 870, 320

Command List
REPLACEPIC SCRUBBER CALCINER

Text: TO VDC
Command List
REPLACEPIC SCRUBBER CALCINER

Object: LINE 914, 170, 1482, 230

Controllable: 0
Modifiable: 0

Object: TEXT 7230, 740, 7870, 1140

Text: To 26"
Vacuum

Object: LINE 1636, 3070, 4290, 3130

Controllable: 0
Modifiable: 0

Object: LINE 3329, 2770, 4629, 2830

Controllable: 0
Modifiable: 0

Object: LINE 5880, 2646, 5940, 3200

Controllable: 0
Modifiable: 0

Dynamic Properties Report, SCRUBBER.ODR page 9

Object: LINE 440, 419, 500, 3197

Controllable: 0
Modifiable: 0

Object: LINE 460, 441, 1208, 459

Controllable: 0
Modifiable: 0

Object: LINE 4855, 2650, 6759, 2710

Controllable: 0
Modifiable: 0

Object: PUSHBUTTON 3293, 4969, 4610, 5350

Command List
ALARMACKALLText: Acknowledge
Command List
ALARMACKALL

Object: TEXT 3100, 30, 4860, 410

Text: SCRUBBER

Object: RECT 802, 714, 1748, 2416

Controllable: 0
Modifiable: 0

Object: GROUP 834, 1170, 1717, 2390

Controllable: 0
Modifiable: 0

Object: OVAL 985, 2326, 1039, 2377

Controllable: 0
Modifiable: 0

Object: OVAL 882, 2296, 936, 2346

Controllable: 0
Modifiable: 0

Dynamic Properties Report, SCRUBBER.ODR page 10

Object: OVAL 1019, 1776, 1073, 1826

Controllable: 0
Modifiable: 0

Object: OVAL 848, 1868, 902, 1918

Controllable: 0
Modifiable: 0

Object: OVAL 985, 1990, 1039, 2041

Controllable: 0
Modifiable: 0

Object: OVAL 848, 2052, 902, 2102

Controllable: 0
Modifiable: 0

Object: OVAL 985, 2173, 1039, 2225

Controllable: 0
Modifiable: 0

Object: OVAL 916, 1776, 970, 1826

Controllable: 0
Modifiable: 0

Object: OVAL 950, 1868, 1005, 1918

Controllable: 0
Modifiable: 0

Object: OVAL 950, 2052, 1005, 2102

Controllable: 0
Modifiable: 0

Object: OVAL 916, 1960, 970, 2010

Controllable: 0
Modifiable: 0

Object: OVAL 882, 2143, 936, 2193

Dynamic Properties Report, SCRUBBER.ODR page 11

Controllable: 0
Modifiable: 0

Object: OVAL 916, 2236, 970, 2286

Controllable: 0
Modifiable: 0

Object: OVAL 882, 1409, 936, 1460

Controllable: 0
Modifiable: 0

Object: OVAL 848, 1532, 902, 1582

Controllable: 0
Modifiable: 0

Object: OVAL 1019, 1532, 1073, 1582

Controllable: 0
Modifiable: 0

Object: OVAL 882, 1653, 936, 1705

Controllable: 0
Modifiable: 0

Object: OVAL 1019, 1348, 1073, 1398

Controllable: 0
Modifiable: 0

Object: OVAL 985, 1685, 1039, 1735

Controllable: 0
Modifiable: 0

Object: OVAL 848, 1348, 902, 1398

Controllable: 0
Modifiable: 0

Object: OVAL 1019, 1348, 1073, 1398

Dynamic Properties Report, SCRUBBER.ODR page 12

Controllable: 0
Modifiable: 0

Object: OVAL 999, 1506, 1053, 1557

Controllable: 0
Modifiable: 0

Object: OVAL 999, 1415, 1053, 1466

Controllable: 0
Modifiable: 0

Object: OVAL 896, 1537, 950, 1588

Controllable: 0
Modifiable: 0

Object: OVAL 896, 1384, 950, 1435

Controllable: 0
Modifiable: 0

Object: OVAL 882, 1470, 936, 1521

Controllable: 0
Modifiable: 0

Object: OVAL 1012, 1232, 1066, 1282

Controllable: 0
Modifiable: 0

Object: OVAL 869, 1244, 923, 1294

Controllable: 0
Modifiable: 0

Object: OVAL 910, 1188, 964, 1239

Controllable: 0
Modifiable: 0

Object: OVAL 834, 2339, 889, 2390

Dynamic Properties Report, SCRUBBER.ODR page 13

Controllable: 0
Modifiable: 0

Object: OVAL 1006, 1176, 1060, 1227

Controllable: 0
Modifiable: 0

Object: OVAL 848, 2223, 902, 2274

Controllable: 0
Modifiable: 0

Object: OVAL 841, 1739, 896, 1790

Controllable: 0
Modifiable: 0

Object: OVAL 930, 1268, 985, 1319

Controllable: 0
Modifiable: 0

Object: OVAL 1513, 2321, 1567, 2372

Controllable: 0
Modifiable: 0

Object: OVAL 1615, 2290, 1670, 2341

Controllable: 0
Modifiable: 0

Object: OVAL 1478, 1770, 1533, 1821

Controllable: 0
Modifiable: 0

Object: OVAL 1650, 1862, 1704, 1912

Controllable: 0
Modifiable: 0

Object: OVAL 1513, 1984, 1567, 2034

Dynamic Properties Report, SCRUBBER.ODR page 14

Controllable: 0
Modifiable: 0

Object: OVAL 1650, 2045, 1704, 2096

Controllable: 0
Modifiable: 0

Object: OVAL 1513, 2168, 1567, 2218

Controllable: 0
Modifiable: 0

Object: OVAL 1581, 1770, 1635, 1821

Controllable: 0
Modifiable: 0

Object: OVAL 1547, 1862, 1601, 1912

Controllable: 0
Modifiable: 0

Object: OVAL 1547, 2045, 1601, 2096

Controllable: 0
Modifiable: 0

Object: OVAL 1581, 1954, 1635, 2004

Controllable: 0
Modifiable: 0

Object: OVAL 1615, 2137, 1670, 2188

Controllable: 0
Modifiable: 0

Object: OVAL 1581, 2228, 1635, 2279

Controllable: 0
Modifiable: 0

Object: OVAL 1615, 1402, 1670, 1453

Dynamic Properties Report, SCRUBBER.ODR page 15

Controllable: 0
Modifiable: 0

Object: OVAL 1650, 1525, 1704, 1576

Controllable: 0
Modifiable: 0

Object: OVAL 1478, 1525, 1533, 1576

Controllable: 0
Modifiable: 0

Object: OVAL 1615, 1648, 1670, 1698

Controllable: 0
Modifiable: 0

Object: OVAL 1478, 1342, 1533, 1392

Controllable: 0
Modifiable: 0

Object: OVAL 1513, 1678, 1567, 1728

Controllable: 0
Modifiable: 0

Object: OVAL 1650, 1342, 1704, 1392

Controllable: 0
Modifiable: 0

Object: OVAL 1478, 1342, 1533, 1392

Controllable: 0
Modifiable: 0

Object: OVAL 1498, 1501, 1553, 1552

Controllable: 0
Modifiable: 0

Object: OVAL 1498, 1409, 1553, 1460

Dynamic Properties Report, SCRUBBER.ODR page 16

Controllable: 0
Modifiable: 0

Object: OVAL 1601, 1532, 1656, 1582

Controllable: 0
Modifiable: 0

Object: OVAL 1601, 1378, 1656, 1429

Controllable: 0
Modifiable: 0

Object: OVAL 1615, 1464, 1670, 1514

Controllable: 0
Modifiable: 0

Object: OVAL 1485, 1226, 1540, 1276

Controllable: 0
Modifiable: 0

Object: OVAL 1629, 1238, 1683, 1288

Controllable: 0
Modifiable: 0

Object: OVAL 1588, 1182, 1643, 1234

Controllable: 0
Modifiable: 0

Object: OVAL 1663, 2332, 1717, 2384

Controllable: 0
Modifiable: 0

Object: OVAL 1492, 1170, 1546, 1220

Controllable: 0
Modifiable: 0

Object: OVAL 1650, 2216, 1704, 2267

Dynamic Properties Report, SCRUBBER.ODR page 17

Controllable: 0
Modifiable: 0

Object: OVAL 1656, 1734, 1710, 1784

Controllable: 0
Modifiable: 0

Object: OVAL 1567, 1262, 1621, 1312

Controllable: 0
Modifiable: 0

Object: GROUP 699, 2286, 1850, 2580

Controllable: 0
Modifiable: 0

Object: OVAL 700, 2346, 1850, 2580

Controllable: 0
Modifiable: 0

Object: RECT 1760, 2389, 1849, 2471

Controllable: 0
Modifiable: 0

Object: RECT 700, 2392, 789, 2474

Controllable: 0
Modifiable: 0

Object: OVAL 699, 2286, 1849, 2520

Controllable: 0
Modifiable: 0

Object: LINE 699, 2398, 719, 2474

Controllable: 0
Modifiable: 0

Object: LINE 1829, 2397, 1849, 2475

Dynamic Properties Report, SCRUBBER.ODR page 18

Controllable: 0
Modifiable: 0

Object: OVAL 803, 2303, 1750, 2475

Controllable: 0
Modifiable: 0

Object: LINE 1723, 780, 1743, 2416

Controllable: 0
Modifiable: 0

Object: LINE 796, 770, 816, 2402

Controllable: 0
Modifiable: 0

Object: LINE 1640, 1051, 1700, 2410

Controllable: 0
Modifiable: 0

Object: OVAL 806, 975, 1750, 1172

Controllable: 0
Modifiable: 0

Object: GROUP 916, 1152, 1608, 2448

Controllable: 0
Modifiable: 0

Object: OVAL 916, 2312, 1608, 2448

Controllable: 0
Modifiable: 0

Object: LINE 1232, 2278, 1292, 2405

Controllable: 0
Modifiable: 0

Object: GROUP 1058, 1152, 1468, 2317

Dynamic Properties Report, SCRUBBER.ODR page 19

Controllable: 0
Modifiable: 0

Object: OVAL 1058, 2224, 1468, 2317

Controllable: 0
Modifiable: 0

Object: OVAL 1058, 2193, 1468, 2286

Controllable: 0
Modifiable: 0

Object: OVAL 1058, 2162, 1468, 2255

Controllable: 0
Modifiable: 0

Object: OVAL 1058, 2131, 1468, 2224

Controllable: 0
Modifiable: 0

Object: OVAL 1058, 2100, 1468, 2194

Controllable: 0
Modifiable: 0

Object: OVAL 1058, 2070, 1468, 2164

Controllable: 0
Modifiable: 0

Object: OVAL 1058, 2040, 1468, 2133

Controllable: 0
Modifiable: 0

Object: OVAL 1058, 2009, 1468, 2102

Controllable: 0
Modifiable: 0

Object: OVAL 1058, 1978, 1468, 2072

Dynamic Properties Report, SCRUBBER.ODR page 20

Controllable: 0
Modifiable: 0

Object: OVAL 1058, 1948, 1468, 2042

Controllable: 0
Modifiable: 0

Object: OVAL 1058, 1917, 1468, 2011

Controllable: 0
Modifiable: 0

Object: OVAL 1058, 1886, 1468, 1980

Controllable: 0
Modifiable: 0

Object: OVAL 1058, 1856, 1468, 1949

Controllable: 0
Modifiable: 0

Object: OVAL 1058, 1826, 1468, 1918

Controllable: 0
Modifiable: 0

Object: OVAL 1058, 1795, 1468, 1888

Controllable: 0
Modifiable: 0

Object: OVAL 1058, 1764, 1468, 1858

Controllable: 0
Modifiable: 0

Object: OVAL 1058, 1734, 1468, 1827

Controllable: 0
Modifiable: 0

Object: OVAL 1058, 1703, 1468, 1797

Dynamic Properties Report, SCRUBBER.ODR page 21

Controllable: 0
Modifiable: 0

Object: OVAL 1058, 1673, 1468, 1766

Controllable: 0
Modifiable: 0

Object: OVAL 1058, 1642, 1468, 1735

Controllable: 0
Modifiable: 0

Object: OVAL 1058, 1611, 1468, 1704

Controllable: 0
Modifiable: 0

Object: OVAL 1058, 1580, 1468, 1674

Controllable: 0
Modifiable: 0

Object: OVAL 1058, 1550, 1468, 1644

Controllable: 0
Modifiable: 0

Object: OVAL 1058, 1520, 1468, 1613

Controllable: 0
Modifiable: 0

Object: OVAL 1058, 1489, 1468, 1582

Controllable: 0
Modifiable: 0

Object: OVAL 1058, 1458, 1468, 1552

Controllable: 0
Modifiable: 0

Object: OVAL 1058, 1428, 1468, 1522

Dynamic Properties Report, SCRUBBER.ODR page 22

Controllable: 0
Modifiable: 0

Object: OVAL 1058, 1397, 1468, 1491

Controllable: 0
Modifiable: 0

Object: OVAL 1058, 1366, 1468, 1460

Controllable: 0
Modifiable: 0

Object: OVAL 1058, 1336, 1468, 1429

Controllable: 0
Modifiable: 0

Object: OVAL 1058, 1306, 1468, 1398

Controllable: 0
Modifiable: 0

Object: OVAL 1058, 1274, 1468, 1368

Controllable: 0
Modifiable: 0

Object: OVAL 1058, 1244, 1468, 1338

Controllable: 0
Modifiable: 0

Object: OVAL 1058, 1214, 1468, 1307

Controllable: 0
Modifiable: 0

Object: OVAL 1058, 1183, 1468, 1276

Controllable: 0
Modifiable: 0

Object: OVAL 1058, 1152, 1468, 1246

Dynamic Properties Report, SCRUBBER.ODR page 23

Controllable: 0
Modifiable: 0

Object: PUSHBUTTON 6800, 2620, 7900, 2900

Command List
REPLACEPIC SCRUBBER WASTE

Text: WASTE TANKS
Command List
REPLACEPIC SCRUBBER WASTE

Object: LINE 1248, 711, 1308, 1217

Controllable: 0
Modifiable: 0

Object: GROUP 679, 552, 1830, 846

Controllable: 0
Modifiable: 0

Object: OVAL 680, 612, 1830, 846

Controllable: 0
Modifiable: 0

Object: RECT 1740, 655, 1829, 737

Controllable: 0
Modifiable: 0

Object: RECT 680, 658, 769, 740

Controllable: 0
Modifiable: 0

Object: OVAL 679, 552, 1829, 786

Controllable: 0
Modifiable: 0

Object: LINE 679, 665, 699, 740

Controllable: 0
Modifiable: 0

Dynamic Properties Report, SCRUBBER.ODR page 24

Object: LINE 1809, 662, 1829, 741

Controllable: 0

Modifiable: 0

Object: LINE 1191, 445, 1209, 663

Controllable: 0

Modifiable: 0

Object: LINE 1418, 167, 1478, 677

Controllable: 0

Modifiable: 0

Object: DATE 7239, 40, 7810, 200

Object: TIME 6564, 40, 7130, 200

Object: TEXT 560, 2810, 1610, 3130

Text: SCRUBBER

TEMPERATURE

Object: TEXT 2110, 310, 2720, 510

Text: P-230-B

Object: LINE 1650, 560, 2340, 580

Controllable: 0

Modifiable: 0

Object: GROUP 4981, 647, 5054, 2307

Controllable: 0

Modifiable: 0

Object: LINE 4996, 674, 5016, 2307

Controllable: 0

Modifiable: 0

Object: GROUP 4983, 1677, 5037, 2273

Controllable: 0

Modifiable: 0

Dynamic Properties Report, SCRUBBER.ODR page 25

Object: RECT 4986, 1677, 5037, 1735

Controllable: 0
Modifiable: 0

Object: RECT 4986, 1772, 5037, 1830

Controllable: 0
Modifiable: 0

Object: RECT 4986, 1883, 5037, 1941

Controllable: 0
Modifiable: 0

Object: RECT 4983, 1991, 5034, 2050

Controllable: 0
Modifiable: 0

Object: RECT 4986, 2106, 5037, 2164

Controllable: 0
Modifiable: 0

Object: RECT 4985, 2215, 5036, 2273

Controllable: 0
Modifiable: 0

Object: GROUP 4983, 1022, 5037, 1619

Controllable: 0
Modifiable: 0

Object: RECT 4986, 1022, 5037, 1081

Controllable: 0
Modifiable: 0

Object: RECT 4986, 1117, 5037, 1176

Controllable: 0
Modifiable: 0

Object: RECT 4986, 1228, 5037, 1287

Dynamic Properties Report, SCRUBBER.ODR page 26

Controllable: 0
Modifiable: 0

Object: RECT 4983, 1337, 5034, 1395

Controllable: 0
Modifiable: 0

Object: RECT 4986, 1451, 5037, 1510

Controllable: 0
Modifiable: 0

Object: RECT 4985, 1560, 5036, 1619

Controllable: 0
Modifiable: 0

Object: GROUP 4981, 647, 5054, 972

Controllable: 0
Modifiable: 0

Object: RECT 4981, 647, 5051, 713

Controllable: 0
Modifiable: 0

Object: RECT 4986, 780, 5054, 846

Controllable: 0
Modifiable: 0

Object: RECT 4985, 908, 5053, 972

Controllable: 0
Modifiable: 0

Object: LINE 2420, 686, 2460, 1150

Controllable: 0
Modifiable: 0

Object: PUSHBUTTON 2727, 958, 3486, 1172

Command List

Dynamic Properties Report, SCRUBBER.ODR page 27

CLOSEDIG PCS:HS_OHPMP.F_CV

Text: START

Command List

CLOSEDIG PCS:HS_OHPMP.F_CV

Object: PUSHBUTTON 3495, 1171, 4247, 1383

Command List

IF PCS:NAOHPUMP.F_CV == 0

CLOSEDIG PCS:HS_STOHP.F_CV

ENDIF

NULL

Text: ADDITION

Command List

IF PCS:NAOHPUMP.F_CV == 0

CLOSEDIG PCS:HS_STOHP.F_CV

ENDIF

NULL

Object: TEXT 2760, 730, 3830, 930

Text: pH CONTROL

Object: TEXT 4400, 2930, 5010, 3130

Text: P-230-C

Object: TEXT 3410, 2910, 4260, 3070

Text: DOV-230-HB

Object: LINE 3799, 2123, 7336, 2163

Controllable: 0

Modifiable: 0

Object: TEXT 7300, 1980, 7870, 2280

Text: PROCESS

AIR

Object: LINE 3337, 1837, 6768, 1843

Controllable: 0

Modifiable: 0

Dynamic Properties Report, SCRUBBER.ODR page 28

Object: GROUP 3280, 1788, 6890, 1875

Controllable: 0
Modifiable: 0

Object: RECT 3280, 1789, 3383, 1872

Controllable: 0
Modifiable: 0

Object: RECT 3431, 1788, 3531, 1871

Controllable: 0
Modifiable: 0

Object: RECT 3594, 1788, 3692, 1871

Controllable: 0
Modifiable: 0

Object: RECT 3743, 1788, 3839, 1871

Controllable: 0
Modifiable: 0

Object: RECT 3893, 1788, 3989, 1871

Controllable: 0
Modifiable: 0

Object: RECT 4038, 1788, 4137, 1871

Controllable: 0
Modifiable: 0

Object: RECT 4186, 1788, 4284, 1871

Controllable: 0
Modifiable: 0

Object: RECT 4336, 1788, 4434, 1871

Controllable: 0
Modifiable: 0

Object: RECT 4484, 1788, 4581, 1871

Dynamic Properties Report, SCRUBBER.ODR page 29

Controllable: 0
Modifiable: 0

Object: RECT 4634, 1788, 4732, 1871

Controllable: 0
Modifiable: 0

Object: RECT 4778, 1793, 4875, 1875

Controllable: 0
Modifiable: 0

Object: RECT 4937, 1789, 5034, 1874

Controllable: 0
Modifiable: 0

Object: RECT 5085, 1789, 5181, 1874

Controllable: 0
Modifiable: 0

Object: RECT 5306, 1789, 5403, 1874

Controllable: 0
Modifiable: 0

Object: RECT 5453, 1789, 5550, 1874

Controllable: 0
Modifiable: 0

Object: RECT 5601, 1789, 5697, 1874

Controllable: 0
Modifiable: 0

Object: RECT 5748, 1789, 5849, 1874

Controllable: 0
Modifiable: 0

Object: RECT 5911, 1789, 6009, 1874

Dynamic Properties Report, SCRUBBER.ODR page 30

Controllable: 0
Modifiable: 0

Object: RECT 6060, 1789, 6158, 1874

Controllable: 0
Modifiable: 0

Object: RECT 6206, 1789, 6302, 1874

Controllable: 0
Modifiable: 0

Object: RECT 6351, 1789, 6451, 1874

Controllable: 0
Modifiable: 0

Object: RECT 6500, 1789, 6597, 1874

Controllable: 0
Modifiable: 0

Object: RECT 6650, 1789, 6748, 1874

Controllable: 0
Modifiable: 0

Object: RECT 6796, 1789, 6890, 1874

Controllable: 0
Modifiable: 0

Object: GROUP 2798, 2371, 3448, 2960

Controllable: 0
Modifiable: 0

Object: GROUP 2798, 2371, 3448, 2960

Controllable: 0
Modifiable: 0

Object: OVAL 2798, 2871, 3439, 2960

Dynamic Properties Report, SCRUBBER.ODR page 31

Controllable: 0
Modifiable: 0

Object: RECT 2798, 2401, 3439, 2922

Controllable: 0
Modifiable: 0

Object: OVAL 2798, 2371, 3448, 2468

Controllable: 0
Modifiable: 0

Object: LINE 3423, 2416, 3443, 2931

Controllable: 0
Modifiable: 0

Object: LINE 2798, 2410, 2818, 2932

Controllable: 0
Modifiable: 0

Object: TEXT 2840, 2470, 3420, 2920

Text: Phase
Separator
Tank

Object: LINE 3032, 1710, 3092, 2440

Controllable: 0
Modifiable: 0

Object: LINE 3319, 2078, 3359, 2433

Controllable: 0
Modifiable: 0

Object: TEXT 4950, 3250, 5790, 3410

Text: DOV-230-HA

Object: LINE 5310, 2120, 5350, 2637

Controllable: 0
Modifiable: 0

Dynamic Properties Report, SCRUBBER.ODR page 32

Object: LINE 5275, 2300, 5377, 2402

Controllable: 0
Modifiable: 0

Object: LINE 5280, 2354, 5382, 2456

Controllable: 0
Modifiable: 0

Object: LINE 6357, 2242, 6460, 2347

Controllable: 0
Modifiable: 0

Object: LINE 3029, 1689, 6116, 1749

Controllable: 0
Modifiable: 0

Object: GROUP 5981, 1151, 6580, 1820

Controllable: 0
Modifiable: 0

Object: GROUP 5981, 1151, 6580, 1820

Controllable: 0
Modifiable: 0

Object: OVAL 5981, 1721, 6571, 1820

Controllable: 0
Modifiable: 0

Object: RECT 5981, 1186, 6571, 1776

Controllable: 0
Modifiable: 0

Object: OVAL 5981, 1151, 6580, 1259

Controllable: 0
Modifiable: 0

Object: LINE 6555, 1202, 6575, 1786

Dynamic Properties Report, SCRUBBER.ODR page 33

Controllable: 0
Modifiable: 0

Object: LINE 5981, 1195, 6001, 1788

Controllable: 0
Modifiable: 0

Object: TEXT 6000, 1380, 6560, 1700

Text: Vacuum
Trap

Object: LINE 6154, 914, 6194, 1246

Controllable: 0
Modifiable: 0

Object: LINE 6403, 900, 6463, 1202

Controllable: 0
Modifiable: 0

Object: LINE 4250, 2777, 4310, 3130

Controllable: 0
Modifiable: 0

Object: LINE 6405, 2139, 6411, 2469

Controllable: 0
Modifiable: 0

Object: LINE 5310, 2710, 5350, 2940

Controllable: 0
Modifiable: 0

Object: GROUP 6238, 2451, 6570, 2776

Controllable: 0
Modifiable: 0

Dynamic Properties Report, SCRUBBER.ODR page 34

Foreground Color by value

Tagname: PCS:EV_230H.F_CV

Blink on new alarm: 0

Value	Color	Property
0.00	128, 128, 128	VISIBLE
1.00	255, 0, 0	VISIBLE

Object: PGON 6238, 2579, 6567, 2776

Controllable: 0

Modifiable: 0

Foreground Color by value

Tagname: PCS:HHL_PHTK.F_CV

Blink on new alarm: 0

Value	Color	Property
0.00	192, 192, 192	VISIBLE
1.00	0, 255, 0	VISIBLE

Object: GROUP 6252, 2451, 6570, 2700

Controllable: 0

Modifiable: 0

Object: GROUP 6252, 2451, 6570, 2601

Controllable: 0

Modifiable: 0

Object: OVAL 6252, 2451, 6570, 2601

Controllable: 0

Modifiable: 0

Object: RECT 6259, 2527, 6562, 2592

Controllable: 0

Modifiable: 0

Object: LINE 6390, 2470, 6430, 2700

Controllable: 0

Modifiable: 0

Object: GROUP 5161, 2931, 5490, 3260

Dynamic Properties Report, SCRUBBER.ODR page 35

Controllable: 0
Modifiable: 0

Foreground Color by value

Tagname: PCS:EV_230H.F_CV
Blink on new alarm: 0

Value	Color	Property
0.00	255, 0, 0	VISIBLE
1.00	128, 128, 128	VISIBLE

Object: PGON 5161, 3063, 5490, 3260

Controllable: 0
Modifiable: 0

Foreground Color by value

Tagname: PCS:HHL_PHTK.F_CV
Blink on new alarm: 0

Value	Color	Property
0.00	192, 192, 192	VISIBLE
1.00	0, 255, 0	VISIBLE

Object: GROUP 5172, 2931, 5490, 3180

Controllable: 0
Modifiable: 0

Object: GROUP 5172, 2931, 5490, 3081

Controllable: 0
Modifiable: 0

Object: OVAL 5172, 2931, 5490, 3081

Controllable: 0
Modifiable: 0

Object: RECT 5179, 3007, 5482, 3072

Controllable: 0
Modifiable: 0

Object: LINE 5310, 2950, 5350, 3180

Controllable: 0
Modifiable: 0

Dynamic Properties Report, SCRUBBER.ODR page 36

Object: GROUP 3658, 2561, 3990, 2886

Controllable: 0

Modifiable: 0

Foreground Color by value

Tagname: PCS:EV_230H.F_CV

Blink on new alarm: 0

Value	Color	Property
0.00	128, 128, 128	VISIBLE
1.00	255, 0, 0	VISIBLE

Object: PGON 3658, 2689, 3987, 2886

Controllable: 0

Modifiable: 0

Foreground Color by value

Tagname: PCS:HHL_PHTK.F_CV

Blink on new alarm: 0

Value	Color	Property
0.00	192, 192, 192	VISIBLE
1.00	0, 255, 0	VISIBLE

Object: GROUP 3672, 2561, 3990, 2810

Controllable: 0

Modifiable: 0

Object: GROUP 3672, 2561, 3990, 2711

Controllable: 0

Modifiable: 0

Object: OVAL 3672, 2561, 3990, 2711

Controllable: 0

Modifiable: 0

Object: RECT 3679, 2637, 3982, 2702

Controllable: 0

Modifiable: 0

Object: LINE 3810, 2580, 3850, 2810

Dynamic Properties Report, SCRUBBER.ODR page 37

Controllable: 0
Modifiable: 0

Object: TEXT 6010, 2790, 6760, 2950

Text: DOV-230-H

Object: PUSHBUTTON 2728, 1172, 3486, 1385

Command List
IF PCS:NAOHPUMP.F_CV == 0
CLOSEDIG PCS:HS_OHPBY.F_CV
ELSE
OPENDIG PCS:HS_OHPBY.F_CV
ENDIF
NULL

Text: BYPASS

Command List
IF PCS:NAOHPUMP.F_CV == 0
CLOSEDIG PCS:HS_OHPBY.F_CV
ELSE
OPENDIG PCS:HS_OHPBY.F_CV
ENDIF
NULL

Object: GROUP 3130, 2150, 3550, 2390

Controllable: 0
Modifiable: 0

Object: OVAL 3130, 2150, 3550, 2390

Controllable: 0
Modifiable: 0

Foreground Color by value

Tagname: PCS:HL_PHSTK.F_CV
Blink on new alarm: 0

Value	Color	Property
0.00	192, 192, 192	VISIBLE
1.00	255, 0, 0	VISIBLE

Object: TEXT 3220, 2190, 3480, 2350

Dynamic Properties Report, SCRUBBER.ODR page 38

Text: HLE

Object: LINE 3342, 1838, 3346, 1889

Controllable: 0
Modifiable: 0

Object: GROUP 6177, 488, 6790, 525

Controllable: 0
Modifiable: 0

Object: LINE 6177, 501, 6790, 505

Controllable: 0
Modifiable: 0

Object: GROUP 6198, 488, 6761, 525

Controllable: 0
Modifiable: 0

Object: RECT 6198, 491, 6252, 525

Controllable: 0
Modifiable: 0

Object: RECT 6296, 491, 6350, 525

Controllable: 0
Modifiable: 0

Object: RECT 6395, 491, 6449, 525

Controllable: 0
Modifiable: 0

Object: RECT 6497, 491, 6548, 525

Controllable: 0
Modifiable: 0

Object: RECT 6597, 490, 6651, 524

Controllable: 0
Modifiable: 0

Dynamic Properties Report, SCRUBBER.ODR page 39

Object: RECT 6707, 488, 6761, 523

Controllable: 0
Modifiable: 0

Object: LINE 3798, 2128, 3838, 2635

Controllable: 0
Modifiable: 0

Object: LINE 3755, 2260, 3857, 2362

Controllable: 0
Modifiable: 0

Object: LINE 3780, 2314, 3882, 2416

Controllable: 0
Modifiable: 0

Object: LINE 6356, 2298, 6459, 2403

Controllable: 0
Modifiable: 0

Object: LINE 1630, 564, 1670, 707

Controllable: 0
Modifiable: 0

Object: PUSHBUTTON 6520, 2251, 7200, 2461

```
Command List
IF PCS:EV_230H.F_CV == 0
CLOSEDIG PCS:HS_230H.F_CV
ELSE
OPENDIG PCS:HS_230H.F_CV
ENDIF
NULL
```

Text: EV-230-H

```
Command List
IF PCS:EV_230H.F_CV == 0
CLOSEDIG PCS:HS_230H.F_CV
ELSE
OPENDIG PCS:HS_230H.F_CV
ENDIF
NULL
```


Dynamic Properties Report, SCRUBBER.ODR page 40

Object: LINE 2917, 2262, 2929, 2424

Controllable: 0
Modifiable: 0

Object: LINE 2670, 2260, 2710, 3120

Controllable: 0
Modifiable: 0

Object: LINE 2694, 2258, 2934, 2278

Controllable: 0
Modifiable: 0

Object: LINE 2538, 2183, 2578, 3110

Controllable: 0
Modifiable: 0

Object: LINE 2552, 2194, 2975, 2206

Controllable: 0
Modifiable: 0

Object: LINE 2960, 2190, 2980, 2420

Controllable: 0
Modifiable: 0

Object: GROUP 4491, 2632, 4940, 2951

Controllable: 0
Modifiable: 0

Object: PGON 4491, 2815, 4908, 2941

Controllable: 0
Modifiable: 0

Object: GROUP 4525, 2632, 4940, 2951

Controllable: 0
Modifiable: 0

Object: RECT 4672, 2632, 4940, 2738

Dynamic Properties Report, SCRUBBER.ODR page 41

Controllable: 0
Modifiable: 0

Object: OVAL 4525, 2632, 4873, 2951

Controllable: 0
Modifiable: 0

Object: ALMSUM 99, 3419, 7769, 4985

Object: DATALINK 4450, 1110, 4780, 1320

Controllable: 0
Modifiable: 0

Tagname: PCS:STKPH.F_CV

Visible Background Colors: 255, 255, 255

Object: TEXT 4490, 920, 4720, 1120

Text: pH

Object: OVAL 3080, 1910, 3550, 2160

Controllable: 0
Modifiable: 0

Foreground Color by value

Tagname: PCS:HHL_PHTK.F_CV
Blink on new alarm: 0

Value	Color	Property
0.00	192, 192, 192	VISIBLE
1.00	255, 0, 0	VISIBLE

Object: TEXT 3130, 1960, 3510, 2120

Text: HHLE

Object: GROUP 4864, 2202, 5174, 2683

Controllable: 0
Modifiable: 0

Dynamic Properties Report, SCRUBBER.ODR page 42

Object: LINE 5000, 2403, 5040, 2683

Controllable: 0

Modifiable: 0

Object: OVAL 4864, 2202, 5174, 2502

Controllable: 0

Modifiable: 0

Foreground Color by value

Tagname: PCS:PH_PUMP.F_CV

Blink on new alarm: 0

Value	Color	Property
0.00	192, 192, 192	VISIBLE
1.00	255, 0, 0	VISIBLE

Object: TEXT 4910, 2280, 5140, 2430

Text: pH

Object: GROUP 6827, 1843, 6901, 2153

Controllable: 0

Modifiable: 0

Object: LINE 6852, 1843, 6872, 2153

Controllable: 0

Modifiable: 0

Object: RECT 6827, 1854, 6899, 1926

Controllable: 0

Modifiable: 0

Object: RECT 6829, 1952, 6901, 2025

Controllable: 0

Modifiable: 0

Object: GROUP 6707, 1910, 7020, 2243

Controllable: 0

Modifiable: 0

Dynamic Properties Report, SCRUBBER.ODR page 43

Object: PGON 6707, 2023, 7020, 2243

Controllable: 0

Modifiable: 0

Foreground Color by value

Tagname: PCS:EV_230H.F_CV

Blink on new alarm: 0

Value	Color	Property
0.00	192, 192, 192	VISIBLE
1.00	255, 0, 0	VISIBLE

Object: RECT 6829, 1911, 6902, 1990

Controllable: 0

Modifiable: 0

Object: TEXT 6810, 1910, 6930, 2110

Text: S

Object: GROUP 780, 2600, 1400, 2850

Controllable: 0

Modifiable: 0

Object: DATALINK 780, 2600, 1210, 2850

Controllable: 0

Modifiable: 0

Tagname: PCS:SCTKTEMP.F_CV

Foreground Color by value

Tagname: PCS:SCTKTEMP.F_CV

Blink on new alarm: 0

Value	Color	Property
38.0	0, 0, 0	VISIBLE
100	255, 0, 0	VISIBLE

Visible Background Colors: 255, 255, 255

Object: TEXT 1240, 2600, 1400, 2850

Dynamic Properties Report, SCRUBBER.ODR page 44

Text: C

Object: OVAL 5900, 730, 6370, 980

Controllable: 0

Modifiable: 0

Foreground Color by value

Tagname: PCS:HL_VACTK.F_CV

Blink on new alarm: 0

Value	Color	Property
0.00	255, 0, 0	VISIBLE
1.00	192, 192, 192	VISIBLE

Object: TEXT 5960, 780, 6340, 940

Text: HHLE

Object: TEXT 6740, 730, 6860, 930

Text: S

Object: GROUP 6649, 832, 6957, 1029

Controllable: 0

Modifiable: 0

Foreground Color by value

Tagname: PCS:EV_230L.F_CV

Blink on new alarm: 0

Value	Color	Property
0.00	192, 192, 192	VISIBLE
1.00	255, 0, 0	VISIBLE

Object: PGON 6649, 832, 6957, 1029

Controllable: 0

Modifiable: 0

Object: TEXT 6691, 2457, 7091, 2617

Visible/Invisible

Tagname: PCS:EV_230H.F_CV

Condition: > Value: 0

Dynamic Properties Report, SCRUBBER.ODR page 45

Text: OPEN

Object: TEXT 6601, 2457, 7181, 2617

Visible/Invisible

Tagname: PCS:EV_230H.F_CV

Condition: < Value: 1

Text: CLOSED

Object: PUSHBUTTON 3484, 958, 4238, 1173

Command List

OPENDIG PCS:HS_OHPMP.F_CV

Text: STOP

Command List

OPENDIG PCS:HS_OHPMP.F_CV

Object: TEXT 3899, 732, 4149, 932

Visible/Invisible

Tagname: PCS:HS_OHPMP.F_CV

Condition: > Value: 0

Text: ON

Object: TEXT 3867, 732, 4197, 932

Visible/Invisible

Tagname: PCS:HS_OHPMP.F_CV

Condition: < Value: 1

Text: OFF

Object: GROUP 2161, 532, 2620, 851

Controllable: 0

Modifiable: 0

Object: PGON 2205, 725, 2620, 851

Controllable: 0

Modifiable: 0

Dynamic Properties Report, SCRUBBER.ODR page 46

Object: GROUP 2161, 532, 2576, 851

Controllable: 0

Modifiable: 0

Foreground Color by value

Tagname: PCS:NAOHPUMP.F_CV

Blink on new alarm: 0

Value	Color	Property
0.00	255, 255, 255	VISIBLE
1	255, 0, 0	VISIBLE

Object: RECT 2161, 532, 2429, 638

Controllable: 0

Modifiable: 0

Object: OVAL 2228, 532, 2576, 851

Controllable: 0

Modifiable: 0

Object: TEXT 6500, 1020, 7110, 1180

Text: EV-230-L

BLOWBACK AND ATOMIZING AIR

ACK TIME IN	STATUS	VALUE DESCRIPTION	Filter: ON	Sort: TIME	Columns	Delete ALL
<div>ACKNOWLEDGE</div>						

FIX DMACS for Windows
Dynamic Properties Report

Report Date: 03/05/99
Report Time: 14:46:00

Report File Name: AIRPURGE.ODR
ODF Version: 800f

***** Picture-Specific Properties *****

Picture name: AIRPURGE.ODF
Picture width: 7.940
Picture height: 5.360
Background Color: 0 128 128
Refresh rate: 0.50
Key macro: None
Security area: None
Title bar: Yes
Bitmap format: No
System menu: No

Previous Picture

Picture name: None
Tag group: None

Next Picture

Picture name: None
Tag group: None

Commands on Open
Commands on Close

Dynamic Properties Report, AIRPURGE.ODR . page 2

Object: LINE 1041, 2394, 2689, 2434

Controllable: 0
Modifiable: 0

Object: LINE 4330, 1030, 4350, 1520

Controllable: 0
Modifiable: 0

Object: LINE 1480, 2770, 5688, 2810

Controllable: 0
Modifiable: 0

Object: LINE 5665, 917, 5671, 2781

Controllable: 0
Modifiable: 0

Object: LINE 1334, 887, 6900, 927

Controllable: 0
Modifiable: 0

Object: PUSHBUTTON 3260, 4890, 4630, 5280

Command List
ALARMACKALL

Text: ACKNOWLEDGE
Command List
ALARMACKALL

Object: LINE 1365, 1902, 2690, 1916

Controllable: 0
Modifiable: 0

Object: LINE 1361, 1394, 2693, 1408

Controllable: 0
Modifiable: 0

Object: LINE 2681, 900, 2697, 1906

Dynamic Properties Report, AIRPURGE.ODR page 3

Controllable: 0
Modifiable: 0

Object: TEXT 3973, 469, 4593, 629

Text: EV-230-A

Object: GROUP 4178, 1278, 4536, 2056

Controllable: 0
Modifiable: 0

Foreground Color by value

Tagname: PCS:EV_230A.F_CV
Blink on new alarm: 0

Value	Color	Property
0.00	255, 0, 0	VISIBLE
1.00	192, 192, 192	VISIBLE

Object: OVAL 4178, 1876, 4535, 2056

Controllable: 0
Modifiable: 0

Object: OVAL 4178, 1278, 4536, 1456

Controllable: 0
Modifiable: 0

Object: LINE 4178, 1344, 4218, 1984

Controllable: 0
Modifiable: 0

Object: RECT 4188, 1361, 4518, 1982

Controllable: 0
Modifiable: 0

Object: LINE 4493, 1353, 4533, 1999

Controllable: 0
Modifiable: 0

Object: TEXT 1955, 992, 2585, 1152

Dynamic Properties Report, AIRPURGE.ODR . page 4

Text: EV-230-B

Object: TEXT 1964, 1485, 2594, 1645

Text: EV-230-C

Object: TEXT 1956, 2024, 2586, 2184

Text: EV-230-D

Object: PUSHBUTTON 100, 1260, 1010, 1540

Command List
REPLACEPIC AIRPURGE CALCINER

Text: TO VDC
Command List
REPLACEPIC AIRPURGE CALCINER

Object: TEXT 1200, 30, 6340, 410

Text: BLOWBACK AND ATOMIZING AIR

Object: GROUP 2073, 1197, 2463, 1510

Controllable: 0
Modifiable: 0

Foreground Color by value

Tagname: PCS:EV_230C.F_CV
Blink on new alarm: 0

Value	Color	Property
0.00	192, 192, 192	VISIBLE
1.00	255, 0, 0	VISIBLE

Object: PGON 2073, 1290, 2463, 1510

Controllable: 0
Modifiable: 0

Object: TEXT 2209, 1197, 2325, 1394

Text: S

Object: TEXT 2990, 1000, 3960, 1200

Dynamic Properties Report, AIRPURGE.ODR page 5

Text: BLOWBACK

Object: TEXT 220, 2640, 1410, 2960

Text: ATOMIZING AIR
TO FEED NOZZLE

Object: TEXT 4540, 1420, 5630, 1740

Text: ACCUMULATOR
TANK

Object: LINE 2278, 1151, 2284, 1406

Controllable: 0
Modifiable: 0

Object: GROUP 2085, 1655, 2465, 2025

Controllable: 0
Modifiable: 0

Foreground Color by value

Tagname: PCS:EV_230D.F_CV
Blink on new alarm: 0

Value	Color	Property
0.00	192, 192, 192	VISIBLE
1.00	255, 0, 0	VISIBLE

Object: LINE 2270, 1655, 2288, 1922

Controllable: 0
Modifiable: 0

Object: PGON 2085, 1815, 2465, 2025

Controllable: 0
Modifiable: 0

Object: TEXT 2230, 1717, 2337, 1900

Text: S

Object: TEXT 2800, 2350, 3750, 2510

Text: TO DPS-230-A

Object: TEXT 1910, 2520, 2550, 2680

Dynamic Properties Report, AIRPURGE.ODR. page 6

Text: EV-230-G

Object: TEXT 520, 2270, 960, 2590

Text: FROM

VDC

Object: PGON 1307, 811, 1477, 981

Controllable: 0

Modifiable: 0

Object: PGON 1297, 1318, 1467, 1488

Controllable: 0

Modifiable: 0

Object: PGON 1290, 1830, 1460, 2000

Controllable: 0

Modifiable: 0

Object: LINE 1238, 798, 1252, 2021

Controllable: 0

Modifiable: 0

Object: LINE 1238, 797, 1505, 811

Controllable: 0

Modifiable: 0

Object: LINE 1243, 2007, 1510, 2021

Controllable: 0

Modifiable: 0

Object: LINE 1117, 1389, 1252, 1403

Controllable: 0

Modifiable: 0

Object: PGON 1427, 2711, 1597, 2881

Controllable: 0

Modifiable: 0

Object: PGON 1027, 2328, 1197, 2498

Dynamic Properties Report, AIRPURGE.ODR. page 7

Controllable: 0
Modifiable: 0

Object: DATE 7290, 90, 7860, 250

Object: TIME 6580, 100, 7150, 260

Object: OVAL 3290, 1760, 3540, 2010

Controllable: 0
Modifiable: 0

Foreground Color by value

Tagname: PCS:IL_BBACK.F_CV
Blink on new alarm: 0

Value	Color	Property
0.00	255, 255, 255	VISIBLE
1.00	255, 0, 0	VISIBLE

Object: PUSHBUTTON 3678, 3047, 4869, 3293

Command List

```

IF PCS:AGT_MOV.F_CV == 0
GOTO 6
ELSE
GOTO 19
ENDIF
IF PCS:VDCTCFAL.F_CV == 0
GOTO 11
ELSE
GOTO 19
ENDIF
IF PCS:VDCLOVAC.F_CV == 0
GOTO 16
ELSE
GOTO 19
ENDIF
IF PCS:EV_230K.F_CV == 0
CLOSEDIG PCS:HS_230K.F_CV
ENDIF
NULL

```

Text: OPEN EV-230-K
Command List

Dynamic Properties Report, AIRPURGE.ODR page 8

```
IF PCS:AGT_MOV.F_CV == 0
GOTO 6
ELSE
GOTO 19
ENDIF
IF PCS:VDCTCFAL.F_CV == 0
GOTO 11
ELSE
GOTO 19
ENDIF
IF PCS:VDCLOVAC.F_CV == 0
GOTO 16
ELSE
GOTO 19
ENDIF
IF PCS:EV_230K.F_CV == 0
CLOSEDIG PCS:HS_230K.F_CV
ENDIF
NULL
```

Object: GROUP 6209, 1405, 6704, 2814

Controllable: 0
Modifiable: 0

Object: OVAL 6209, 2620, 6704, 2814

Controllable: 0
Modifiable: 0

Object: LINE 6212, 1465, 6252, 2724

Controllable: 0
Modifiable: 0

Object: RECT 6222, 1490, 6687, 2730

Controllable: 0
Modifiable: 0

Object: LINE 6664, 1483, 6704, 2754

Controllable: 0
Modifiable: 0

Object: OVAL 6225, 1405, 6695, 1566

Controllable: 0
Modifiable: 0

Dynamic Properties Report, AIRPURGE.ODR _ page 9

Object: GROUP 6419, 1495, 6914, 2904

Controllable: 0
Modifiable: 0

Object: OVAL 6419, 2710, 6914, 2904

Controllable: 0
Modifiable: 0

Object: LINE 6422, 1555, 6462, 2814

Controllable: 0
Modifiable: 0

Object: RECT 6432, 1580, 6897, 2820

Controllable: 0
Modifiable: 0

Object: LINE 6874, 1573, 6914, 2844

Controllable: 0
Modifiable: 0

Object: OVAL 6435, 1495, 6905, 1656

Controllable: 0
Modifiable: 0

Object: GROUP 6659, 1585, 7154, 2994

Controllable: 0
Modifiable: 0

Object: OVAL 6659, 2800, 7154, 2994

Controllable: 0
Modifiable: 0

Object: LINE 6662, 1645, 6702, 2904

Controllable: 0
Modifiable: 0

Object: RECT 6672, 1670, 7137, 2910

Dynamic Properties Report, AIRPURGE.ODR - page 10

Controllable: 0
Modifiable: 0

Object: LINE 7114, 1663, 7154, 2934

Controllable: 0
Modifiable: 0

Object: OVAL 6675, 1585, 7145, 1746

Controllable: 0
Modifiable: 0

Object: GROUP 6909, 1675, 7404, 3084

Controllable: 0
Modifiable: 0

Object: OVAL 6909, 2890, 7404, 3084

Controllable: 0
Modifiable: 0

Object: LINE 6912, 1735, 6952, 2994

Controllable: 0
Modifiable: 0

Object: RECT 6922, 1760, 7387, 3000

Controllable: 0
Modifiable: 0

Object: LINE 7364, 1753, 7404, 3024

Controllable: 0
Modifiable: 0

Object: OVAL 6925, 1675, 7395, 1836

Controllable: 0
Modifiable: 0

Object: GROUP 6472, 1234, 6690, 1578

Dynamic Properties Report, AIRPURGE.ODR page 11

Controllable: 0
Modifiable: 0

Object: LINE 6472, 1234, 6690, 1332

Controllable: 0
Modifiable: 0

Object: LINE 6473, 1235, 6477, 1489

Controllable: 0
Modifiable: 0

Object: LINE 6683, 1324, 6687, 1578

Controllable: 0
Modifiable: 0

Object: GROUP 6925, 1410, 7143, 1754

Controllable: 0
Modifiable: 0

Object: LINE 6925, 1410, 7143, 1508

Controllable: 0
Modifiable: 0

Object: LINE 6926, 1411, 6930, 1665

Controllable: 0
Modifiable: 0

Object: LINE 7136, 1500, 7140, 1754

Controllable: 0
Modifiable: 0

Object: LINE 6595, 1111, 6605, 1297

Controllable: 0
Modifiable: 0

Object: LINE 7045, 1304, 7055, 1474

Dynamic Properties Report, AIRPURGE.ODR . page 12

Controllable: 0
Modifiable: 0

Object: LINE 6587, 1069, 7067, 1319

Controllable: 0
Modifiable: 0

Object: LINE 6860, 900, 6900, 1230

Controllable: 0
Modifiable: 0

Object: TEXT 6260, 2020, 7320, 2460

Text: AIR
CYLINDERS

Object: GROUP 2060, 2147, 2450, 2533

Controllable: 0
Modifiable: 0

Foreground Color by value

Tagname: PCS:EV_230G.F_CV
Blink on new alarm: 0

Value	Color	Property
0.00	192, 192, 192	VISIBLE
1.00	255, 0, 0	VISIBLE

Object: LINE 2237, 2147, 2277, 2435

Controllable: 0
Modifiable: 0

Object: PGON 2060, 2313, 2450, 2533

Controllable: 0
Modifiable: 0

Object: TEXT 2200, 2220, 2320, 2420

Text: S

Object: GROUP 4109, 626, 4557, 1121

Dynamic Properties Report, AIRPURGE.ODR page 13

Controllable: 0
Modifiable: 0

Object: LINE 4313, 626, 4353, 915

Controllable: 0
Modifiable: 0

Object: TEXT 4290, 710, 4380, 860

Text: S

Object: PGON 4214, 887, 4447, 1121

Controllable: 0
Modifiable: 0

Object: PGON 4324, 780, 4557, 1012

Controllable: 0
Modifiable: 0

Foreground Color by value

Tagname: PCS:EV_230A.F_CV
Blink on new alarm: 0

Value	Color	Property
0	255, 0, 0	VISIBLE
1	192, 192, 192	VISIBLE

Object: PGON 4109, 780, 4342, 1012

Controllable: 0
Modifiable: 0

Foreground Color by value

Tagname: PCS:EV_230A.F_CV
Blink on new alarm: 0

Value	Color	Property
0.00	192, 192, 192	VISIBLE
1.00	255, 0, 0	VISIBLE

Object: ALMSUM 119, 3304, 7789, 4860

Object: PUSHBUTTON 3677, 2817, 4872, 3078

Dynamic Properties Report, AIRPURGE.ODR. page 14

Command List
OPENDIG PCS:HS_230K.F_CV

Text: CLOSE EV-230-K
Command List
OPENDIG PCS:HS_230K.F_CV

Object: GROUP 4592, 1943, 5847, 2900

Controllable: 0
Modifiable: 0

Object: LINE 4753, 2096, 4759, 2331

Controllable: 0
Modifiable: 0

Object: LINE 4750, 2095, 5633, 2101

Controllable: 0
Modifiable: 0

Object: LINE 5250, 2095, 5256, 2812

Controllable: 0
Modifiable: 0

Object: GROUP 5058, 2590, 5448, 2900

Controllable: 0
Modifiable: 0

Foreground Color by value

Tagname: PCS:EV_230K.F_CV
Blink on new alarm: 0

Value	Color	Property
0.00	192, 192, 192	VISIBLE
1.00	255, 0, 0	VISIBLE

Object: PGON 5058, 2680, 5448, 2900

Controllable: 0
Modifiable: 0

Object: TEXT 5198, 2590, 5318, 2780

Dynamic Properties Report, AIRPURGE.ODR page 15

Text: S

Object: LINE 4741, 2431, 4781, 2811

Controllable: 0

Modifiable: 0

Object: OVAL 4592, 2291, 4917, 2601

Controllable: 0

Modifiable: 0

Foreground Color by value

Tagname: PCS:PS_AIRFN.F_CV

Blink on new alarm: 0

Value	Color	Property
0.00	255, 0, 0	VISiBLE
1.00	255, 255, 255	VISIBLE

Object: TEXT 4662, 2370, 4852, 2530

Text: PS

Object: GROUP 5522, 1943, 5847, 2253

Controllable: 0

Modifiable: 0

Object: OVAL 5522, 1943, 5847, 2253

Controllable: 0

Modifiable: 0

Foreground Color by value

Tagname: PCS:FS_AIRFN.F_CV

Blink on new alarm: 0

Value	Color	Property
0.00	255, 0, 0	VISIBLE
1.00	255, 255, 255	VISIBLE

Object: TEXT 5582, 2010, 5802, 2210

Text: FS

Object: TEXT 5022, 2890, 5492, 3090

Dynamic Properties Report, AIRPURGE.ODR page 16

Visible/Invisible

Tagname: PCS:EV_230K.F_CV

Condition: > Value: 0.00

Text: OPEN

Object: TEXT 4915, 2891, 5605, 3091

Visible/Invisible

Tagname: PCS:EV_230K.F_CV

Condition: < Value: 1

Text: CLOSED

Object: PUSHBUTTON 2960, 1210, 3950, 1490

Command List

```

IF PCS:VDCTCFAL.F_CV == 0
GOTO 5
ENDIF
GOTO 8
IF PCS:VDCLOVAC.F_CV == 0
CLOSEDIG PCS:HS_BBACK.F_CV
ENDIF
NULL

```

Text: START

Command List

```

IF PCS:VDCTCFAL.F_CV == 0
GOTO 5
ENDIF
GOTO 8
IF PCS:VDCLOVAC.F_CV == 0
CLOSEDIG PCS:HS_BBACK.F_CV
ENDIF
NULL

```

Object: PUSHBUTTON 2960, 1450, 3950, 1740

Command List

```

OPENDIG PCS:HS_BBACK.F_CV

```

Text: STOP

Command List

```

OPENDIG PCS:HS_BBACK.F_CV

```


Dynamic Properties Report, AIRPURGE.ODR - page 17

Object: GROUP 2087, 657, 2463, 1010

Controllable: 0

Modifiable: 0

Foreground Color by value

Tagname: PCS:EV_230B.F_CV

Blink on new alarm: 0

Value	Color	Property
0.00	192, 192, 192	VISIBLE
1.00	255, 0, 0	VISIBLE

Object: LINE 2271, 657, 2285, 920

Controllable: 0

Modifiable: 0

Object: PGON 2087, 804, 2463, 1010

Controllable: 0

Modifiable: 0

Object: TEXT 2222, 708, 2327, 886

Text: S

SPENT SCRUBBER WASTE TANKS

SSSRT-1 WEIGHT FACTOR ###.#

SSSRT-2 WEIGHT FACTOR ###.#

ACK	TIME	IN	STATUS	VALUE	DESCRIPTION	FRI
<div> <div>NEW</div> <div>Filter: ON</div> <div>Sort: TIME</div> <div>Columns</div> <div>Delete ALL</div> </div>						
<div> <div>ACKNOWLEDGE</div> </div>						

FIX DMACS for Windows
Dynamic Properties Report

Report Date: 03/05/99
Report Time: 14:50:45

Report File Name: WASTE.ODR
ODF Version: 800f

***** Picture-Specific Properties *****

Picture name: WASTE.ODF
Picture width: 7.940
Picture height: 5.360
Background Color: 0 128 128
Refresh rate: 0.50
Key macro: None
Security area: None
Title bar: Yes
Bitmap format: No
System menu: No

Previous Picture

Picture name: None
Tag group: None

Next Picture

Picture name: None
Tag group: None

Commands on Open
Commands on Close

Dynamic Properties Report, WASTE.ODR page 2

Object: GROUP 1440, 2650, 3260, 3510

Controllable: 0

Modifiable: 0

Object: LINE 1440, 2650, 1480, 3390

Controllable: 0

Modifiable: 0

Object: LINE 2450, 2650, 2490, 3390

Controllable: 0

Modifiable: 0

Object: LINE 1440, 3350, 3030, 3390

Controllable: 0

Modifiable: 0

Object: PGON 2990, 3240, 3260, 3510

Controllable: 0

Modifiable: 0

Object: PENTREND 3949, 319, 8025, 3150

Background color 0, 128, 128

Foreground color 192, 192, 192

X axis

Title:

Axis color 192, 192, 192

Label color 0, 0, 0

Number Tic Marks: 4

Number Labels: 4

Y axis

Title: Weight Factor

Axis color 192, 192, 192

Label color 0, 0, 0

Number Tic Marks: 4

Number Labels: 4

Dynamic Properties Report, WASTE.ODR page 3

Pen

Tagname (NODE:TAG.FIELD)

Low Limit High Limit Color Marker

PCS:SSRT1WF.F_CV

0.00 100.00 0, 0, 0

PCS:SSRT2WF.F_CV

0.00 100.00 0, 0, 255

Time Duration = 00:01:00

Object: ALMSUM 79, 3609, 7749, 5009

Object: PUSHBUTTON 3190, 4990, 4500, 5340

Command List

ALARMACKALL

Text: ACKNOWLEDGE

Command List

ALARMACKALL

Object: PUSHBUTTON 40, 240, 1030, 530

Command List

REPLACEPIC WASTE SCRUBBER

Text: SCRUBBER

Command List

REPLACEPIC WASTE SCRUBBER

Object: TEXT 1470, 30, 5880, 340

Text: SPENT SCRUBBER WASTE TANKS

Object: TEXT 3280, 3160, 3840, 3560

Text: TO D-8

(241-Z)

Object: TEXT 4320, 3060, 6410, 3260

Text: SSSRT-1 WEIGHT FACTOR

Object: TEXT 4310, 3280, 6400, 3480

Dynamic Properties Report, WASTE.ODR _ page 4

Text: SSSRT-2 WEIGHT FACTOR

Object: DATALINK 6630, 3060, 7000, 3300

Controllable: 0

Modifiable: 0

Tagname: PCS:SSRT1WF.F_CV

Visible Background Colors: 255, 255, 255

Object: DATALINK 6610, 3250, 6980, 3490

Controllable: 0

Modifiable: 0

Tagname: PCS:SSRT2WF.F_CV

Visible Background Colors: 255, 255, 255

Object: GROUP 1081, 886, 1870, 2766

Controllable: 0

Modifiable: 0

Object: GROUP 1081, 886, 1862, 2766

Controllable: 0

Modifiable: 0

Object: OVAL 1081, 2513, 1850, 2766

Controllable: 0

Modifiable: 0

Object: RECT 1081, 930, 1850, 2635

Controllable: 0

Modifiable: 0

Object: OVAL 1081, 886, 1862, 1050

Controllable: 0

Modifiable: 0

Object: LINE 1836, 978, 1856, 2666

Dynamic Properties Report, WASTE.ODR page 5

Controllable: 0
Modifiable: 0

Object: LINE 1081, 958, 1101, 2673

Controllable: 0
Modifiable: 0

Object: TEXT 1280, 1730, 1700, 2040

Text: WF

Object: DATALINK 1310, 2100, 1740, 2350

Controllable: 0
Modifiable: 0

Tagname: PCS:SSRT1WF.F_CV

Visible Background Colors: 255, 255, 255

Object: TEXT 1100, 1530, 1870, 1750

Text: SSSRT-1

Object: GROUP 2079, 886, 2900, 2766

Controllable: 0
Modifiable: 0

Object: GROUP 2079, 886, 2900, 2766

Controllable: 0
Modifiable: 0

Object: OVAL 2079, 2513, 2888, 2766

Controllable: 0
Modifiable: 0

Object: RECT 2079, 930, 2888, 2635

Controllable: 0
Modifiable: 0

Dynamic Properties Report, WASTE.ODR page 6

Object: OVAL 2079, 886, 2900, 1050

Controllable: 0
Modifiable: 0

Object: LINE 2874, 978, 2894, 2666

Controllable: 0
Modifiable: 0

Object: LINE 2079, 958, 2099, 2673

Controllable: 0
Modifiable: 0

Object: TEXT 2280, 1740, 2700, 2050

Text: WF

Object: DATALINK 2290, 2090, 2720, 2340

Controllable: 0
Modifiable: 0

Tagname: PCS:SSRT2WF.F_CV

Visible Background Colors: 255, 255, 255

Object: TEXT 2110, 1540, 2880, 1760

Text: SSSRT-2

Object: GROUP 1015, 390, 2498, 975

Controllable: 0
Modifiable: 0

Object: LINE 1015, 390, 1946, 430

Controllable: 0
Modifiable: 0

Object: LINE 1940, 391, 1980, 710

Controllable: 0
Modifiable: 0

Dynamic Properties Report, WASTE.ODR page 7

Object: GROUP 1425, 690, 2498, 975

Controllable: 0

Modifiable: 0

Object: LINE 1425, 691, 1465, 975

Controllable: 0

Modifiable: 0

Object: LINE 1434, 690, 2498, 730

Controllable: 0

Modifiable: 0

Object: LINE 2458, 696, 2498, 960

Controllable: 0

Modifiable: 0

Object: GROUP 1743, 494, 2183, 838

Controllable: 0

Modifiable: 0

Object: PGON 1849, 494, 2079, 729

Controllable: 0

Modifiable: 0

Object: PGON 1743, 600, 1973, 838

Controllable: 0

Modifiable: 0

Object: PGON 1953, 600, 2183, 838

Controllable: 0

Modifiable: 0

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APPENDIX I
TAG GROUP REPORTS

[The FIX DMACS Tag Group Report]
 [File: C:\WDMACS\PIC\FUR21I1.CSV]
 [9/14/99]

SYMBOL	SUBSTITUTION	DESCRIPTION
FURNNAME	PCS:FUR21I1.F_CV	FURNACE NUMBER
FURNPOWER	PCS:OP21I1.F_CV	POWER TO FURNACE
FURNSTOP	PCS:STOP21I1.F_CV	STOP HA-21I FURNACE 1 PROGRAM
FURNSTRT	PCS:STRT21I1.F_CV	START HA-21I FURNACE 1 PROGRAM
GBTEMP	PCS:TE21I1MAX.F_CV	HA-20MB HIGH TEMPERATURE
LS	PCS:LS21I1.F_CV	DOOR LIMIT SWITCH
OFFGASTEMP	PCS:TE21I10.F_CV	OFF-GAS TEMPERATURE
OVENHITEMP	PCS:TE21I2.F_CV	HIGH TEMPERATURE ALARM READING
OVENTEMP	PCS:TC_21I1.F_CV	FURNACE TEMPERATURE
POWER	PCS:PWR21I1.F_CV	FURNACE POWER
PROGRAM	PCS:PN21I1.F_CV	PROGRAM NUMBER
PROGSEG	PCS:PSEG21I1.F_CV	PROGRAM SEGMENT NUMBER
PROGSET	PCS:SET21I1.F_CV	TOGGLE SIGNAL TO SPP TO SET PROGRAM NUMBER
START	PCS:TP_21I1__C.F_2	PGRM STATE 1=RESET 2=RUN
STOP	PCS:SP_21I1.F_CV	STOP FURNACE
TEMPSETPOINT	PCS:SP21I1.F_CV	FURNACE POINT
TIMEREMAIN	PCS:TP_21I1__C.F_11	PROGRAM SEGMENT TIME REMAINING

[The FIX DMACS Tag Group Report]
 [File: C:\WDMACS\PIC\FUR21I2.CSV]
 [9/14/99]

SYMBOL	SUBSTITUTION	DESCRIPTION
FURNNAME	PCS:FUR21I2.F_CV	FURNACE NUMBER
FURNPOWER	PCS:OP21I2.F_CV	POWER TO FURNACE
FURNSTOP	PCS:STOP21I2.F_CV	STOP HA-21I FURNACE 2 PROGRAM
FURNSTRT	PCS:STRT21I2.F_CV	START HA-21I FURNACE 2 PROGRAM
GBTEMP	PCS:TE21I1MAX.F_CV	HA-20MB HIGH TEMPERATURE
LS	PCS:LS21I2.F_CV	DOOR LIMIT SWITCH
OFFGASTEMP	PCS:TE21I11.F_CV	
OVENHITEMP	PCS:TE21I4.F_CV	HIGH TEMPERATURE ALARM READING
OVENTEMP	PCS:TC_21I2.F_CV	FURNACE TEMPERATURE
POWER	PCS:PWR21I2.F_CV	FURNACE POWER
PROGRAM	PCS:PN21I2.F_CV	PROGRAM NUMBER
PROGSEG	PCS:PSEG21I2.F_CV	PROGRAM SEGMENT NUMBER
PROGSET	PCS:SET21I2.F_CV	TOGGLE SIGNAL TO SPP TO SET PROGRAM NUMBER
START	PCS:TP_21I2__C.F_2	START PRGM RESET=1 RUN=2
STOP	PCS:SP_21I2.F_CV	STOP FURNACE
TEMPSETPOINT	PCS:SP21I2.F_CV	FURNACE POINT
TIMEREMAIN	PCS:TP_21I2__C.F_11	PROGRAM SEGMENT TIME REMAINING

[The FIX DMACS Tag Group Report]
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 [9/14/99]

SYMBOL	SUBSTITUTION	DESCRIPTION
FURNNAME	PCS:FUR2113.F_CV	POWER TO FURNACE
FURNPOWER	PCS:OP2113.F_CV	STOP HA_211 FURNACE 3 PROGRAM
FURNSTOP	PCS:STOP2113.F_CV	START HA-211 FURNACE 3 PROGRAM
FURNSTRT	PCS:STRT2113.F_CV	HA-20MB HIGH TEMPERATURE
GBTEMP	PCS:TE211MAX.F_CV	DOOR LIMIT SWITCH
LS	PCS:LS2113.F_CV	OFF-GAS TEMPERATURE
OFFGASTEMP	PCS:TE21112.F_CV	HIGH TEMPERATURE ALARM READING
OVENHITEMP	PCS:TE2116.F_CV	FURNACE TEMPERATURE
OVENTEMP	PCS:TC_2113.F_CV	FURNACE POWER
POWER	PCS:PWR2113.F_CV	PROGRAM NUMBER
PROGRAM	PCS:PN2113.F_CV	PROGRAM SEGMENT NUMBER
PROGSEG	PCS:PSEG2113.F_CV	TOGGLE TO SPP TO SET PROGRAM NUMBER
PROGSET	PCS:SET2113.F_CV	START PRGM RESET=1 RUN=2
START	PCS:TP_2113__C.F_2	STOP FURNACE
STOP	PCS:SP_2113.F_CV	FURNACE POINT
TEMPSETPOINT	PCS:SP2113.F_CV	PROGRAM SEGMENT TIME REMAINING
TIMEREMAIN	PCS:TP_2113__C.F_11	