DISTRIBUTION SHEET

To	From	Page 1 of 1
DISTRIBUTION	G. R. Silvan	Date 9-20-94
Project Title/Work Order		EDT No. 606664
PFP Instrument Upgrade		ECN No. N/A

Name	MSIN	Text With All Attach.	Text Only	Attach./ Appendix Only	EDT/ECN Only
E. Icyan	T4-20	X			
E. L. Adamson	T4-19				X
D. A. Conners	T4-10				X
D. J. McBride	T5-54				X
L. E. Ebbeson	T5-04				X
R. N. Anderson	T4-20				X
J. D. Dick	T4-20				X
G. E. Navarro	T4-20				X
H. H. Nguyenhuu	T4-20				X
J. L. Wilk	T3-01	X			
G. R. Silvan	T4-18	X			
Central Files	L8-04	X			
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ENGINEERING DATA TRANSMITTAL

Page 1 of 1

1. EDT 606664

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16. KEY		
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Reason	Disp.	(J) Name	(K) Signature	(L) Date	(M) MSIN	(J) Name	(K) Signature	(L) Date	(M) MSIN	Reason	Disp.
1	1	Cog.Eng. E. Icyan	<i>E. Icyan</i>	9/20/94	T4-20	J. D. Dick	<i>J. D. Dick</i>		T4-20	1	1
1	1	Cog. Mgr. G. A. Glover	<i>G. A. Glover</i>	9/20/94	T4-20	G. E. Navarro	<i>G. E. Navarro</i>	9/20/94	T4-20	1	
1	1	QA E. L. Adamson	<i>E. L. Adamson</i>	9/19/94	T4-19	H. H. Nguyenhuu	<i>H. H. Nguyenhuu</i>	9/17/94	T4-20	1	1
1	1	Safety A. G. Pines	<i>A. G. Pines</i>	9/17/94	T4-10	<i>John Y. Skill</i>	<i>John Y. Skill</i>		T3-01	1	1
1	1	Env. D. J. McBride	<i>D. J. McBride</i>	9/17/94	T5-54	<i>D.A. CONNERS</i>	<i>D.A. CONNERS</i>		T4-18	1	1
1	1	Operations L. E. Ebbeson	<i>L. E. Ebbeson</i>	9/20/94	T4-20						
1	1	R. N. Anderson	<i>R. N. Anderson</i>	9/16/94	T4-20						

18. G. R. Silvan <i>G. R. Silvan</i> Signature of EDT Originator 9-20-94 Date	19. G. R. Silvan <i>G. R. Silvan</i> Authorized Representative Date for Receiving Organization 9-20-94 Date	20. G. A. Glover <i>G. A. Glover</i> Cognizant Manager 9/20/94 Date	21. DOE APPROVAL (if required) Ctrl. No. N/A ☐ Approved ☐ Approved w/comments ☐ Disapproved w/comments
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ACCEPTANCE TEST PROCEDURE

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**This document was reviewed following the
procedures described in WHC-CM-3-4 and is:**

APPROVED FOR PUBLIC RELEASE

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WHC Information Release Administration Specialist:

Kara Broz
(Signature)

9/20/94
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7. Abstract

The acceptance test for the MICON A/S configuration for project B610. The test is divided into nine sections: 2736-ZB HVAC, 234-5Z HVAC, Process Vacuum, Dry Air, 291-Z Closed Loop Cooling, Building Accelerometer, Evacuation Siren, Stack CAMS, and Fire.

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for

**PROJECT B610
PROCESS CONTROL CONFIGURATION
ACCEPTANCE TEST PROCEDURE**

PURPOSE/SCOPE

The purpose of this test is to verify the Westinghouse configuration of the MICON A/S Distributed Control System for project B610.

The following will be Verified:

- o Proper assignment and operation of all field inputs to and outputs from the MICON Termination panels.
- o Proper operation of all display data on the operators' console.
- o Proper operation of all required alarms.
- o Proper operation of all required interlocks.

This test will only verify the proper operation of the Westinghouse control configuration (or program). It will not be responsible for verifying proper operation of the MICON hardware or operating software. Neither will it test any of the B610 instrument. The MICON hardware and software has been tested as part of the equipment procurement. Instrumentation and wiring installed under project B620 will be tested under a separate functional test. Finally, an OTP will verify proper operation of the entire system when after construction..

In some cases, precise transmitter ranges, alarm setpoints, and controller tuning parameters are not available at this time. Therefore, approximate values will be used during the test. This will not affect the proper operation of the configuration or the validity of this test. Final values will be assigned during operability testing.

REFERENCES

SD-RE-SDR-002, Z Plant HVAC Ladder Diagram

Pipe and Instrument Diagrams:

H-2-23400	E4 Exhaust Ventilation
H-2-26089	HVAC Control
H-2-46884	Dry Air
H-2-80167	2376-ZB HVAC
H-2-89904	Closed Loop Cooling 291-Z
H-2-9648	Process Vacuum

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RESPONSIBILITIES**Test Director**

E. Icyan or G. R. Silvan will act as test director. The test director shall:

- o Coordinate and direct acceptance testing.
- o Confirm that all prestart requirements have been met before allowing the test to begin.
- o If needed, alter the test sequence after verifying that there is no adverse impact.
- o Ensure that the system is left in a safe mode if a test is to be suspended for a period of time.
- o Reverify test prerequisites before restarting a suspended test.
- o Evaluate the need to make changes to the test.
- o Make and approve required changes to the test procedure.
- o Review and approve test data sheets and exceptions.
- o Approve resolution to test exceptions.

Witnesses

A test witness shall be provided by Quality Assurance. The cognizant engineers over the areas that will be affected by the new control system are invited to witness the test. Test witnesses shall:

- o Witness all or select portions of the test.
- o Review changes to the test procedure.
- o Review and approve test data sheets and exceptions for the sections of the test that they witnessed.
- o Approve resolution to test exceptions.

Test Performer

The person performing the test shall be designated by the test director. The performer shall:

- o Perform the test under direction of the test director.
- o Initial each step in the test procedure as it is performed.
- o Record required information on the test data sheets as well as initial and date the form.

SYSTEM DESCRIPTION

The MICON A/S control system is configured to replace all the control, indication, and alarm panels now located in the Power Control Room (Rm. 321A).

Nine systems are covered by this control configuration, 2736-ZB HVAC, 234-5Z HVAC, Process Vacuum, Dry Air, 291-Z Closed Loop Cooling, Building Accelerometer, Evacuation Siren, Stack CAMs, and Fire.

The 2736-ZB HVAC system consists of the ventilation controls for 2736-ZB and 2736-Z as well as alarms for the emergency generators and 232-Z.

The 234-5Z HVAC system is the ventilation controls for 235-5Z and 236-Z buildings.

Process Vacuum covers the controls for the 26" vacuum system.

Dry Air covers the controls for the steam and electric air dryers.

The 291-Z Closed Loop Cooling system consists of the status indications and alarms for the 291-Z compressor and vacuum pump closed loop cooling system. The rest of closed loop cooling was tested earlier.

The Building Accelerometer system consists of the status indications for the two seismic system accelerometers.

The Evacuation Siren system includes the controls for the evacuation and take cover sirens.

Stack CAMs cover the alarms for the various building ventilation stack continuous air monitors.

Finally, the Fire system covers the various fire alarms now located in Room 321-A.

For convenience, all analog signals for 234-5Z, Process Vacuum, and Dry Air will be tested under the 234-5Z section.

TEST CONDITIONS AND EQUIPMENT REQUIRED

The control configuration acceptance test will be performed at the current staging area for the MICON A/S system. This is located in vault A in the 231-Z building, 200 West area.

The overall system consists of four workstations and seven controller cabinets. Three workstations and two cabinets have already been installed in the facility. The workstations are used by the operator to monitor process status and make command changes. The cabinets contain the controller cards which do the actual process control.

For this test, only one of the workstations and three of the cabinets will be used. One cabinet will consist of a master controller (U-32), one "C" (with backup) and one "A" type analog controller card (RCM-32C & RCM-32A), three 110 volt discrete controller cards (RCM-32Dr), and three 32 volt discrete controller cards (RCM-32D). These controllers will contain the 2736-ZB control configuration. The second cabinet will consist of a U-32 master controller, one "C" (with backup) and three "A" type analog controller cards, and eleven RCM-32-Dr discrete cards. Finally, the third cabinet will contain a master controller and three 32 volt discrete controller cards. These controllers will contain the balance of the configuration.

A special test box will be used to test the function of the 120V discrete inputs (see Appendix B, RCM-Dr). The box contains four separate test points. Each point has its own switch and removable cable. The cable is connected to the "IN" and "I/O" termination points located in back of each discrete MICON card. To turn on the input, the switch is closed, and to turn it off, the switch is opened. To prevent electric shock, any unused test cables must be disconnected from the box. In addition, the test cable must be disconnected from the box whenever connecting it to or removing it from the RCM-32-Dr termination panel.

Figure 1: Discrete Input Test Box

The 24 Volt discrete inputs can be tested by simply connecting the "+" terminal to the "com" terminal using a short single strand wire (see Appendix B, RCM-D).

Outputs are tested by observing the status lights on the front of the discrete controllers (see Appendix B, RCM-D and RCM-Dr).

Analog signals, will be tested by connecting an available output to the signal input (see Appendix, RCM-A or C). In this case, the "+" and "-" terminal points for the input and output are wired together using short, single strand wire. Controllers will be tested by wiring their output to their input in the same manner.

TEST PROCEDURE

Prestart

- I. Verify that the controllers are in the proper configuration and that they have been numbered and tagged as follows:

<u>Cabinet</u>	<u>Rack No.</u>	<u>Slot No.</u>	<u>MICON Type</u>	<u>ID Number</u>	<u>Controller Tag</u>
2736-ZB	1	1&2	U-32	15	ZB MAIN
2736-ZB	1	3	RCM-32-C	16	ZB 1 3
2736-ZB	1	4	RCM-32-A	17	ZB 1 4
2736-ZB	2	1	RCM-32-Dr	18	ZB 2 1
2736-ZB	2	2	RCM-32-Dr	19	ZB 2 2
2736-ZB	2	3	RCM-32-Dr	20	ZB 2 3
2736-ZB	2	4	RCM-32-D	21	ZB 2 4
2736-ZB	2	5	RCM-32-D	22	ZB 2 5
2736-ZB	2	6	RCM-32-D	23	ZB 2 6
RM 321A	1	1&2	U-32	31	RM321 MAIN
RM 321A	1	3	RCM-32-C	32	RM321 1 3
RM 321A	1	4	RCM-32-A	33	RM321 1 4
RM 321A	1	5	RCM-32-A	34	RM321 1 5
RM 321A	1	6	RCM-32-A	35	RM321 1 6
RM 321A	2	1	RCM-32-Dr	36	RM321 2 1
RM 321A	2	2	RCM-32-Dr	37	RM321 2 2
RM 321A	2	3	RCM-32-Dr	38	RM321 2 3
RM 321A	2	4	RCM-32-Dr	39	RM321 2 4
RM 321A	2	5	RCM-32-Dr	40	RM321 2 5
RM 321A	2	6	RCM-32-Dr	41	RM321 2 6
RM 321A	3	1	RCM-32-Dr	42	RM321 3 1
RM 321A	3	2	RCM-32-Dr	43	RM321 3 2
RM 321A	3	3	RCM-32-Dr	44	RM321 3 3
RM 321A	3	4	RCM-32-Dr	45	RM321 3 4
RM 321A	3	5	RCM-32-Dr	46	RM321 3 5
321A - B	1	1&2	U-32	47	R321B MAIN
321A - B	2	2	RCM-32-D	48	R321B 2 1
321A - B	2	2	RCM-32-D	49	R321B 2 2
321A - B	2	2	RCM-32-D	50	R321B 2 3

II. Download the following files to the appropriate MICON.

NOTE: MICON's 15, 31, and 47 don't require file download.

<u>No.</u>	<u>File</u>	<u>No.</u>	<u>File</u>	<u>No.</u>	<u>File</u>
16	mic16_r0	33	mic33_r0	42	mic42_r0
17	mic17_r0	34	mic34_r0	43	mic43_r0
18	mic18_r0	35	mic35_r0	44	mic44_r0
19	mic19_r0	36	mic36_r0	45	mic45_r0
20	mic20_r0	37	mic37_r0	46	mic46_r0
21	mic21_r0	38	mic38_r0	48	mic48_r0
22	mic22_r0	39	mic39_r0	49	mic49_r0
23	mic23_r0	40	mic40_r0	50	mic50_r0
32	mic32_r0	41	mic41_r0		

III. Acknowledge all alarms.

2736-ZB HVAC

I. Test zone pressure controllers. Perform the following steps for each controller. NOTE: All controller terminations are on MICON number 16.

<u>Controller</u>	<u>Output</u>	<u>Input</u>	<u>Range</u>	<u>Low Alarm</u>	<u>Action</u>	<u>Data Sheet</u>
						<u>Page</u>
PDIC_1	19	1	0-0.15	0.00	Reverse	59
PDIC_2	20	2	0-0.5	0.05	Direct	59
PDIC_3	24	6	0-0.5	0.10	Direct	60
PDIC_4	21	3	0-2	0.25	Direct	60
PDIC_5	22	4	0-10	1.00	Reverse	61
PDIC_6	23	5	0-0.5	0.05	Direct	61

- A. Connect each controller output to its input. Remember to connect "-" to "-" and "+" to "+".
- B. Verify the controller range.
 1. Ensure the controller is in manual.
 2. Set the controller output to 50%, and verify that the process value is about half the range.
 3. Set the controller output to 100%, and verify that the process value is about the range maximum value.
 4. Set the controller output to 0%, and verify that the process value is about the range minimum value.
- C. Verify the controller low alarm.
 1. Adjust the controller output until the process value is just above the low alarm, and verify that the alarm is off.
 2. Slowly lower the process value (using the controller output) until the alarm sounds, and verify the alarm value is correct.
- D. Verify the controller action.
 1. Set the controller output to 50%.
 2. Set the controller setpoint to 25% of scale.
 3. Put the controller in automatic, and record the direction the output moves. For direct acting controllers, the output should increase to 100%. Reverse acting controllers should lower the output until the process value is equal to the setpoint.

II. Test analog indicators. Perform the following steps for each indicator.

NOTE: All indicator terminations are on MICON 17.

<u>Indicator</u>	<u>Input</u>	<u>Range</u>	<u>Low Alarm</u>	<u>Data Sheet</u>
				<u>Page</u>
II COND1	1	0-100	----	62
II_SF 1	2	0-40	----	62
II_SF 2	3	0-40	----	62
PDI 1A	4	-10 to 10	----	62
II AC 1	5	0-40	----	63
II AC 2	6	0-40	----	63
PDI 2A	7	-10 to 10	----	63
PDI 4A	8	-10 to 10	----	63
II EF 1	9	0-50	----	64
II EF 2	10	0-50	----	64
II RF 1	11	0-40	----	64
II RF 2	12	0-40	----	64
PI 1A	13	50-100	55.0	65
PDI 5A	14	-10 to 10	----	65
II I 1	15	0-50	----	65
II I 2	16	0-50	----	65
II_SF 5	17	0-20	----	66
II_SF 6	18	0-20	----	66
II VP 1	19	0-40	----	66
PDI 6A	20	-10 to 10	----	66
II COND2	21	0-100	----	67
II_SF 3	22	0-20	----	67
II_SF 4	23	0-20	----	67
PDI 3	25	-10 to 10	----	67

- A. Connect PDIC 1 output (MICON 16 terminal 19) to the indicator input.
Remember to connect "-" to "-" and "+" to "+".
- B. Verify the indicator range.
 1. Ensure the PDIC 1 is in manual.
 2. Set PDIC 1 output to 50%, and verify that the indicator value is about half the range.
 3. Set the PDIC 1 output to 100%, and verify that the indicator value is about the range maximum value.
 4. Set the PDIC 1 output to 0%, and verify that the indicator value is about the range minimum value.
- C. Verify the indicator low alarm (PI 1A only).
 1. Adjust the PDIC 1 output until the PI 1A value is just above the low alarm, and verify that the alarm is off.
 2. Slowly lower the PI 1A value (using PDIC 1 output) until the alarm sounds, and verify that the alarm value is correct.

III. Test EF-1 and EF-2 controls.

- A. Connect the test box to the fan run and ready signals. Remember to connect the black wire to the "I/O" terminal and the red wire to the "IN" terminal.

		<u>Test Box #</u>	<u>Terminal #</u>
EF-1	Run	1	MICON 18 #4
	Ready	2	MICON 18 #5
EF-2	Run	3	MICON 19 #4
	Ready	4	MICON 19 #5

- B. Connect the fan output to the flow switch input. This will simulate positive flow when the fan is on. Connect the output "I/O" terminal to the flow switch "COM" terminal and the "OUT" to the "+" terminal.

	<u>Output</u>	<u>Input</u>
<u>EF-1</u>	MICON 18 #6	MICON 21 #4
<u>EF-2</u>	MICON 19 #6	MICON 22 #4

- C. Clear the following alarms by connecting a jumper wire across their "+" and "COM" terminals.

<u>Alarm</u>	<u>Terminal #</u>
Cold Smoke	MICON 21 #2
ZB Fire	MICON 22 #2
NDA Fire	MICON 23 #3
Glovebox Dp	MICON 21 #8

D. Test EF-1 controls.

1. With the run and ready signals off (test box switches 1 & 2), verify that YI_EF_1 reads "PWR OFF".
2. Turn on the ready signal (test box switch 2), and verify that YI_EF_1 now reads "OFF" and EV-11 and EV-12 outputs are off (MICON 18 Points 22 & 23).
3. Turn on the run signal (switch 1), and verify that YI_EF_1 reads "ON" and EV-11 and EV-12 outputs are on.
4. Set HS_LL_3 to "EF-2" to prevent an automatic switchover.
5. Set HS_EF_1 to "START", and verify the output (MICON 18 Point 6) comes on.
6. Wait 15 seconds and verify that the failure alarm does not sound.
7. Test the failure alarm.
 - a. Turn off the run signal (test box switch 1), and verify that the failure alarm sounds.
 - b. Turn the run signal back on and verify that the failure alarm clears.
 - c. Turn off the ready signal (test box switch 2), and verify that the output (MICON 18 Point 6) turns off and the failure alarm sounds.
 - d. Turn the ready signal back on.

e. Set HS_EF_1 to "STOP", and verify that the failure alarm clears.

E. Test EF-1 Interlocks.

1. Set HS_LL_3 to "EF 1".
2. Set HS_MAIN to "START", and verify that HS_EF_1 switches to "START".
3. Set HS_MN_S to "E STOP", and verify that HS_EF_1 switches to "STOP".
4. Set HS_EF_2 to "START".
5. After 15 seconds, verify that the EF-2 failure alarms sounds and HS_EF_1 switches to "START".
6. Set HS_EF_2 to "STOP".
7. Disconnect the cold smoke jumper wire (MICON 21 Point 2), verify that the cold smoke alarm sounds and HS_EF_1 switches to "STOP".
8. Try switching HS_EF_1 to "START" and verify that it will not switch from "STOP".
9. Reconnect the cold smoke jumper and verify that the alarm clears.

F. Turn off the EF-1 run and ready signals (Test box switches 1 & 2).

G. Test EF-2 controls.

1. With the run and ready signals off (test box switches 3 & 4), verify that YI_EF_2 reads "PWR OFF".
2. Turn on the ready signal (test box switch 4), and verify that YI_EF_2 now reads "OFF" and EV-13 and EV-14 outputs are off (MICON 19 Points 22 & 23).
3. Turn on the run signal (switch 3), and verify that YI_EF_2 reads "ON" and EV-13 and EV-14 outputs are on.
4. Set HS_LL_3 to "EF-1" to prevent an automatic switchover to EF-1.
5. Set HS_EF_2 to "START", and verify the output (MICON 19 Point 6) comes on.
6. Wait 15 seconds and verify that the failure alarm does not sound.
7. Test the failure alarm.
 - a. Turn off the run signal (test box switch 3), and verify that the failure alarm sounds.
 - b. Turn the run signal back on and verify that the failure alarm clears.
 - c. Turn off the ready signal (test box switch 4), and verify that the output (MICON 19 Point 6) turns off and the failure alarm sounds.
 - d. Turn the ready signal back on.
 - e. Set HS_EF_2 to "STOP", and verify that the failure alarm clears.

H. Test EF-2 Interlocks.

1. Set HS_LL_3 to "EF 2".
2. Set HS_MAIN to "START", and verify that HS_EF_2 switches to "START".
3. Set HS_MN_S to "E STOP", and verify that HS_EF_2 switches to "STOP".
4. Set HS_EF_1 to "START".

5. After 15 seconds, verify that the EF-1 failure alarms sounds and HS EF 2 switches to "START".
6. Set HS EF 1 to "STOP".
7. Disconnect the cold smoke jumper wire (MICON 21 Point 2), verify that the cold smoke alarm sounds and HS_EF_2 switches to "STOP".
8. Try switching HS EF 2 to "START" and verify that it will not switch from "STOP".
9. Reconnect the cold smoke jumper and verify that the alarm clears.
- I. Turn off the EF-2 run and ready signals (Test box switches 3 & 4).
- J. Test the M-1 Air (EV-21) Interlock.
 1. Verify that both the fan run signals (test box switches 1 & 3) are off, and the output to EV-21 is on (MICON 20 Point 24).
NOTE: This is a fail open valve.
 2. Turn on the EF-1 run signal (switch 1), and verify that the EV-21 output turns off.
 3. Turn on the EF-2 run signal (switch 3), and verify that the output remains off.
 4. Turn off the EF-1 run signal, and verify that the output remains off.
 5. Turn off the EF-2 run signal, and verify that the output turns on.
- K. Test the Glovebox dry air (EV-23) interlock.
 1. Ensure that both the fan run signals and the cold smoke, ZB fire, NDA fire, and glovebox low dp alarms are off.
 2. Verify that the EV-23 output (MICON 20 Point 19) is off.
 3. Turn on the EF-1 run signal (switch 1), and verify that the EV-23 output turns on.
 4. Turn on the EF-2 run signal (switch 3), and verify that the output remains on.
 5. Turn off the EF-1 run signal, and verify that the output remains on.
 6. Turn off the EF-2 run signal, and verify that the output turns off.
 7. Turn on both run signals, and verify that the output turns back on.
 8. Activate the cold smoke alarm by disconnecting its jumper (MICON 21 Point 2).
 9. Verify that the alarm sounds and the EV-23 output turns off.
 10. Reconnect the alarm jumper, and verify the alarm clears and the output turns back on.
 11. Repeat steps 8 to 10 using the ZB fire alarm (MICON 22 Point 2), NDA fire alarm (MICON 23 Point 3), and the Glovebox Dp alarm (MICON 21 Point 8).
 12. Turn off the fan run signals (test box switches 1 & 3).
- L. Turn off all test box switches, and disconnect all wires and jumpers from the test box and the MICON termination panels.

IV. Test SF-1 and SF-2 controls.

- A. Connect the test box to the fan run and ready signals. Remember to connect the black wire to the "I/O" terminal and the red wire to the "IN" terminal.

		<u>Test Box #</u>	<u>Terminal #</u>
SF-1	Run	1	MICON 18 #1
	Ready	2	MICON 18 #2
SF-2	Run	3	MICON 19 #1
	Ready	4	MICON 19 #2

- B. Connect the fan output to the flow switch input. This will simulate positive flow when the fan is on. Connect the output "I/O" terminal to the flow switch "COM" terminal and the "OUT" to the "+" terminal.

	<u>Output</u>	<u>Input</u>
<u>SF-1</u>	MICON 18 #3	MICON 21 #3
<u>SF-2</u>	MICON 19 #3	MICON 22 #3

- C. Clear the following alarms by connecting a jumper wire across their "+" and "COM" terminals.

<u>Alarm</u>	<u>Terminal #</u>
Cold Smoke	MICON 21 #2
ZB Fire	MICON 22 #2
NDA Fire	MICON 23 #3

D. Test SF-1 controls.

1. With the run and ready signals off (test box switches 1 & 2), verify that YI_SF_1 reads "PWR OFF".
2. Turn on the ready signal (test box switch 2), and verify that YI_SF_1 now reads "OFF" and EV-1 and EV-2 outputs are off (MICON 18 Points 20 & 21).
3. Turn on the run signal (switch 1), and verify that YI_SF_1 reads "ON" and EV-1 and EV-2 outputs are on.
4. Set HS_LL1 to "SF-2" to prevent an automatic switchover.
5. Set HS_SF_1 to "START", and verify that the output (MICON 18 Point 3) comes on.
6. Wait 15 seconds and verify that the failure alarm does not sound.
7. Test the failure alarm.
 - a. Turn off the run signal (test box switch 1), and verify that the failure alarm sounds.
 - b. Turn the run signal back on and verify that the failure alarm clears.
 - c. Turn off the ready signal (test box switch 2), and verify that the output (MICON 18 Point 3) turns off and the failure alarm sounds.
 - d. Turn the ready signal back on.
 - e. Set HS_SF_1 to "STOP", and verify that the failure alarm clears.

E. Test SF-1 Interlocks.

1. Set HS LL1 to "SF 1".
 2. Activate the exhaust Dp switch by placing a jumper across the "+" and "COM" terminals on MICON 22 Point 8.
 3. Verify that HS_SF_1 switches to "START".
 4. Remove the Dp jumper and verify that HS_SF_1 switches to "STOP".
 5. Replace the Dp jumper and verify that HS_SF_1 switches back to "START".
 6. Set HS MN_S to "E STOP", and verify that HS_SF_1 switches to "STOP".
 7. Set HS_SF_2 to "START".
 8. After 15 seconds, verify that the SF-2 failure alarms sounds and HS_SF_1 switches to "START".
 9. Set HS_SF_2 to "STOP".
 10. Disconnect the cold smoke jumper wire (MICON 21 Point 2), verify that the cold smoke alarm sounds and HS_SF_1 switches to "STOP".
 11. Try switching HS_SF_1 to "START", and verify that it will not switch from "STOP".
 12. Reconnect the cold smoke jumper, and verify that the alarm clears.
 13. Set HS_SF_1 to "START".
 14. Repeat steps 10 to 13 using the ZB and NDA fire alarms (MICON 22 Point 2 & MICON 23 Point 3).
- F. Set HS_SF_1 to off, and turn off the SF-1 run and ready signals (Test box switches 1 & 2).
- G. Test SF-2 controls.
1. With the run and ready signals off (test box switches 3 & 4), verify that YI_SF_2 reads "PWR OFF".
 2. Turn on the ready signal (test box switch 4), and verify that YI_SF_2 now reads "OFF" and EV-3 and EV-4 outputs are off (MICON 19 Points 20 & 21).
 3. Turn on the run signal (switch 3), and verify that YI_SF_2 reads "ON" and EV-3 and EV-4 outputs are on.
 4. Set HS_LL1 to "SF-1" to prevent an automatic switchover to SF-1.
 5. Set HS_SF_2 to "START", and verify that the output (MICON 19 Point 3) comes on.
 6. Wait 15 seconds and verify that the failure alarm does not sound.
 7. Test the failure alarm.
 - a. Turn off the run signal (test box switch 3), and verify that the failure alarm sounds.
 - b. Turn the run signal back on and verify that the failure alarm clears.
 - c. Turn off the ready signal (test box switch 4), and verify that the output (MICON 19 Point 3) turns off and the failure alarm sounds.
 - d. Turn the ready signal back on.

e. Set HS_SF_2 to "STOP", and verify that the failure alarm clears.

H. Test SF-2 Interlocks.

1. Set HS_LL1 to "SF_2".
2. Activate the exhaust Dp switch by placing a jumper across the "+" and "COM" terminals on MICON 22 Point 8.
3. Verify that HS_SF_2 switches to "START".
4. Remove the Dp jumper and verify that HS_SF_2 switches to "STOP".
5. Replace the Dp jumper and verify that HS_SF_2 switches back to "START".
6. Set HS_MN_S to "E STOP", and verify that HS_SF_2 switches to "STOP".
7. Set HS_SF_1 to "START".
8. After 15 seconds, verify that the SF-1 failure alarm sounds and HS_SF_2 switches to "START".
9. Set HS_SF_1 to "STOP".
10. Disconnect the cold smoke jumper wire (MICON 21 Point 2), verify that the cold smoke alarm sounds and HS_SF_2 switches to "STOP".
11. Try switching HS_SF_2 to "START" and verify that it will not switch from "STOP".
12. Reconnect the cold smoke jumper and verify that the alarm clears.
13. Set HS_SF_2 to "START".
14. Repeat steps 10 to 13 using the ZB and NDA fire alarms (MICON 22 Point 2 & MICON 23 Point 3).

I. Set HS_SF_2 to "STOP", and turn off the SF-2 run and ready signals (Test Box switches 3 & 4).

J. Test the rest room fan (EF-3) interlock.

1. Ensure that the fan run signals (test box switches 1 & 3) are off, and verify the EF-3 output is off (MICON 20 Point 2).
2. Turn on the SF-1 run signal (switch 1), and verify that the EF-3 output turns on.
3. Turn on the SF-2 run signal (switch 3), and verify that the output remains on.
4. Turn off the SF-1 run signal, and verify that the output remains on.
5. Turn off the SF-2 run signal, and verify that the output turns off.
6. Turn on the SF-1 run and ready signals (test box switches 1 & 2), and set HS_SF_1 to "START".
7. Verify that the EF-3 output is on.
8. After 15 seconds, activate the SF-1 failure alarm by turning off the ready signal (test box switch 2).
9. Verify that the EF-3 output is off.
10. Set HS_SF_1 to "STOP" and turn off the SF-1 run and ready signals.
11. Turn on the SF-2 run and ready signals (test box switches 3 & 4), and set HS_SF_2 to "START".
12. Verify that the EF-3 output is on.

13. After 15 seconds, activate the SF-2 failure alarm by turning off the ready signal (test box switch 4).

14. Verify that the EF-3 output is off.

15. Set HS SF 2 to "STOP" and turn off the SF-2 run and ready signals.

K. Test the air conditioner (COND-1) interlock.

1. Ensure that both the fan run signals and the cold smoke alarm are off.

2. Verify that the COND-1 output (MICON 20 Point 1) is off.

3. Turn on the SF-1 run signal (switch 1), and verify that the COND-1 output turns on.

4. Turn on the SF-2 run signal (switch 3), and verify that the output remains on.

5. Turn off the SF-1 run signal, and verify that the output remains on.

6. Turn off the SF-2 run signal, and verify that the output turns off.

7. Turn on both run signals, and verify that the output turns back on.

8. Activate the cold smoke alarm by disconnecting its jumper (MICON 21 Point 2).

9. Verify that the alarm sounds and the COND-1 output turns off.

10. Reconnect the alarm jumper, and verify the alarm clears and the output turns back on.

11. Turn off the fan run signals (test box switches 1 & 3).

L. Turn off all test box switches, and disconnect all wires and jumpers from the test box and the MICON termination panels.

V. Test RF-1 and RF-2 controls.

A. Connect the test box to the fan run and ready signals. Remember to connect the black wire to the "I/O" terminal and the red wire to the "IN" terminal.

		<u>Test Box #</u>	<u>Terminal #</u>
RF-1	Run	1	MICON 18 #7
	Ready	2	MICON 18 #8
RF-2	Run	3	MICON 19 #7
	Ready	4	MICON 19 #8

B. Connect the fan output to the flow switch input. This will simulate positive flow when the fan is on. Connect the output "I/O" terminal to the flow switch "COM" terminal and the "OUT" to the "+" terminal.

	<u>Output</u>	<u>Input</u>
<u>RF-1</u>	MICON 18 #9	MICON 21 #5
<u>RF-2</u>	MICON 19 #9	MICON 22 #5

- C. Clear the following alarms by connecting a jumper wire across their "+" and "COM" terminals.

<u>Alarm</u>	<u>Terminal #</u>
Cold Smoke	MICON 21 #2
ZB Fire	MICON 22 #2
NDA Fire	MICON 23 #3

D. Test RF-1 controls.

1. With the run and ready signals off (test box switches 1 & 2), verify that YI_RF_1 reads "PWR OFF".
2. Turn on the ready signal (test box switch 2), and verify that YI_RF_1 now reads "OFF" and EV-15 and EV-16 outputs are off (MICON 18 Points 24 & 25).
3. Turn on the run signal (switch 1), and verify that YI_RF_1 reads "ON" and EV-15 and EV-16 outputs are on.
4. Set HS_LL_4 to "RF-2" to prevent an automatic switchover.
5. Set HS_RF_1 to "START", and verify the output (MICON 18 Point 9) comes on.
6. Wait 15 seconds and verify that the failure alarm does not sound.
7. Test the failure alarm.
 - a. Turn off the run signal (test box switch 1), and verify that the failure alarm sounds.
 - b. Turn the run signal back on and verify that the failure alarm clears.
 - c. Turn off the ready signal (test box switch 2), and verify that the output (MICON 18 Point 9) turns off and the failure alarm sounds.
 - d. Turn the ready signal back on.
 - e. Set HS_RF_1 to "STOP", and verify that the failure alarm clears.

E. Test RF-1 Interlocks.

1. Set HS_LL_4 to "RF 1".
2. Set HS_NDA to "START".
3. Verify that HS_RF_1 switches to "START".
4. Set HS_NDA_S to "E STOP", and verify that HS_RF_1 switches to "STOP".
5. Set HS_RF_2 to "START".
6. After 15 seconds, verify that the RF-2 failure alarms sounds and HS_RF_1 switches to "START".
7. Set HS_RF_2 to "STOP".
8. Disconnect the cold smoke jumper wire (MICON 21 Point 2), verify that the cold smoke alarm sounds and HS_RF_1 switches to "STOP".
9. Try switching HS_RF_1 to "START", and verify that it will not switch from "STOP".
10. Reconnect the cold smoke jumper, and verify that the alarm clears.
11. Set HS_RF_1 to "START".
12. Repeat steps 8 to 11 using the ZB and NDA fire alarms (MICON 22 Point 2 & MICON 23 Point 3).

- F. Set HS RF 1 to off, and turn off the RF-1 run and ready signals (Test box switches 1 & 2).
- G. Test RF-2 controls.
1. With the run and ready signals off (test box switches 3 & 4), verify that YI RF 2 reads "PWR OFF".
 2. Turn on the ready signal (test box switch 4), and verify that YI RF 2 now reads "OFF" and EV-17 and EV-18 outputs are off (MICON 19 Points 24 & 25).
 3. Turn on the run signal (switch 3), and verify that YI RF 2 reads "ON" and EV-17 and EV-18 outputs are on.
 4. Set HS LL 4 to "RF-1" to prevent an automatic switchover.
 5. Set HS RF 2 to "START", and verify the output (MICON 19 Point 9) comes on.
 6. Wait 15 seconds and verify that the failure alarm does not sound.
 7. Test the failure alarm.
 - a. Turn off the run signal (test box switch 3), and verify that the failure alarm sounds.
 - b. Turn the run signal back on and verify that the failure alarm clears.
 - c. Turn off the ready signal (test box switch 4), and verify that the output (MICON 19 Point 9) turns off and the failure alarm sounds.
 - d. Turn the ready signal back on.
 - e. Set HS RF 2 to "STOP", and verify that the failure alarm clears.
- H. Test RF-2 Interlocks.
1. Set HS LL 4 to "RF 2".
 2. Set HS NDA to "START".
 3. Verify that HS RF 2 switches to "START".
 4. Set HS NDA S to "E STOP", and verify that HS RF 2 switches to "STOP".
 5. Set HS RF 1 to "START".
 6. After 15 seconds, verify that the RF-1 failure alarms sounds and HS RF 1 switches to "START".
 7. Set HS RF 1 to "STOP".
 8. Disconnect the cold smoke jumper wire (MICON 21 Point 2), verify that the cold smoke alarm sounds and HS RF 2 switches to "STOP".
 9. Try switching HS RF 2 to "START", and verify that it will not switch from "STOP".
 10. Reconnect the cold smoke jumper, and verify that the alarm clears.
 11. Set HS RF 2 to "START".
 12. Repeat steps 8 to 11 using the ZB and NDA fire alarms (MICON 22 Point 2 & MICON 23 Point 3).
- I. Set HS RF 2 to off, and turn off the RF-2 run and ready signals (Test box switches 3 & 4).
- J. Test the M-2 air (EV-20) interlock.
1. Verify that both the fan run signals (test box switches 1 & 3) are off, and the output to EV-20 is on (MICON 20 Point 23).
NOTE: This is a fail open valve.

2. Turn on the RF-1 run signal (switch 1), and verify that the EV-20 output turns off.
 3. Turn on the RF-2 run signal (switch 3), and verify that the output remains off.
 4. Turn off the RF-1 run signal, and verify that the output remains off.
 5. Turn off the RF-2 run signal, and verify that the output turns on.
- K. Turn off all test box switches, and disconnect all wires and jumpers from the test box and the MICON termination panels.

VI. Test SF-3 and SF-4 controls.

- A. Connect the test box to the fan run and ready signals. Remember to connect the black wire to the "I/O" terminal and the red wire to the "IN" terminal.

		<u>Test Box #</u>	<u>Terminal #</u>
SF-3	Run	1	MICON 18 #15
	Ready	2	MICON 18 #16
SF-4	Run	3	MICON 19 #15
	Ready	4	MICON 19 #16

- B. Connect the fan output to the flow switch input. This will simulate positive flow when the fan is on. Connect the output "I/O" terminal to the flow switch "COM" terminal and the "OUT" to the "+" terminal.

	<u>Output</u>	<u>Input</u>
<u>SF-3</u>	MICON 18 #17	MICON 21 #7
<u>SF-4</u>	MICON 19 #17	MICON 22 #7

- C. Connect a plug to the RF-1 and 2 run signals these will be to test the SF-3 and 4 interlocks. Connect the hot lead to the "IN" terminal and the neutral lead to the "I/O" terminal.

<u>RF-1</u>	MICON 18 #7
<u>RF-2</u>	MICON 19 #7

- D. Clear the following alarms by connecting a jumper wire across their "+" and "COM" terminals.

<u>Alarm</u>	<u>Terminal #</u>
Cold Smoke	MICON 21 #2
ZB Fire	MICON 22 #2
NDA Fire	MICON 23 #3

E. Test SF-3 controls.

1. With the run and ready signals off (test box switches 1 & 2), verify that YI_SF_3 reads "PWR OFF".
2. Turn on the ready signal (test box switch 2), and verify that YI_SF_3 now reads "OFF" and EV-5 and EV-6 outputs are off (MICON 18 Points 29 & 30).

3. Turn on the run signal (switch 1), and verify that YI_SF_3 reads "ON" and EV-5 and EV-6 outputs are on.
4. Set HS_LL2 to "SF-4" to prevent an automatic switchover.
5. Set HS_SF 3 to "START", and verify that the output (MICON 18 Point 17) comes on.
6. Wait 15 seconds and verify that the failure alarm does not sound.
7. Test the failure alarm.
 - a. Turn off the run signal (test box switch 1), and verify that the failure alarm sounds.
 - b. Turn the run signal back on and verify that the failure alarm clears.
 - c. Turn off the ready signal (test box switch 2), and verify that the output (MICON 18 Point 17) turns off and the failure alarm sounds.
 - d. Turn the ready signal back on.
 - e. Set HS_SF 3 to "STOP", and verify that the failure alarm clears.
- F. Test SF-3 Interlocks.
 1. Set HS_LL2 to "SF 3".
 2. Activate the RF-1 run signal (MICON 18 Point 7) by plugging it in.
 3. Verify that HS_SF_3 switches to "START".
 4. Switch HS_RF_1 to "START", and verify that HS_SF_3 switches to "STOP" when the RF-1 failure alarm sounds.
 5. Unplug the RF-1 run signal, and switch HS_RF_1 to "STOP".
 6. Repeat steps 2 to 5 using the RF-2 run signal (MICON 19 Point 7) and HS_RF_2.
 7. Set HS_SF_3 to "START".
 8. Set HS_NDA_S to "E STOP", and verify that HS_SF_3 switches to "STOP".
 9. Set HS_SF_4 to "START".
 10. After 15 seconds, verify that the SF-4 failure alarms sounds and HS_SF_3 switches to "START".
 11. Set HS_SF_4 to "STOP".
 12. Disconnect the cold smoke jumper wire (MICON 21 Point 2), verify that the cold smoke alarm sounds and HS_SF_3 switches to "STOP".
 13. Try switching HS_SF_3 to "START", and verify that it will not switch from "STOP".
 14. Reconnect the cold smoke jumper, and verify that the alarm clears.
 15. Set HS_SF_3 to "START".
 16. Repeat steps 12 to 15 using the ZB and NDA fire alarms (MICON 22 Point 2 & MICON 23 Point 3).
- G. Set HS_SF_3 to "STOP", and turn off the SF-3 run and ready signals (Test Box switches 1 & 2).
- H. Test SF-4 controls.
 1. With the run and ready signals off (test box switches 3 & 4), verify that YI_SF_4 reads "PWR OFF".

2. Turn on the ready signal (test box switch 4), and verify that YI_SF 4 now reads "OFF" and EV-7 and EV-8 outputs are off (MICON 19 Points 29 & 30).
3. Turn on the run signal (switch 3), and verify that YI_SF_4 reads "ON" and EV-7 and EV-8 outputs are on.
4. Set HS_LL2 to "SF-3" to prevent an automatic switchover.
5. Set HS_SF 4 to "START", and verify that the output (MICON 19 Point 17) comes on.
6. Wait 15 seconds and verify that the failure alarm does not sound.
7. Test the failure alarm.
 - a. Turn off the run signal (test box switch 3), and verify that the failure alarm sounds.
 - b. Turn the run signal back on and verify that the failure alarm clears.
 - c. Turn off the ready signal (test box switch 4), and verify that the output (MICON 19 Point 17) turns off and the failure alarm sounds.
 - d. Turn the ready signal back on.
 - e. Set HS_SF 4 to "STOP", and verify that the failure alarm clears.
- I. Test SF-4 Interlocks.
 1. Set HS_LL2 to "SF 4".
 2. Activate the RF-1 run signal (MICON 18 Point 7) by plugging it in.
 3. Verify that HS_SF_4 switches to "START".
 4. Switch HS_RF_1 to "START", and verify that HS_SF_4 switches to "STOP" when the RF-1 failure alarm sounds.
 5. Unplug the RF-1 run signal, and switch HS_RF_1 to "STOP".
 6. Repeat steps 2 to 5 using the RF-2 run signal (MICON 19 Point 7) and HS_RF_2.
 7. Set HS_SF_4 to "START".
 8. Set HS_NDA_S to "E STOP", and verify that HS_SF_4 switches to "STOP".
 9. Set HS_SF_3 to "START".
 10. After 15 seconds, verify that the SF-3 failure alarm sounds and HS_SF_4 switches to "START".
 11. Set HS_SF_3 to "STOP".
 12. Disconnect the cold smoke jumper wire (MICON 21 Point 2), verify that the cold smoke alarm sounds and HS_SF_4 switches to "STOP".
 13. Try switching HS_SF_4 to "START", and verify that it will not switch from "STOP".
 14. Reconnect the cold smoke jumper, and verify that the alarm clears.
 15. Set HS_SF_4 to "START".
 16. Repeat steps 12 to 15 using the ZB and NDA fire alarms (MICON 22 Point 2 & MICON 23 Point 3).
- J. Set HS_SF_4 to off, and turn off the SF-4 run and ready signals (Test box switches 3 & 4).

K. Test the air conditioner (COND-2) interlock.

1. Verify that both the fan run signals and the cold smoke alarm are off.
 2. Verify that the COND-2 output (MICON 20 Point 5) is off.
 3. Turn on the SF-3 run signal (switch 1), and verify that the COND-2 output turns on.
 4. Turn on the SF-4 run signal (switch 3), and verify that the output remains on.
 5. Turn off the SF-3 run signal, and verify that the output remains on.
 6. Turn off the SF-4 run signal, and verify that the output turns off.
 7. Turn on both run signals, and verify that the output turns back on.
 8. Activate the cold smoke alarm by disconnecting its jumper (MICON 21 Point 2).
 9. Verify that the alarm sounds and the COND-2 output turns off.
 10. Reconnect the alarm jumper, and verify the alarm clears and the output turns back on.
 11. Turn off the fan run signals (test box switches 1 & 3).
- L. Turn off all test box switches, and disconnect all wires and jumpers from the test box and the MICON termination panels.

VII. Test EF-1-1 and EF-1-2 controls.

- A. Connect the test box to the fan flow switch and ready signals.
Remember to connect the black wire to the "I/O" terminal and the red wire to the "IN" terminal.

		<u>Test Box #</u>	<u>Terminal #</u>
EF-1-1	FS	1	MICON 46 #1
	Ready	2	MICON 18 #10
EF-1-2	FS	3	MICON 45 #1
	Ready	4	MICON 19 #10

- B. Connect the fan output to the run timer input. This will simulate run condition when the fan is on. Connect the output "I/O" terminal to the flow switch "COM" terminal and the "OUT" to the "+" terminal.

	<u>Output</u>	<u>Input</u>
<u>EF-1-1</u>	MICON 18 #11	MICON 21 #1
<u>EF-1-2</u>	MICON 19 #11	MICON 22 #1

- C. Clear the following alarm by connecting a jumper wire across its "+" and "COM" terminals.

<u>Alarm</u>	<u>Terminal #</u>
Cold Smoke	MICON 21 #2

NOTE: This test may cause failure alarms for fans not being tested. These are to be expected and should be ignored.

D. Test EF-1-1 controls.

1. With the flow switch and ready signals off (test box switches 1 & 2), verify that YI 1 1 reads "PWR OFF".
2. Turn on the flow switch & ready signals (test box switches 1 & 2), and verify that YI 1 1 now reads "OFF" and the EV-33 output is off (MICON 18 Point 28).
3. Set HS 1 1 to "START", and verify the output (MICON 18 Point 11) comes on and YI 1 1 now reads "ON".
4. Verify that the EV-33 output is now on (MICON 18 Point 28).
5. Wait 30 seconds and verify that the failure alarm does not sound.
6. Test the failure alarm.
 - a. Turn off the flow switch signal (test box switch 1), and verify that the failure alarm sounds.
 - b. Turn the flow switch signal back on and verify that the failure alarm clears.
 - c. Turn off the ready signal (test box switch 2), and verify that the output (MICON 18 Point 11) turns off and the failure alarm sounds.
 - d. Turn the ready signal back on.
 - e. Set HS 1 1 to "STOP", and verify that the failure alarm clears.

E. Test EF-1-1 Interlocks.

1. Set HS 1 1 to "START".
2. Disconnect the cold smoke jumper wire (MICON 21 Point 2), verify that the cold smoke alarm sounds and HS 1 1 switches to "STOP".
3. Try switching HS 1 1 to "START" and verify that it will not switch from "STOP".
4. Reconnect the cold smoke jumper and verify that the alarm clears.

F. Turn off the EF-1-1 flow switch and ready signals (test box switches 1 & 2).

G. Test EF-1-2 controls.

1. With the flow switch and ready signals off (test box switches 3 & 4), verify that YI 1 2 reads "PWR OFF".
2. Turn on the flow switch and ready signals (test box switches 3 & 4), and verify that YI 1 2 now reads "OFF" and the EV-34 output is off (MICON 19 Point 28).
3. Set HS 1 2 to "START", and verify the output (MICON 19 Point 11) comes on and YI 1 2 now reads "ON".
4. Verify that the EV-34 output is now on (MICON 19 Point 28).
5. Wait 30 seconds and verify that the failure alarm does not sound.
6. Test the failure alarm.
 - a. Turn off the flow switch signal (test box switch 3), and verify that the failure alarm sounds.
 - b. Turn the flow switch signal back on and verify that the failure alarm clears.

- c. Turn off the ready signal (test box switch 4), and verify that the output (MICON 19 Point 11) turns off and the failure alarm sounds.
 - d. Turn the ready signal back on.
 - e. Set HS 1 2 to "STOP", and verify that the failure alarm clears.
- H. Test EF-1-2 Interlocks.
- 1. Set HS 1 2 to "START".
 - 2. Disconnect the cold smoke jumper wire (MICON 21 Point 2), verify that the cold smoke alarm sounds and HS 1 2 switches to "STOP".
 - 3. Try switching HS 1 2 to "START" and verify that it will not switch from "STOP".
 - 4. Reconnect the cold smoke jumper and verify that the alarm clears.
- I. Turn off the EF-1-2 flow switch and ready signals (test box switches 3 & 4).
- J. Test the M-3 air (EV-22) interlock.
- 1. Turn on the fan flow switch and ready signals (test box switches 1, 2, 3 & 4).
 - 2. Verify that the output to EV-22 is on (MICON 20 Point 25).
NOTE: This is a fail open valve.
 - 3. Set HS 1 1 to "START", and verify that the EV-22 output turns off.
 - 4. Set HS 1 2 to "START", and verify that the output remains off.
 - 5. Set HS 1 2 to "STOP".
 - 6. After 30 seconds, turn off the EF-1-1 ready signal, and verify that the failure alarm sounds and the EV-22 output turns on.
 - 7. Set HS 1 1 to "STOP" and HS 1 2 to "START". Verify that the EV-22 output has turned off.
 - 8. After 30 seconds, turn off the EF-1-2 ready signal, and verify that the failure alarm sounds and the EV-22 output turns on.
- K. Turn off all test box switches, and disconnect all wires and jumpers from the test box and the MICON termination panels.
- VIII. Test SF-5 and SF-6 controls.
- A. Connect the test box to the fan run and ready signals. Remember to connect the black wire to the "I/O" terminal and the red wire to the "IN" terminal.

		<u>Test Box #</u>	<u>Terminal #</u>
SF-5	Run	1	MICON 18 #12
	Ready	2	MICON 18 #13
SF-5	Run	3	MICON 19 #12
	Ready	4	MICON 19 #13

- B. Connect the fan output to the flow switch input. This will simulate positive flow when the fan is on. Connect the output "I/O" terminal to the flow switch "COM" terminal and the "OUT" to the "+" terminal.

	<u>Output</u>	<u>Input</u>
<u>SF-5</u>	MICON 18 #14	MICON 21 #6
<u>SF-6</u>	MICON 19 #14	MICON 22 #6

- C. Clear the following alarm by connecting a jumper wire across its "+" and "COM" terminals.

<u>Alarm</u>	<u>Terminal #</u>
Cold Smoke	MICON 21 #2

NOTE: This test may cause failure alarms for fans not being tested. These are to be expected and should be ignored.

- D. Test SF-5 controls.

1. With the run and ready signals off (test box switches 1 & 2), verify that YI_SF_5 reads "PWR OFF".
2. Turn on the ready signal (test box switch 2), and verify that YI_SF_5 now reads "OFF" and EV-9 and EV-31 outputs are off (MICON 18 Points 26 & 27).
3. Turn on the run signal (switch 1), and verify that YI_SF_5 reads "ON" and EV-9 and EV-31 outputs are on.
4. Set HS_SF_5 to "START", and verify that the output (MICON 18 Point 14) comes on.
5. Wait 4 seconds and verify that the failure alarm does not sound.
6. Test the failure alarm.
 - a. Turn off the run signal (test box switch 1), and verify that the failure alarm sounds.
 - b. Turn the run signal back on and verify that the failure alarm clears.
 - c. Turn off the ready signal (test box switch 2), and verify that the output (MICON 18 Point 14) turns off and the failure alarm sounds.
 - d. Turn the ready signal back on.
 - e. Set HS_SF_5 to "STOP", and verify that the failure alarm clears.

- E. Test SF-5 Interlocks.

1. Set HS_SF_5 to "START".
2. Set HS_1_I to "START".
3. After 30 seconds, verify that the EF-1-1 failure alarms sounds and HS_SF_5 switches to "STOP".
4. Set HS_1_I to "STOP" and HS_SF_5 to "START".
5. Disconnect the cold smoke jumper wire (MICON 21 Point 2), verify that the cold smoke alarm sounds and HS_SF_5 switches to "STOP".
6. Try switching HS_SF_5 to "START", and verify that it will not switch from "STOP".

7. Reconnect the cold smoke jumper, and verify that the alarm clears.

F. Test SF-6 controls.

1. With the run and ready signals off (test box switches 3 & 4), verify that YI_SF_6 reads "PWR OFF".
2. Turn on the ready signal (test box switch 4), and verify that YI_SF_6 now reads "OFF" and EV-10 and EV-32 outputs are off (MICON 19 Points 26 & 27).
3. Turn on the run signal (switch 3), and verify that YI_SF_6 reads "ON" and EV-10 and EV-32 outputs are on.
4. Set HS_SF_6 to "START", and verify that the output (MICON 19 Point 14) comes on.
5. Wait 4 seconds and verify that the failure alarm does not sound.
6. Test the failure alarm.
 - a. Turn off the run signal (test box switch 3), and verify that the failure alarm sounds.
 - b. Turn the run signal back on and verify that the failure alarm clears.
 - c. Turn off the ready signal (test box switch 4), and verify that the output (MICON 19 Point 14) turns off and the failure alarm sounds.
 - d. Turn the ready signal back on.
 - e. Set HS_SF_6 to "STOP", and verify that the failure alarm clears.

G. Test SF-6 Interlocks.

1. Set HS_SF_6 to "START".
2. Set HS_1_2 to "START".
3. After 30 seconds, verify that the EF-1-2 failure alarms sounds and HS_SF_6 switches to "STOP".
4. Set HS_1_2 to "STOP" and HS_SF_6 to "START".
5. Disconnect the cold smoke jumper wire (MICON 21 Point 2), verify that the cold smoke alarm sounds and HS_SF_6 switches to "STOP".
6. Try switching HS_SF_6 to "START", and verify that it will not switch from "STOP".
7. Reconnect the cold smoke jumper, and verify that the alarm clears.

H. Test the 2736-Z damper (EV-29) interlock.

1. Ensure that both the fan run signals are off.
2. Verify that the EV-29 output (MICON 20 Point 27) is off.
3. Turn on the SF-5 run signal (switch 1), and verify that the EV-29 output turns on.
4. Turn on the SF-6 run signal (switch 3), and verify that the output remains on.
5. Turn off the SF-5 run signal, and verify that the output remains on.
6. Turn off the SF-6 run signal, and verify that the output turns off.

I. Turn off all test box switches, and disconnect all wires and jumpers from the test box and the MICON termination panels.

IX. Test the 2736-Z auto-start interlock.

- A. Connect the test box to the exhaust fan flow switch signals and the supply fan run signals.

	<u>Test Box #</u>	<u>Terminal #</u>
<u>EF-1-1 FS</u>	1	MICON 46 #1
<u>SF-5 Run</u>	2	MICON 18 #15
<u>EF-1-2 FS</u>	3	MICON 45 #1
<u>SF-6 Run</u>	4	MICON 19 #15

- B. Connect a jumper across the "+" and "COM" terminals of the supply fan flow switch signals.

	<u>Terminal #</u>
<u>SF-5</u>	MICON 21 #6
<u>SF-6</u>	MICON 22 #6

- C. Attach jumpers to the "COM" terminal of the exhaust fan run signals. Don't connect it to the "+" terminal at this time. This will be done later in the test.

	<u>Terminal #</u>
<u>EF-1-1</u>	MICON 21 #1
<u>EF-1-2</u>	MICON 22 #1

- D. Turn on the exhaust fan flow switch signals (test box switch 1 & 3).
 E. Set HS 1 1 to "START".
 F. After 10 seconds, connect the EF-1-1 run signal jumper (MICON 21 Point 1), and immediately turn on the SF-5 run signal (test box switch 2).
 G. Verify that HS SF 5 has switched to "START".
 H. After 10 seconds, verify that HS 1 2 has switched to "START".
 I. Wait another 10 seconds, and connect the EF-1-2 run signal jumper (MICON 22 Point 1), and immediately turn on the SF-6 run signal (test box switch 4).
 J. Verify that HS SF 6 has switched to "START".
 K. Set HS 1 1, HS SF 5, HS 1 2, and HS SF 6 to "STOP".
 L. Turn off the SF-5 and SF-6 run signals (test box switches 2 & 4).
 M. Disconnect the EF-1-2 run jumper (MICON 22 Point 1), and remove the EF-1-1 run jumper (MICON 21 Point 1).
 N. Turn on the SF-5 run signal (test box switch 2), and verify that HS 1 2 stays in "STOP".
 O. Turn off the SF-5 run signal.
 P. Set HS 1 1 to "START".
 Q. After 30 seconds, verify that the EF-1-1 failure alarm sounds and HS 1 2 switches to "START".
 R. Wait another 10 seconds, and connect the EF-1-2 run signal jumper (MICON 22 Point 1), and immediately turn on the SF-6 run signal (test box switch 4).
 S. Verify that HS SF 6 has switched to "START".
 T. Set HS 1 1, HS 1 2, and HS SF 6 to "STOP".

U. Turn off all test box switches, and disconnect all wires and jumpers from the test box and the MICON termination panels.

X. Test miscellaneous interlocks.

A. Test the recirculation flow interlock (EV-19).

1. Connect a jumper across the "+" and "COM" terminals of the cold smoke alarm and the NDA CAM alarm signal inputs.

<u>Cold Smoke</u>	<u>Terminal #</u>
<u>NDA CAM</u>	MICON 21 #2
	MICON 21 #10

2. Verify that the EV-19 output is on (MICON 20 Point 22).
3. Disconnect the cold smoke alarm jumper.
4. Verify that the cold smoke alarm sounds and the EV-19 output turns off.
5. Reconnect the cold smoke jumper, and remove the NDA CAM alarm jumper.
6. Verify that the NDA CAM alarm sounds and the output is off.
7. Remove the cold smoke alarm jumper, and verify that the output remains off.

B. Test the NDA low Dp interlock (EV-24A).

1. Verify that the EV-24A output (MICON 20 Point 30) is off.
2. Connect a jumper across the "+" and "COM" terminals of the PS-8 input (MICON 22 Point 10).
3. Verify that the EV-24A output turns on.
4. Remove the PS-8 jumper, and verify that the output turns off.

XI. Test miscellaneous outputs.

A. Test Auto/Manual switches. Perform the following steps for each output.

<u>Switch</u>	<u>Output</u>
HS_1	MICON 20 #18
HS_2	MICON 20 #21
HS_3	MICON 20 #29
HS_4	MICON 20 #20
HS_5	MICON 20 #26
HS_6	MICON 20 #28

1. Set the switch to "MANUAL", and verify that the output turns on.
 2. Set the switch to "AUTO", and verify that the output turns off.
- B. Test the instrument air compressor output.
1. Set HS_ZA_AC to "START", and verify that the compressor output (MICON 20 Point 3) turns on.
 2. Set HS_ZA_AC to "STOP", and verify that the output turns off.

XII. Test miscellaneous alarms.

A. Test the alarms that activate on contact open. Perform the following steps for each alarm

<u>Alarm</u>	<u>Termination #</u>
PA ZA AC	MICON 20 #4
LAL VP 1	MICON 21 #9
XA EGF	MICON 21 #15
XA PLC 1	MICON 21 #16
LAL CFT	MICON 21 #17
LAL CFT	MICON 21 #18
XA EGS 1	MICON 21 #20
XA EGS 2	MICON 21 #21
YA G1 1	MICON 21 #26
LAL VP 2	MICON 22 #9
YA G1 2	MICON 22 #15
XA G1 2	MICON 22 #16
YA G2 1	MICON 22 #21
YA G2 2	MICON 22 #23
XA G2 2	MICON 22 #24
XA FAZN2	MICON 23 #2
XA FZB B	MICON 23 #4
XA ZN8B	MICON 23 #5
XA ZN2B	MICON 23 #6
PA PCR	MICON 23 #9
XA 232Z	MICON 23 #10
YA G3 1	MICON 23 #17
YA G3 2	MICON 23 #19
XA G3 2	MICON 23 #20
XA NDA P	MICON 23 #21
XA UPS1	MICON 23 #22
XA UPS2	MICON 23 #23
XA UPS3	MICON 23 #24
XA XFR1	MICON 23 #25
XA XFR2	MICON 23 #26

1. Connect a jumper across the "+" and "COM" terminals of the alarm input.
2. Verify that the alarm clears.
3. Remove the jumper, and verify that the alarm sounds.

B. Test the alarms that activate on contact closed. Perform the following steps for each alarm.

<u>Alarm</u>	<u>Termination #</u>
XA SWB 1	MICON 21 #19
TAH_GEN1	MICON 21 #22
PAL_GEN1	MICON 21 #23
XA G1 1	MICON 21 #24
SAH_GEN1	MICON 21 #25
EAL_GEN1	MICON 21 #27
TAH_GEN2	MICON 22 #17
PAL_GEN2	MICON 22 #18
XA G2 1	MICON 22 #19
SAH_GEN2	MICON 22 #20
EAL_GEN2	MICON 22 #22
TAH_GEN3	MICON 22 #25
PAL_GEN3	MICON 22 #26
XA G3 1	MICON 23 #15
SAH_GEN3	MICON 23 #16
EAL_GEN3	MICON 23 #18

1. Connect a jumper across the "+" and "COM" terminals of the alarm input.
2. Verify that the alarm sounds.
3. Remove the jumper, and verify that the alarm clears.

XIII. Test miscellaneous inputs.

A. Test the vacuum pump status indicators. Perform the following steps for each indicator.

<u>Indicator</u>	<u>Termination #</u>
YI VP 1	MICON 23 #7
YI_VP_2	MICON 23 #8

1. Connect a jumper across the input's "+" and "COM" terminals.
2. Verify that the indicator is "OFF".
3. Remove the jumper, and verify that the indicator is "ON".

234-5Z HVAC

- I. Test zone pressure controllers. Perform the following steps for each controller. NOTE: All controller termination are on MICON number 32.

<u>Controller</u>	<u>Output</u>	<u>Input</u>	<u>Range</u>	<u>Alarm</u>	<u>Action</u>	<u>Data Sheet</u>
						<u>Page</u>
PIC 1	20	2	0-0.2	-----	Direct	97
PIC2	21	3	0-0.2	-----	Reverse	97
PIC 4	22	4	0-0.2	-----	Reverse	97
PIC 5	23	5	0-0.2	-----	Reverse	98
PIC 6	24	6	0-0.2	-----	Reverse	98
PIC_1_S	19	1	-1 to 4	Lo 0.5 Hi 2.4	Direct	99
PDIC_1F	25	7	0-5.0	-----	Reverse	99

- A. Connect each controller output to its input. Remember to connect "-" to "-" and "+" to "+".
- B. Verify the controller range.
 1. Ensure the controller is in manual.
 2. Set the controller output to 50%, and verify that the process value is about half the range.
 3. Set the controller output to 100%, and verify that the process value is about the range minimum value (except PDIC_1F which will be the maximum value).
 4. Set the controller output to 0%, and verify that the process value is about the range maximum value (except PDIC_1F which will be the minimum value).
- C. Verify the controller low alarm (PIC_1 S only).
 1. Adjust the controller output until the process value is just above the low alarm, and verify that the alarm is off.
 2. Slowly lower the process value (using the controller output) until the alarm sounds, and verify that the alarm value is correct.
- D. Verify the controller high alarm (PIC_1 S only).
 1. Adjust the controller output until the process value is just below the high alarm, and verify that the alarm is off.
 2. Slowly raise the process value (using the controller output) until the alarm sounds, and verify that the alarm value is correct.
- E. Verify the controller action.
 1. Set the controller output to 50%.
 2. Set the controller setpoint to 25% of scale.
 3. Put the controller in automatic, and record the direction the output moves. For direct acting controllers, the output should decrease to 0%. Reverse acting controllers should increase the output until the process value is equal to the setpoint (except PDIC_1F which will decrease).

II. Test Analog indicators.

A. Test indicators using PIC 1 S auxiliary output. Perform the following steps for each indicator. NOTE: All indicator terminations are on MICON 33.

<u>Indicator</u>	<u>Input</u>	<u>Range</u>	Data Sheet
			<u>Page</u>
AI_FAN	1	0-150	100
PI_3	2	0-0.2	100
TI_10	3	0-100	100
PI_5	4	0-0.2	100
PDI_228A	5	0-1.0	101
PDI_230A	6	0-1.0	101

1. Connect the PIC 1 S auxiliary output (MICON 33 Point 19) to the indicator input. Remember to connect "-" to "-" and "+" to "+".
 2. Verify the indicator range.
 - a. Ensure the PIC 1 S is in manual.
 - b. Set PIC 1 S output to 50%, and verify that the indicator value is about half the range.
 - c. Set the PIC 1 S output to 100%, and verify that the indicator value is about the range minimum value.
 - d. Set the PIC 1 S output to 0%, and verify that the indicator value is about the range maximum value.
- B. Test indicators using PIC 5 auxiliary output. Perform the following steps for each indicator. NOTE: All indicator terminations are on MICON 33.

<u>Indicator</u>	<u>Input</u>	<u>Range</u>	<u>Alarm</u>	Data Sheet
				<u>Page</u>
PDI_232A	7	0-1.0	-----	101
PDI_308	8	-0.5 to 0.5	-----	101
AI_TST	9	0-14	lo 4.0 hi 10.0	102
AI_DA1E	10	0-100	-----	102
AI_TC1E	11	0-150	-----	102

1. Connect the PIC 5 auxiliary output (MICON 33 Point 20) to the indicator input. Remember to connect "-" to "-" and "+" to "+".
2. Verify the indicator range.
 - a. Ensure the PIC 5 is in manual.
 - b. Set PIC 5 output to 50%, and verify that the indicator value is about half the range.
 - c. Set the PIC 5 output to 100%, and verify that the indicator value is about the range minimum value.
 - d. Set the PIC 5 output to 0%, and verify that the indicator value is about the range maximum value.

3. Verify the indicator low alarm (AI TST only).
 - a. Adjust the PIC 5 output until the indicator value is just above the low alarm, and verify that the alarm is off.
 - b. Slowly lower the indicator value (using PIC 5 output) until the alarm sounds, and verify that alarm is correct.
 4. Verify the indicator high alarm (AI TST only).
 - a. Adjust the PIC 5 output until the indicator value is just below the high alarm, and verify that the alarm is off.
 - b. Slowly raise the indicator value (using PIC 5 output) until the alarm sounds, and verify the alarm is correct.
- C. Test indicators using PIC2 auxiliary output. Perform the following steps for each indicator. NOTE: All indicator terminations are on MICON 33.

<u>Indicator</u>	<u>Input</u>	<u>Range</u>	<u>Data Sheet</u>	
			<u>Page</u>	
TI_TC2E	12	0-150	103	
TI_TPI1E	13	0-150	103	
TI_TPI2E	14	0-150	103	
TI_TPO1E	15	0-150	103	
TI_TPO2E	16	0-150	104	
PDI_COR4	17	0-1.0	104	
PDI_262	18	0-1.0	104	

1. Connect the PIC2 auxiliary output (MICON 33 Point 21) to the indicator input. Remember to connect "-" to "-" and "+" to "+".
 2. Verify the indicator range.
 - a. Ensure the PIC2 is in manual.
 - b. Set PIC2 output to 50%, and verify that the indicator value is about half the range.
 - c. Set the PIC2 output to 100%, and verify that the indicator value is about the range minimum value.
 - d. Set the PIC2 output to 0%, and verify that the indicator value is about the range maximum value.
- D. Test indicators using PIC 4 auxiliary output. Perform the following steps for each indicator. NOTE: All indicator terminations are on MICON 34.

<u>Indicator</u>	<u>Input</u>	<u>Range</u>	<u>Alarm</u>	<u>Data Sheet</u>	
				<u>Page</u>	
PDI_1	1	-1.0 to 1.0	to 0.1	104	
PI_4	2	0-0.2	-----	105	
TI_11	3	0-100	-----	105	
PDI_166	4	0-1.0	-----	105	
PDI_228B	5	0-1.0	-----	105	
PDI_230B	6	0-1.0	-----	106	
PDI_235A	7	0-1.0	-----	106	
PDI_9	8	0-5.0	-----	106	

1. Connect the PIC 4 auxiliary output (MICON 34 Point 19) to the indicator input. Remember to connect "-" to "-" and "+" to "+".
 2. Verify the indicator range.
 - a. Ensure the PIC 4 is in manual.
 - b. Set PIC 4 output to 50%, and verify that the indicator value is about half the range.
 - c. Set the PIC 4 output to 100%, and verify that the indicator value is about the range minimum value.
 - d. Set the PIC 4 output to 0%, and verify that the indicator value is about the range maximum value.
 3. Verify the indicator low alarm (PDI 1 only).
 - a. Adjust the PIC 4 output until the indicator value is just above the low alarm, and verify that the alarm is off.
 - b. Slowly lower the indicator value (using PIC 4 output) until the alarm sounds, and verify the alarm value is correct.
- E. Test indicators using PDIC 1F auxiliary output. Perform the following steps for each indicator. NOTE: All indicator terminations are on MICON 34.

<u>Indicator</u>	<u>Input</u>	<u>Range</u>	<u>Alarm</u>	Data Sheet
				<u>Page</u>
LI_TST	9	0-12	lo 5.0 hi 11.0	107
AI_DA1S	10	0-100	-----	107
TI_TC1S	11	0-150	-----	107
TI_TC2S	12	0-150	-----	108
TI_TPI1S	13	0-150	-----	108
TI_TPI2S	14	0-150	-----	108
TI_TPO1S	15	0-150	-----	108
TI_TPO2S	16	0-150	-----	109
PDI_263	17	0-1.0	-----	109

1. Connect the PDIC 1F auxiliary output (MICON 34 Point 20) to the indicator input. Remember to connect "-" to "-" and "+" to "+".
2. Verify the indicator range.
 - a. Ensure the PDIC 1F is in manual.
 - b. Set PDIC 1F output to 50%, and verify that the indicator value is about half the range.
 - c. Set the PDIC 1F output to 100%, and verify that the indicator value is about the range maximum value.
 - d. Set the PDIC 1F output to 0%, and verify that the indicator value is about the range minimum value.
3. Verify the indicator low alarm (LI TST only).
 - a. Adjust the PDIC 1F output until the indicator value is just above the low alarm, and verify that the alarm is off.
 - b. Slowly lower the indicator value (using PDIC 1F output) until the alarm sounds, and verify the alarm value is correct.

4. Verify the indicator high alarm (LI TST only).

- a. Adjust the PDIC 1F output until the indicator value is just below the high alarm, and verify that the alarm is off.
- b. Slowly raise the indicator value (using PDIC 1F output) until the alarm sounds, and the alarm value is correct.

F. Test indicators using PIC 6 auxiliary output. Perform the following steps for each indicator. NOTE: All indicator terminations are on MICON 35.

<u>Indicator</u>	<u>Input</u>	<u>Range</u>	<u>Data Sheet</u>	
			<u>Alarm</u>	<u>Page</u>
PI 1	1	0-0.2	hi 110	111
TI 9	2	0-100	-----	111
TI 12	3	0-100	-----	110
PDI 227	4	0-1.0	-----	110
PDI 228C	5	0-1.0	-----	110
PDI 230C	6	0-1.0	-----	110
PDI 236	7	0-1.0	-----	111
PI 1128	8	0-30	-----	111

1. Connect the PIC 6 auxiliary output (MICON 35 Point 19) to the indicator input. Remember to connect "-" to "-" and "+" to "+".
2. Verify the indicator range.
 - a. Ensure the PIC 6 is in manual.
 - b. Set PIC 6 output to 50%, and verify that the indicator value is about half the range.
 - c. Set the PIC 6 output to 100%, and verify that the indicator value is about the range minimum value.
 - d. Set the PIC 6 output to 0%, and verify that the indicator value is about the range maximum value.

G. Test indicators using PIC 1 auxiliary output. Perform the following steps for each indicator. NOTE: All indicator terminations are on MICON 35.

<u>Indicator</u>	<u>Input</u>	<u>Range</u>	<u>Alarm</u>	<u>Data Sheet</u>	
				<u>Alarm</u>	<u>Page</u>
TI TST	9	0-150	hi 110	-----	111
AI DA	10	0-100	-----	-----	111
PDI RMA	11	0-2.5	hi 0.50	-----	112
AI 236 A	12	0-100	-----	-----	112
PI INSTA	13	0-100	lo 45	-----	112
PI 90PA	14	0-150	-----	-----	112
AI 291 A	15	0-100	-----	-----	113
PI 17VAC	16	0-30	-----	-----	113
PDI 264	17	0-1.0	-----	-----	113

1. Connect the PIC 1 auxiliary output (MICON 35 Point 20) to the indicator input. Remember to connect "-" to "-" and "+" to "+".

2. Verify the indicator range.
 - a. Ensure the PIC 1 is in manual.
 - b. Set PIC 1 output to 50%, and verify that the indicator value is about half the range.
 - c. Set the PIC 1 output to 100%, and verify that the indicator value is about the range minimum value.
 - d. Set the PIC 1 output to 0%, and verify that the indicator value is about the range maximum value.
3. Verify the indicator low alarm (PI INSTA only).
 - a. Adjust the PIC 1 output until the indicator value is just above the low alarm, and verify that the alarm is off.
 - b. Slowly lower the indicator value (using PIC 1 output) until the alarm sounds, and verify that the alarm value is correct.
4. Verify the indicator high alarm (TI TST and PDI RMA only).
 - a. Adjust the PIC 1 output until the indicator value is just below the high alarm, and verify that the alarm is off.
 - b. Slowly raise the indicator value (using PIC 1 output) until the alarm sounds, and verify the alarm value is correct.

III. Test supply fans and spray pumps. Perform the following steps for each fan and pump pair (eg. SF-1 and SP-1).

	MICON No.	Fan Switch	Spray Pump Switch	Auto/Man Switch	Status Indicator	
					Fan	Pump
SF/SP-1	36	HS_SF1	HS_SP1_1	HS_SP1_2	YI_SF1	YI_SP_1
SF/SP-2	37	HS_SF2	HS_SP2_1	HS_SP2_2	YI_SF2	YI_SP_2
SF/SP-3	38	HS_SF3	HS_SP3_1	HS_SP3_2	YI_SF3	YI_SP_3
SF/SP-4	39	HS_SF4	HS_SP4_1	HS_SP4_2	YI_SF4	YI_SP_4
SF/SP-5	40	HS_SF5	HS_SP5_1	HS_SP5_2	YI_SF5	YI_SP_5
SF/SP-6	41	HS_SF6	HS_SP6_1	HS_SP6_2	YI_SF6	YI_SP_6
SF/SP-7	42	HS_SF7	HS_SP7_1	HS_SP7_2	YI_SF7	YI_SP_7
SF/SP-8	43	HS_SF8	HS_SP8_1	HS_SP8_2	YI_SF8	YI_SP_8

- A. Connect test box to the fan and pump status inputs.
 1. Connect test box switch 1 to the fan status (Point 1).
 2. Connect test box switch 2 to the spray pump status (Point 4)
- B. Test the fan controls.
 1. Set the spray pump Auto/Man switch (HS_SP*_2) to "MANUAL".
This will prevent a spray pump auto start.
 2. Verify that test box switch 1 is off and the fan status (YI_SF*) reads "OFF".
 3. Turn on test box switch 1 and verify that the status has switched to "ON".
 4. Set the fan switch (HS_SF*) to "START", and verify that the start output (Point 2) turns on for 10 seconds.
 5. Turn off the status signal (test box switch 1), and verify that the failure alarm sounds.
 6. Turn the status signal back on, and verify that the failure alarm clears.

7. Set the fan switch to "STOP", and verify that the stop output (Point 3) turns on for 5 seconds.
8. Turn the status signal off (test box switch 1).
- C. Test the spray pump controls.
 1. Verify that test box switch 2 is off and the pump status (YI_SP*) reads "OFF".
 2. Turn on test box switch 2 and verify that the status has switched to "ON".
 3. Set the pump switch (HS_SP* 1) to "START", and verify that the start output (Point 5) turns on for 10 seconds.
 4. Turn off the status signal (test box switch 2), and verify that the failure alarm sounds.
 5. Turn the status signal back on, and verify that the failure alarm clears.
 6. Set the pump switch to "STOP", and verify that the stop output (Point 6) turns on for 5 seconds.
 7. Turn the status signal off (test box switch 2).
- D. Test the spray pump interlock
 1. Set the spray pump auto/man switch (HS_SP* 2) to "AUTO".
 2. Turn on the spray pump status (test box switch 2).
 3. Turn on the fan status (test box switch 1), and verify that the spray pump switch (HS_SP* 1) switches to "START".
 4. Turn off the fan status, and verify that the spray pump switch switches back to "STOP".
- E. Turn off all test box switches, and disconnect all wires from the test box and the MICON termination panels.

IV. Test main exhaust fans. Perform the following steps for each fan.

	MICON No.	Fan Switch	Status Indicator
EF-1	36	HS_EM1	YI_EM1
EF-2	37	HS_EM2	YI_EM2
EF-3	38	HS_EM3	YI_EM3
EF-4	39	HS_EM4	YI_EM4
EF-5	40	HS_EM5	YI_EM5
EF-6	41	HS_EM6	YI_EM6
EF-7	42	HS_EM7	YI_EM7

- A. Connect test box switch 1 to the fan status (Point 7).
- B. Test the fan controls.
 1. Verify that test box switch 1 is off and the fan status (YI_EM*) reads "OFF".
 2. Turn on test box switch 1 and verify that the status has switched to "ON".
 3. Set the fan switch (HS_EM*) to "START", and verify that the start output (Point 8) turns on for 10 seconds.
 4. Turn off the status signal (test box switch 1), and verify that the failure alarm sounds.
 5. Turn the status signal back on, and verify that the failure alarm clears.

6. Set the fan switch to "STOP", and verify that the stop output (Point 9) turns on for 5 seconds.
7. Turn the status signal off.
- C. Turn off all test box switches, and disconnect all wires from the test box and the MICON termination panels.

V. Test EF-11 and EF-12 controls.

- A. Connect the test box to the fan status inputs.
 1. Connect test box switch 1 to the EF-11 status input (MICON 36 Point 10).
 2. Connect test box switch 2 to the EF-12 status input (MICON 37 Point 10).
- B. Connect PDIC 1F output (MICON 32 Point 25) to the PDI_1 (Zone 1 & 3 Dp) input (MICON 34 Point 1).
- C. Set PDIC 1F to manual and its output to 0%.
- D. Test EF-11 controls.
 1. Verify that test box switch 1 is off and the fan status (YI EM11) reads "OFF".
 2. Turn on test box switch 1 and verify that the status has switched to "ON".
 3. Set the fan switch (HS EM11) to "START", and verify that the start output (MICON 36 Point 11) turns on for 10 seconds.
 4. Turn off the status signal (test box switch 1), and verify that the failure alarm sounds.
 5. Turn the status signal back on, and verify that the failure alarm clears.
 6. Set the fan switch to "STOP", and verify that the stop output (MICON 36 Point 12) turns on for 5 seconds.
- E. Test EF-12 Controls.
 1. Verify that test box switch 2 is off and the fan status (YI EM12) reads "OFF".
 2. Turn on test box switch 2 and verify that the status has switched to "ON".
 3. Set the fan switch (HS EM12) to "START", and verify that the start output (MICON 37 Point 11) turns on for 10 seconds.
 4. Turn off the status signal (test box switch 2), and verify that the failure alarm sounds.
 5. Turn the status signal back on, and verify that the failure alarm clears.
 6. Set the fan switch to "STOP", and verify that the stop output (MICON 37 Point 12) turns on for 5 seconds.
- F. Test EF-11 and EF-12 interlocks.
 1. Turn on both fan status inputs (test box switches 1 & 2).
 2. Set HS EM11 and HS EM12 to "START".
 3. Set HS EM11A and HS EM12A to "BYPASS"
 4. Activate the Zone 1 & 3 high Dp alarm by setting PDIC_1F output to 100%.
 5. Wait 10 seconds, and verify that HS EM11 and HS EM12 remain in "START".
 6. Clear the Zone 1 & 3 Dp alarm by setting PDIC_1F output to 0%.
 7. Set HS EM11A and HS EM12A to "NORMAL".

8. Briefly activate the Dp alarm by setting PDIC_1F output to 100% and immediately lowering it back to 0%.
 9. Verify that HS EM11 and HS EM12 remain in "START".
 10. Reactivate the Dp alarm by setting PDIC 1F to 100%.
 11. Wait 10 seconds, and verify that HS_EM11 and HS_EM12 switch to "STOP".
 12. Set PDIC_1F output to 0%.
- G. Turn off all test box switches, and disconnect all wires from the test box and the MICON termination panels.

VI. Test EF-14 and EF-15 controls.

- A. Connect the test box to the fan status inputs.
1. Connect test box switch 1 to the EF-14 status input (MICON 38 Point 10).
 2. Connect test box switch 2 to the EF-15 status input (MICON 39 Point 10).
- B. Test EF-14 Controls.
1. Verify that test box switch 1 is off and the fan status (YI EM14) reads "OFF".
 2. Turn on test box switch 1 and verify that the status has switched to "ON".
 3. Set the fan switch (HS EM14) to "START", and verify that the start output (MICON 38 Point 11) turns on for 10 seconds.
 4. Turn off the status signal (test box switch 1), and verify that the failure alarm sounds.
 5. Turn the status signal back on, and verify that the failure alarm clears.
 6. Set the fan switch to "STOP", and verify that the stop output (MICON 38 Point 12) turns on for 5 seconds.
- C. Test EF-15 Controls.
1. Verify that test box switch 2 is off and the fan status (YI EM15) reads "OFF".
 2. Turn on test box switch 2 and verify that the status has switched to "ON".
 3. Set the fan switch (HS EM15) to "START", and verify that the start output (MICON 39 Point 11) turns on for 10 seconds.
 4. Turn off the status signal (test box switch 2), and verify that the failure alarm sounds.
 5. Turn the status signal back on, and verify that the failure alarm clears.
 6. Set the fan switch to "STOP", and verify that the stop output (MICON 39 Point 12) turns on for 5 seconds.
- D. Turn off all test box switches, and disconnect all wires from the test box and the MICON termination panels.

VII. Test S-10 controls.

- A. Connect test box switch 1 to the S-10 status input (MICON 43 Point 7).
- B. With the test box switch off, verify that the status indicator (YI S10) reads "OFF".
- C. Turn the test box switch on, and verify that the status indicator has changed to "ON".

- D. Set HS S10 to "START", and verify that the control output (MICON 43 Point 8) turns on.
- B. Set HS S10 to "STOP", and verify that the output turns off.
- F. Set HS S10 back to "START", and verify that the output has turned back on.
- G. After 10 seconds, turn off the status input (test box switch 1), and verify that the failure alarm sounds and the output (Point 8) turns off.
- H. Turn the status input back on, and verify that the failure alarm clears.
- I. Set HS S10 to "STOP".
- J. Turn off all test box switches, and disconnect all wires from the test box and the MICON termination panels.

VIII. Test the PDIC 1F output alarms.

- A. Connect the test box to EF-3 and EF-4 status inputs.
 - 1. Connect test box switch 1 to the EF-3 input (MICON 38 Point 7).
 - 2. Connect test box switch 2 to the EF-4 input (MICON 39 Point 7).
- B. Make sure both test box switches are off.
- C. Set PDIC 1F output to 100%, and verify that no alarm sounds.
- D. Set PDIC 1F to 80%, and turn on the EF-3 status input (test box switch 1).
- E. Slowly raise the PDIC 1F output, and verify that the EF-3 damper alarm (YA EF3) sounds at about 90% of output.
- F. Slowly lower the PDIC 1F output, and verify that the alarm clears at around 80% of output.
- G. Turn off the status input (test box switch 1).
- H. Repeat steps D to G using the EF-4 status input (test box switch 2).
- I. Turn off all test box switches, and disconnect all wires from the test box and the MICON termination panels.

IX. Test fan interlocks.

- A. Test the supply fan interlock bypass (EV-9).
 - 1. With HS SFI in "NORMAL", verify that the supply bleed air bypass output (MICON 44 Point 2) and the exhaust plenum dp bypass output (MICON 44 Point 3) are off.
 - 2. Set HS SFI to "BYPASS".
 - 3. Verify that the bypass alarm sounds and both bypass outputs turn on.
 - 4. Set HS SFI to "NORMAL".
 - 5. Verify that the alarm clears and both bypass outputs turn off.

B. Test the master air supply interlock (EV-10).

1. Connect the test box to any four supply fan status inputs

<u>Fan</u>	<u>Input</u>
SF-1	MICON 36 #1
SF-2	MICON 37 #1
SF-3	MICON 38 #1
SF-4	MICON 39 #1
SF-5	MICON 40 #1
SF-6	MICON 41 #1
SF-7	MICON 42 #1
SF-8	MICON 43 #1

2. Verify that the interlock output is off (MICON 44 Point 1).

3. Turn on all four test box switches, and set HS_26712 to "RESET".

4. Verify that the interlock output is now on.

5. Turn off the test box switches one at a time.

6. Verify that the output remains on until the last test box switch is turned off.

7. Turn off all test box switches, and disconnect all wires from the test box and the MICON termination panels.

C. Test the steam turbine reset.

1. Verify that the steam turbine reset output (MICON 42 Point 12) is off.

2. Set HS_ET to "RESET", and verify that the reset output turns on for 5 seconds.

X. Test miscellaneous alarms.

- A. Test the alarms that activate on contact open. Perform the following steps for each alarm.

<u>Alarm</u>	<u>Termination #</u>
XA2736_1	MICON 38 #13
XA2736_2	MICON 38 #14
XA_UPS	MICON 43 #11

1. Connect a test box switch to the alarm input.

2. Turn the switch on, and verify that the alarm clears.

3. Turn the switch off, and verify that the alarm sounds.

B. Test the alarms that activate on contact closed. Perform the following steps for each alarm.

<u>Alarm</u>	<u>Termination #</u>
PDA_HC3	MICON 36 #13
PA_I7VAC	MICON 36 #14
PD_AH 291	MICON 37 #13
LAH_291	MICON 37 #14
PAL_STM	MICON 38 #16
PAL_WTR	MICON 38 #17
PDA_HC2	MICON 40 #12
PDA_HA28	MICON 41 #12
PAH_ET	MICON 42 #11

1. Connect a test box switch to the alarm input.
 2. Turn the switch on, and verify that the alarm sounds.
 3. Turn the switch off, and verify that the alarm clears.
- C. Turn off all test box switches, and disconnect all wires from the test box and the MICON termination panels.

Process Vacuum

I. Test SWP-1 and SV-2 interlock.

- A. Connect test box switch 1 to the pump status input (MICON 44 Point 10).
- B. Connect test box switch 2 to the loop Dp alarm (DPA-6) input (MICON 44 Point 4)
- C. Connect PDIC_1F output (MICON 32 Point 25) to the silencer tank level indicator (LI_TST) input (MICON 35 Point 9).
- D. Test SWP-1 controls.
 1. Clear the silencer tank level alarms by putting PDIC_1F in manual, and setting its output to 50%
 2. Clear the Dp alarm by turning on test box switch 2.
 3. With test box switch 1 off, verify that YI SWP1 reads "OFF".
 4. Turn on switch 1, and verify that YI SWP1 changes to "ON"
 5. Set HS SWP1 to "START", and verify that the start output (MICON 44 Point 11) turns on for 10 seconds. Also, verify that the stop output (MICON 44 Point 12) is on.
 6. Turn off the status input (test box switch 1), and verify that the failure alarm sounds.
 7. Turn on the status input, and verify that the failure alarm clears.
 8. Set HS SWP1 to "STOP", and verify that the stop contact turns off for 1 second then turns back on.
- E. Test SWP-1 interlocks.
 1. Set HS SWP1 to "START".
 2. Activate the Dp alarm by turning off test box switch 2.
 3. Verify that the alarm sounds, and HS SWP1 switches to "STOP".
 4. Clear the alarm by turning test box switch 2 on, and set HS SWP1 back to "START".
 5. Activate the silencer tank low level alarm by setting the PDIC_1F output to 0%.
 6. Verify that the alarm sounds, and HS SWP1 switches to "STOP".
 7. Clear the alarm by setting the PDIC_1F output to 50%, and set HS SWP1 back to "START".
 8. Activate the silencer tank high level alarm by setting the PDIC_1F output to 100%.
 9. Verify that the alarm sounds, and HS SWP1 switches to "STOP".
 10. Clear the alarm by setting the PDIC_1F output to 50%.
- F. Test the SV-2 interlock.
 1. Ensure that test box switch 2 is turned on.
 2. Verify that the output to PVG-SV-2 (MICON 44 Point 5) is on.
 3. Activate the Dp alarm by turning off test box switch 2.
 4. verify that the alarm sounds, and the PVG-SV-2 output turns off.
- G. Turn off all test box switches and disconnect all wires from the test box and the MICON termination panels.

II. Test Vacuum Pump 1 (PVVP-1).

- A. Connect test box switch 1 to the pump status input (MICON 45 Point 6).

- B. Connect test box switch 2 to the loop E4 pressure alarm (DPA-5) input (MICON 44 Point 6).
- C. Connect test box switch 3 to the SWP-1 status input (MICON 44 Point 10).
- D. Connect test box switch 4 to the #1 demister leak detector alarm input (MICON 45 Point 4).
- E. Connect PDIC_1F output (MICON 32 Point 25) to the silencer tank level indicator (LI_TST) input (MICON 35 Point 9).
- F. Test PVVP-1 controls.
 - 1. Clear the silencer tank level alarms by putting PDIC_1F in manual, and setting its output to 50%.
 - 2. Clear the Dp alarm by turning on test box switch 2.
 - 3. Turn on the SWP-1 status by turning on test box switch 3.
 - 4. With test box switch 1 off, verify that YI_VP1 reads "OFF".
 - 5. Turn on switch 1, and verify that YI_VP1 changes to "ON".
 - 6. Set HS_VP1 to "START", and verify that the start output (MICON 45 Point 7) turns on for 10 seconds. Also, verify that the stop output (MICON 45 Point 8) is on.
 - 7. Turn off the status input (test box switch 1), and verify that the failure alarm sounds.
 - 8. Turn on the status input, and verify that the failure alarm clears.
 - 9. Set HS_VP1 to "STOP", and verify that the stop contact turns off for 1 second then turns back on.
- G. Test PVVP-1 interlocks.
 - 1. Set HS_VP1 to "START".
 - 2. Activate the Dp alarm by turning off test box switch 2.
 - 3. Verify that the alarm sounds, and HS_VP1 switches to "STOP".
 - 4. Clear the alarm by turning test box switch 2 on, and set HS_VP1 back to "START".
 - 5. Activate the silencer tank low level alarm by setting the PDIC_1F output to 0%.
 - 6. Verify that the alarm sounds, and HS_VP1 switches to "STOP".
 - 7. Clear the alarm by setting the PDIC_1F output to 50%, and set HS_VP1 back to "START".
 - 8. Activate the silencer tank high level alarm by setting the PDIC_1F output to 100%.
 - 9. Verify that the alarm sounds, and HS_VP1 switches to "STOP".
 - 10. Clear the alarm by setting the PDIC_1F output to 50%, and set HS_VP1 back to "START".
 - 11. Simulate a SWP-1 shutdown by turning off the status input (test box switch 3).
 - 12. Verify that HS_VP1 switches to "STOP".
 - 13. Turn the status input back on, and set HS_VP1 back to "START".
 - 14. Activate the #1 filter leak detector alarm by turning on test box switch 4.
 - 15. Verify that the alarm sounds, and HS_VP1 switches to "STOP".
 - 16. Clear the alarm by turning off test box switch 4, and set HS_VP1 back to "START".
 - 17. Disconnect test box switch 4 from the #1 leak detector alarm input and connect it to the #2 leak detector alarm input (MICON 46 Point 4).

18. Activate the #2 filter leak detector alarm by turning on test box switch 4.
 19. Verify that the alarm sounds, and HS VP1 switches to "STOP".
 20. Clear the alarm by turning off test box switch 4.
- H. Turn off all test box switches and disconnect all wires from the test box and the MICON termination panels.

III. Test Vacuum Pump 2 (PVVP-2).

- A. Connect test box switch 1 to the pump status input (MICON 46 Point 6).
- B. Connect test box switch 2 to the loop E4 pressure alarm (DPA-5) input (MICON 44 Point 6).
- C. Connect test box switch 3 to the SWP-1 status input (MICON 44 Point 10).
- D. Connect test box switch 4 to the #1 demister leak detector alarm input (MICON 45 Point 4).
- E. Connect PDIC 1F output (MICON 32 Point 25) to the silencer tank level indicator (LI_TST) input (MICON 35 Point 9).
- F. Test PVVP-2 controls.
 1. Clear the silencer tank level alarms by putting PDIC_1F in manual, and setting its output to 50%
 2. Clear the Dp alarm by turning on test box switch 2.
 3. Turn on the SWP-1 status by turning on test box switch 3.
 4. With test box switch 1 off, verify that YI VP2 reads "OFF".
 5. Turn on switch 1, and verify that YI VP2 changes to "ON"
 6. Set HS VP2 to "START", and verify that the start output (MICON 46 Point 7) turns on for 10 seconds. Also, verify that the stop output (MICON 46 Point 8) is on.
 7. Turn off the status input (test box switch 1), and verify that the failure alarm sounds.
 8. Turn on the status input, and verify that the failure alarm clears.
 9. Set HS VP2 to "STOP", and verify that the stop contact turns off for 1 second then turns back on.
- G. Test PVVP-2 interlocks.
 1. Set HS VP2 to "START".
 2. Activate the Dp alarm by turning off test box switch 2.
 3. Verify that the alarm sounds, and HS VP2 switches to "STOP".
 4. Clear the alarm by turning test box switch 2 on, and set HS VP2 back to "START".
 5. Activate the silencer tank low level alarm by setting the PDIC 1F output to 0%.
 6. Verify that the alarm sounds, and HS VP2 switches to "STOP".
 7. Clear the alarm by setting the PDIC_1F output to 50%, and set HS VP2 back to "START".
 8. Activate the silencer tank high level alarm by setting the PDIC 1F output to 100%.
 9. Verify that the alarm sounds, and HS VP2 switches to "STOP".
 10. Clear the alarm by setting the PDIC_1F output to 50%, and set HS VP2 back to "START".
 11. Simulate a SWP-1 shutdown by turning off the status input (test box switch 3).

12. Verify that HS VP2 switches to "STOP".
 13. Turn the status input back on, and set HS VP2 back to "START".
 14. Activate the #1 filter leak detector alarm by turning on test box switch 4.
 15. Verify that the alarm sounds, and HS VP2 switches to "STOP".
 16. Clear the alarm by turning off test box switch 4, and set HS VP2 back to "START".
 17. Disconnect test box switch 4 from the #1 leak detector alarm input and connect it to the #2 leak detector alarm input (MICON 46 Point 4).
 18. Activate the #2 filter leak detector alarm by turning on test box switch 4.
 19. Verify that the alarm sounds, and HS VP2 switches to "STOP".
 20. Clear the alarm by turning off test box switch 4.
- H. Turn off all test box switches and disconnect all wires from the test box and the MICON termination panels.

IV. Test GCP-1 and GCP-2.

- A. Connect the test box to the pump status inputs.

	<u>Test Box #</u>	<u>Terminal #</u>
<u>GCP-1</u>	1	MICON 45 #9
<u>GCP-2</u>	2	MICON 46 #9

- B. Connect test box switch 3 to the loop Dp alarm (PDA-6) input (MICON 44 Point 4).
- C. Clear the Dp alarm by turning test box switch 3 on.
- D. Test GCP-1 controls.
1. With test box switch 1 off, verify that YI GCP1 reads "OFF".
 2. Turn on switch 1, and verify that YI GCP1 changes to "ON".
 3. Set HS GCP1 to "START", and verify that the start output (MICON 45 Point 10) turns on for 10 seconds. Also, verify that the stop output (MICON 45 Point 11) is on.
 4. Turn off the status input (test box switch 1), and verify that the failure alarm sounds.
 5. Turn on the status input, and verify that the failure alarm clears.
 6. Set HS GCP1 to "STOP", and verify that the stop contact turns off for 1 second then turns back on.
- E. Test GCP-1 interlock.
1. Set HS GCP1 to "START".
 2. Activate the Dp alarm by turning off test box switch 2.
 3. Verify that the alarm sounds, and HS GCP1 switches to "STOP".
 4. Clear the alarm by turning test box switch 2 on.
- F. Test GCP-2 controls.
1. With test box switch 1 off, verify that YI GCP2 reads "OFF".
 2. Turn on switch 1, and verify that YI GCP2 changes to "ON".
 3. Set HS GCP2 to "START", and verify that the start output (MICON 46 Point 10) turns on for 10 seconds. Also, verify that the stop output (MICON 46 Point 11) is on.
 4. Turn off the status input (test box switch 1), and verify that the failure alarm sounds.

5. Turn on the status input, and verify that the failure alarm clears.
 6. Set HS_GCP2 to "STOP", and verify that the stop contact turns off for 1 second then turns back on.
 - G. Test GCP-2 interlock.
 1. Set HS_GCP2 to "START".
 2. Activate the Dp alarm by turning off test box switch 2.
 3. Verify that the alarm sounds, and HS_GCP2 switches to "STOP".
 - H. Turn off all test box switches and disconnect all wires from the test box and the MICON termination panels.
- V. Test miscellaneous outputs.
- A. Test the silencer tank drain output.
 1. Set HS_SV4 to "DRAIN", and verify that the output to PVW-SV-2 (MICON 44 Point 7) turns on.
 2. Set HS_SV4 to "OFF", and verify that the output turns off.
 - B. Test the seaT water discharge valve output.
 1. Set HS_SV5 to "DRAIN", and verify that the output to PVA-SV-23 (MICON 44 Point 8) turns on.
 2. Set HS_SV5 to "OFF", and verify that the output turns off.
 - C. Test the silencer tank fill output.
 1. Set HS_SV3 to "DRAIN", and verify that the output to PVW-SV-1 (MICON 44 Point 9) turns on.
 2. Set HS_SV3 to "OFF", and verify that the output turns off.
- VI. Test miscellaneous alarms.
- A. Test the leak detector failure alarms. Perform the following steps for each alarm.

<u>Alarm</u>	<u>Termination #</u>
XA_1LDB	MICON 45 #5
XA_2LDD	MICON 45 #5

1. Connect a test box switch to the alarm input.
2. Turn the switch on, and verify that the alarm clears.
3. Turn the switch off, and verify that the alarm sounds.
- B. Test the HEPA filter Dp alarms. Perform the following steps for each alarm.

<u>Alarm</u>	<u>Termination #</u>
PDA_1	MICON 45 #2
PDA_2	MICON 45 #3
PDA_3	MICON 46 #2
PDA_4	MICON 46 #3

1. Connect a test box switch to the alarm input.
2. Turn the switch on, and verify that the alarm sounds.
3. Turn the switch off, and verify that the alarm clears.
- C. Turn off all test box switches, and disconnect all wires from the test box and the MICON termination panels.

Dry Air

I. Test the Steam/Electric selector.

- A. Set the dry air system switch (HS DA1) to "OFF" and the steam/electric selector to (HS DA2) to "ELECTRIC". Verify the following:

The steam dryer bypass output (MICON 44 Point 13) is on.
The electric dryer bypass output (MICON 44 Point 14) is on.
The electric dryer bleed valve indicator (ZI DA1) reads "OPEN"
The electric dryer outlet valve indicator (ZI DA2) reads "CLOSED"
The steam dryer bleed valve indicator (ZI DA4) reads "OPEN"
The steam dryer outlet valve indicator (ZI DA3) reads "CLOSED"

- B. Set HS DA1 to "ON", and verify the following:

The steam dryer bypass output (MICON 44 Point 13) is on.
The electric dryer bypass output (MICON 44 Point 14) is off.
The electric dryer bleed valve indicator (ZI DA1) reads "CLOSED"
The electric dryer outlet valve indicator (ZI DA2) reads "OPEN"
The steam dryer bleed valve indicator (ZI DA4) reads "OPEN"
The steam dryer outlet valve indicator (ZI DA3) reads "CLOSED"

- C. Set HS DA2 to "STEAM", and verify the following:

The steam dryer bypass output (MICON 44 Point 13) is off.
The electric dryer bypass output (MICON 44 Point 14) is on.
The electric dryer bleed valve indicator (ZI DA1) reads "OPEN"
The electric dryer outlet valve indicator (ZI DA2) reads "CLOSED"
The steam dryer bleed valve indicator (ZI DA4) reads "CLOSED"
The steam dryer outlet valve indicator (ZI DA3) reads "OPEN"

- D. Set HS DA1 back to "OFF", and verify the following:

The steam dryer bypass output (MICON 44 Point 13) is on.
The electric dryer bypass output (MICON 44 Point 14) is on.
The electric dryer bleed valve indicator (ZI DA1) reads "OPEN"
The electric dryer outlet valve indicator (ZI DA2) reads "CLOSED"
The steam dryer bleed valve indicator (ZI DA4) reads "OPEN"
The steam dryer outlet valve indicator (ZI DA3) reads "CLOSED"

II. Test dryer controls.

- A. Set the electric dryer switch (HS DAE) to "ON", and verify that the control output turns on (MICON 45 Point 12).
B. Set HS DAE to "OFF", and verify that the output turns off.
C. Set the steam dryer switch (HS DAS) to "ON", and verify that the control output turns on (MICON 46 Point 12).
D. Set HS DAE to "OFF", and verify that the output turns off.

III. Test dryer status indicators.

A. Connect the test box to the status indicator inputs.

	<u>Test Box #</u>	<u>Termination #</u>
Electric - Power Status	1	MICON 45 #13
System Status	2	MICON 45 #14
Steam - Power Status	3	MICON 46 #13
System Status	4	MICON 46 #14

B. Test the electric air dryer status indicator.

1. Make sure test box switches 1 & 2 are off, and verify that YI DAE reads "PWR OFF".
2. Turn on the power status input (test box switch 1), and verify that YI DAE reads "OFF".
3. Turn on the system status input (test box switch 2), and verify that YI DAE reads "ON".

C. Test the steam air dryer status indicator.

1. Make sure test box switches 3 & 4 are off, and verify that YI DAS reads "PWR OFF".
2. Turn on the power status input (test box switch 3), and verify that YI DAS reads "OFF".
3. Turn on the system status input (test box switch 4), and verify that YI DAS reads "ON".

D. Turn off all test box switches, and disconnect all wires from the test box and the MICON termination panels.

IV. Test indicators and alarms.

A. Test the dryer indicators. Perform the following steps for each alarm.

<u>Indicator</u>	<u>Termination #</u>
YI CU1E	MICON 45 #15
YI CU2E	MICON 45 #16
YI STG1E	MICON 45 #17
YI STG2E	MICON 45 #18
YI CU1S	MICON 46 #15
YI CU2S	MICON 46 #16

1. Connect a test box switch to the indicator input.
2. Turn the switch on, and verify that the indicator reads "ON".
3. Turn the switch off, and verify that the indicator reads "OFF".

B. Test the dryer alarms. Perform the following steps for each alarm.

<u>Alarm</u>	<u>Termination #</u>
PAH DA	MICON 44 #15
TAH DA2	MICON 44 #16
TAH DA1	MICON 44 #17
PAH DAE	MICON 45 #19
PAH DAE	MICON 45 #20
PAH DA2E	MICON 45 #21
PAH DAS	MICON 46 #19
PAH DAS	MICON 46 #20
PAH DA2S	MICON 46 #21

1. Connect a test box switch to the alarm input.
 2. Turn the switch on, and verify that the alarm sounds.
 3. Turn the switch off, and verify that the alarm clears.
- C. Turn off all test box switches, and disconnect all wires from the test box and the MICON termination panels.

291-Z Closed Loop Cooling

I. Test indicators and alarms.

- A. Test the status indicators. Perform the following steps for each indicator.

<u>Indicator</u>	<u>Termination #</u>
YI_P23A1	MICON 36 #20
YI_23A1	MICON 36 #21
YI_23P_1	MICON 36 #22
YI_P23A2	MICON 37 #20
YI_23A2	MICON 37 #21
YI_23P_2	MICON 37 #22

1. Connect a test box switch to the indicator input.
2. Turn the switch on, and verify that the indicator reads "ON".
3. Turn the switch off, and verify that the indicator reads "OFF".

- B. Test the system alarms. Perform the following steps for each alarm.

<u>Alarm</u>	<u>Termination #</u>
FAL_23J1	MICON 36 #15
LAL_23A1	MICON 36 #16
TAH_23A1	MICON 36 #17
TAH_23J1	MICON 36 #18
XA_23A1	MICON 36 #19
XA_23P_1	MICON 36 #23
FAL_23J2	MICON 37 #15
LAL_23A2	MICON 37 #16
TAH_23A2	MICON 37 #17
TAH_23J2	MICON 37 #18
XA_23A2	MICON 37 #19
XA_23P_2	MICON 27 #23

1. Connect a test box switch to the alarm input.
2. Turn the switch on, and verify that the alarm sounds.
3. Turn the switch off, and verify that the alarm clears.

- C. Turn off all test box switches, and disconnect all wires from the test box and the MICON termination panels.

Building Accelerometer

I. Test indicators and alarms.

A. Test the status indicators. Perform the following steps for each indicator.

<u>Indicator</u>	<u>Termination #</u>
XI_ACC3	MICON 40 #11
XI_ACC1	MICON 41 #10
XI_ACC2	MICON 43 #10

1. Connect a test box switch to the indicator input.
2. Turn the switch on, and verify that the indicator reads "ON LINE" ("PWR ON" for XI ACC3).
3. Turn the switch off, and verify that the indicator reads "OFF LINE" ("PWR OFF" for XI ACC3).

B. Test the system alarms. Perform the following steps for each alarm.

<u>Alarm</u>	<u>Termination #</u>
XA_ACC2	MICON 40 #10
XA_ACC3	MICON 42 #10
XA_ACC1	MICON 43 #9

1. Connect a test box switch to the alarm input.
 2. Turn the switch on, and verify that the alarm sounds.
 3. Turn the switch off, and verify that the alarm clears.
- C. Turn off all test box switches, and disconnect all wires from the test box and the MICON termination panels.

Evacuation Siren

- I. Test the siren switches.
 - A. Test the evacuation siren switch.
 - 1. Set HS_EVS1 to "EVAC", and verify that the evacuation siren output turns on (MICON 44 Point 19).
 - 2. Set HS_EVS1 to "OFF", and verify that the output turns off.
 - B. Test the take cover siren switch.
 - 1. Set HS_EVS2 to "TK COVER", and verify that the take cover siren output turns on (MICON 44 Point 20).
 - 2. Set HS_EVS2 to "OFF", and verify that the output turns off.

Stack CAMs

I. Test the CAM alarms. Perform the following steps for each alarm.

<u>Alarm</u>	<u>Termination #</u>
XA 232SC	MICON 38 #15
XA 241 1	MICON 39 #13
XA 241 2	MICON 39 #14
XA 241 3	MICON 39 #15
XA2736RC	MICON 40 #13
XA 2736C	MICON 40 #14
XA ZB RC	MICON 41 #13
XA ZB SCA	MICON 41 #14
XA ZB SC	MICON 41 #15
XA291C 1	MICON 42 #13
XA291C 2	MICON 42 #14
XA291C 3	MICON 42 #15
XA 9AB 1	MICON 43 #13
XA 9AB 2	MICON 43 #14

A. Connect a test box switch to the alarm input.

B. Turn the switch on, and verify that the alarm sounds.

C. Turn the switch off, and verify that the alarm clears.

II. Turn off all test box switches, and disconnect all wires from the test box and the MICON termination panels.

Fire

I. Test the fire alarm reset button.

- A. Verify that the reset outputs are on (MICON 45 Points 28, 29, 30, & 31).
- B. Set HS RES to "RESET".
- C. Verify that the four reset outputs turn off for 5 seconds and turn back on again.

II. Test the 309/310 damper control.

- A. Set the 309/310 damper switch (HS 309 10) to "CLSE 310".
- B. Verify that the 309 damper output (MICON 46 Point 30) turns off and the 310 damper output (MICON 46 Point 31) turns on.
- C. Set HS 309 10 to "CLSE 309".
- D. Verify that the 309 damper output turns on and the 310 damper output turns off.

III. Test the damper position indicators. Perform the following steps for each indicator.

<u>Indicator</u>	<u>Open Input</u>	<u>Closed Input</u>
ZI BYP	MICON 48 #1	MICON 48 #2
ZI 9A	MICON 48 #7	MICON 48 #8
ZI 9AB	MICON 48 #9	MICON 48 #10
ZI 9B	MICON 48 #11	MICON 48 #12
ZI 309	MICON 48 #14	MICON 48 #15
ZI 310	MICON 48 #16	MICON 48 #17

- A. Attach a jumper wire across the "+" and "COM" terminals of the Open input.
- B. Verify that the indicator reads "OPEN".
- C. Remove the jumper wire, and verify that the indicator now reads "MOVING".
- D. Attach the jumper wire to the Closed input, and verify that the indicator reads "CLOSED".
- E. Remove the jumper wire.

IV. Test the fire alarms. Perform the following steps for each alarm.

<u>Alarm</u>	<u>Termination #</u>
XA F32 1	MICON 48 #3
XA F32 2	MICON 48 #4
XA F36 1	MICON 48 #5
XA F36 2	MICON 48 #6
PDA 9B	MICON 48 #13
XA FA1	MICON 48 #18
XA FA2	MICON 48 #19
XA FA3	MICON 48 #20
XA FA4	MICON 48 #21
XA FA5	MICON 48 #22
XA FA6	MICON 48 #23
XA FA7	MICON 48 #24

<u>Alarm</u>	<u>Termination #</u>
XA_FA8	MICON 48 #25
XA_FA9	MICON 48 #26
XA_FA10	MICON 48 #27
XA_FA11	MICON 49 #1
XA_FA12	MICON 49 #2
XA_FA13	MICON 49 #3
XA_FA14	MICON 49 #4
XA_FA15	MICON 49 #5
XA_FA16	MICON 49 #6
XA_FA17	MICON 49 #7
XA_FA18	MICON 49 #8
XA_FA19	MICON 49 #9
XA_FA20	MICON 49 #10
XA_FA21	MICON 49 #11
XA_FA22	MICON 49 #12
XA_FA23	MICON 49 #13
XA_FA24	MICON 49 #14
XA_FA25	MICON 49 #15
XA_FA26	MICON 49 #16
XA_FA27	MICON 49 #17
XA_FA28	MICON 49 #18
XA_FA29	MICON 49 #19
XA_FA30	MICON 49 #20
XA_FA31	MICON 49 #21
XA_FA32	MICON 49 #22
XA_FA33	MICON 49 #23
XA_FA34	MICON 49 #24
XA_FA35	MICON 49 #25
XA_FA36	MICON 49 #26
PA309 10	MICON 49 #27
XA_FA37	MICON 50 #1
XA_FA38	MICON 50 #2
XA_FA39	MICON 50 #3
XA_FA40	MICON 50 #4
XA_FA41	MICON 50 #5
XA_FA42	MICON 50 #6
XA_FA43	MICON 50 #7
XA_FA44	MICON 50 #8
XA_FA45	MICON 50 #9
XA_FA46	MICON 50 #10
XA_FA47	MICON 50 #11
XA_FA48	MICON 50 #12
XA_FA49	MICON 50 #13
XA_FA50	MICON 50 #14
XA_FA51	MICON 50 #15
XA_FA52	MICON 50 #16
XA_FA53	MICON 50 #17
XA_FA54	MICON 50 #18
XA_FA55	MICON 50 #19
XA_FA56	MICON 50 #20
XA_FA57	MICON 50 #21

<u>Alarm</u>	<u>Termination #</u>
XA_FA58	MICON 50 #22
XA_FA59	MICON 50 #23
XA_FA60	MICON 50 #24
XA_FA61	MICON 50 #25
XA_FA62	MICON 50 #26

- A. Connect a jumper across the "+" and "COM" terminals of the alarm input.
- B. Verify that the alarm sounds.
- C. Remove the jumper, and verify that the alarm clears.

Complete Test

- I. Verify that all test steps have been completed and that all data sheets have been filled out.
- II. If necessary, repeat any portion of the test that does not appear to be completed.

TEST DATA SHEETS

The following are the acceptance test data sheets. A data sheet entry is required for every step in the procedure. Any step that asks to "verify" a result will also have place to accept or reject the results. The step number and result to be verified are listed in the far left column under "Step".

The person performing the test should print their name in the title block after "Performed by". After each step has been completed, the person performing the test then initials and dates the "Initial" block. If required, the "Y" or "N" in the "Accept" block must be circled to indicate whether or not the configuration performed as expected. In addition, comments can be entered in the "Comments" block. If exception is taken to that step, the exception number, as entered on the "Test Exception" data sheet (see next section), must be entered in this block.

When each page is completed, the Test Director must sign the bottom of the form under "Test Witnesses". The Cognizant Engineer and Quality Assurance signatures are optional but recommended if either representative has witnessed that portion of the test. If the Cognizant Engineer or Quality Assurance representative were not present during that portion, mark the appropriate signature line "N/A".

WHC-SD-610-ATP-002 Rev. 0

Project B610 Process Control Configuration ATP

Prestart

Performed by:

Step	Accept	Initial	Comments
I. Verify controllers.	N/A		
II. Download files.	N/A		
III. Acknowledge Alarms	N/A		

Test Witnesses:

Test Director

Date

Cognizant Engineer

Date

Quality Assurance

Date

2736-ZB HVAC

Performed by:

Step	Accept	Initial	Comments
I. Test controllers.	N/A		
PDIC_1 A. Connect output to input. B. Verify range 1. Controller in manual. 2. Output to 50% PV=~0.075? 3. Output to 100% PV=~0.15? 4. Output to 0% PV=~0? C. Verify low alarm. 1. Set output. 2. Alarm at ~0.00? D. Verify controller action. 1. Output to 50%. 2. Setpoint to 0.04. 3. In auto. Output decreases?	N/A N/A N/A Y / N Y / N Y / N N/A N/A Y / N N/A N/A Y / N		
PDIC_2 A. Connect output to input. B. Verify range 1. Controller in manual. 2. Output to 50% PV=~0.25? 3. Output to 100% PV=~0.5? 4. Output to 0% PV=~0? C. Verify low alarm. 1. Set output. 2. Alarm at ~0.05? D. Verify controller action. 1. Output to 50%. 2. Setpoint to 0.13. 3. In auto. Output increases?	N/A N/A N/A Y / N Y / N Y / N N/A N/A Y / N N/A N/A N/A Y / N		

Test Witnesses:

Test Director

Date

Cognizant Engineer

Date

Quality Assurance

Date

2736-ZB HVAC

Performed by:

Step	Accept	Initial	Comments
PDIC 3 A. Connect output to input. B. Verify range 1. Controller in manual. 2. Output to 50% PV=~0.25? 3. Output to 100% PV=~0.5? 4. Output to 0% PV=~0? C. Verify low alarm. 1. Set output. 2. Alarm at ~0.10? D. Verify controller action. 1. Output to 50%. 2. Setpoint to 0.13. 3. In auto. Output increases?	N/A N/A N/A Y / N Y / N Y / N N/A N/A Y / N N/A N/A N/A Y / N		
PDIC 4 A. Connect output to input. B. Verify range 1. Controller in manual. 2. Output to 50% PV=~1.0? 3. Output to 100% PV=~2.0? 4. Output to 0% PV=~0? C. Verify low alarm. 1. Set output. 2. Alarm at ~0.25? D. Verify controller action. 1. Output to 50%. 2. Setpoint to 0.5. 3. In auto. Output increases?	N/A N/A N/A Y / N Y / N Y / N N/A N/A Y / N N/A N/A N/A Y / N		

Test Witnesses:

Test Director_____
Date_____
Cognizant Engineer_____
Date_____
Quality Assurance_____
Date

2736-ZB HVAC

Performed by:

Step	Accept	Initial	Comments
PDIC 5 A. Connect output to input. B. Verify range 1. Controller in manual. 2. Output to 50% PV=~5.0? 3. Output to 100% PV=~10.0? 4. Output to 0% PV=~0? C. Verify low alarm. 1. Set output. 2. Alarm at ~1.00? D. Verify controller action. 1. Output to 50%. 2. Setpoint to 2.5. 3. In auto. Output decreases?	N/A N/A N/A Y / N Y / N Y / N N/A N/A Y / N N/A N/A N/A Y / N		
PDIC 6 A. Connect output to input. B. Verify range 1. Controller in manual. 2. Output to 50% PV=~0.25? 3. Output to 100% PV=~0.5? 4. Output to 0% PV=~0? C. Verify low alarm. 1. Set output. 2. Alarm at ~0.05? D. Verify controller action. 1. Output to 50%. 2. Setpoint to 0.13. 3. In auto. Output increases?	N/A N/A N/A Y / N Y / N Y / N N/A N/A Y / N N/A N/A N/A Y / N		

Test Witnesses:

Test Director

Date

Cognizant Engineer

Date

Quality Assurance

Date

2736-ZB HVAC

Performed by:

Step	Accept	Initial	Comments
II. Test analog indicators.	N/A		
II COND1 A. Connect PDIC_1. B. Verify range. 1. PDIC_1 in manual. 2. Output to 50%. Value=~50? 3. Output to 100%. Value=~100? 4. Output to 0%. Value=~0.0?	N/A N/A N/A Y / N Y / N Y / N		
II SF 1 A. Connect PDIC_1. B. Verify range. 1. PDIC_1 in manual. 2. Output to 50%. Value=~20? 3. Output to 100%. Value=~40? 4. Output to 0%. Value=~0.0?	N/A N/A N/A Y / N Y / N Y / N		
II SF 2 A. Connect PDIC_1. B. Verify range. 1. PDIC_1 in manual. 2. Output to 50%. Value=~20? 3. Output to 100%. Value=~40? 4. Output to 0%. Value=~0.0?	N/A N/A N/A Y / N Y / N Y / N		
PDI 1A A. Connect PDIC_1. B. Verify range. 1. PDIC_1 in manual. 2. Output to 50%. Value=~0.0? 3. Output to 100%. Value=~10? 4. Output to 0%. Value=~ -10?	N/A N/A N/A Y / N Y / N Y / N		

Test Witnesses:

Test Director

Date

Cognizant Engineer

Date

Quality Assurance

Date

2736-ZB HVAC

Performed by:

Step	Accept	Initial	Comments
II AC 1 A. Connect PDIC_1. B. Verify range. 1. PDIC_1 in manual. 2. Output to 50%. Value=~20? 3. Output to 100%. Value=~40? 4. Output to 0%. Value=~0.0?	N/A N/A N/A Y / N Y / N Y / N		
II AC 2 A. Connect PDIC_1. B. Verify range. 1. PDIC_1 in manual. 2. Output to 50%. Value=~20? 3. Output to 100%. Value=~40? 4. Output to 0%. Value=~0.0?	N/A N/A N/A Y / N Y / N Y / N		
PDI 2A A. Connect PDIC_1. B. Verify range. 1. PDIC_1 in manual. 2. Output to 50%. Value=~0.0? 3. Output to 100%. Value=~10? 4. Output to 0%. Value=~-10?	N/A N/A N/A Y / N Y / N Y / N		
PDI 4A A. Connect PDIC_1. B. Verify range. 1. PDIC_1 in manual. 2. Output to 50%. Value=~0.0? 3. Output to 100%. Value=~10? 4. Output to 0%. Value=~-10?	N/A N/A N/A Y / N Y / N Y / N		

Test Witnesses:

Test Director

Date

Cognizant Engineer

Date

Quality Assurance

Date

2736-ZB HVAC

Performed by:

Step	Accept	Initial	Comments
II EF 1 A. Connect PDIC ₁ . B. Verify range. 1. PDIC ₁ in manual. 2. Output to 50%. Value=~25? 3. Output to 100%. Value=~50? 4. Output to 0%. Value=~0.0?	N/A N/A N/A Y / N Y / N Y / N		
II EF 2 A. Connect PDIC ₁ . B. Verify range. 1. PDIC ₁ in manual. 2. Output to 50%. Value=~25? 3. Output to 100%. Value=~50? 4. Output to 0%. Value=~0.0?	N/A N/A N/A Y / N Y / N Y / N		
II RF 1 A. Connect PDIC ₁ . B. Verify range. 1. PDIC ₁ in manual. 2. Output to 50%. Value=~20? 3. Output to 100%. Value=~40? 4. Output to 0%. Value=~0.0?	N/A N/A N/A Y / N Y / N Y / N		
II RF 2 A. Connect PDIC ₁ . B. Verify range. 1. PDIC ₁ in manual. 2. Output to 50%. Value=~20? 3. Output to 100%. Value=~40? 4. Output to 0%. Value=~0.0?	N/A N/A N/A Y / N Y / N Y / N		

Test Witnesses:

Test Director_____
Date_____
Cognizant Engineer_____
Date_____
Quality Assurance_____
Date

2736-ZB HVAC

Performed by:

Step	Accept	Initial	Comments
PI 1A A. Connect PDIC_1. B. Verify range. 1. PDIC_1 in manual. 2. Output to 50%. Value=~75? 3. Output to 100%. Value=~100? 4. Output to 0%. Value=~50? C. Verify low alarm. 1. Set output. 2. Lower output. Alarm=~55?	N/A N/A N/A Y / N Y / N Y / N N/A N/A Y / N		
PDI 5A A. Connect PDIC_1. B. Verify range. 1. PDIC_1 in manual. 2. Output to 50%. Value=~0.0? 3. Output to 100%. Value=~10? 4. Output to 0%. Value=~-10?	N/A N/A N/A Y / N Y / N Y / N		
II 1 1 A. Connect PDIC_1. B. Verify range. 1. PDIC_1 in manual. 2. Output to 50%. Value=~25? 3. Output to 100%. Value=~50? 4. Output to 0%. Value=~0.0?	N/A N/A N/A Y / N Y / N Y / N		
II 1 2 A. Connect PDIC_1. B. Verify range. 1. PDIC_1 in manual. 2. Output to 50%. Value=~25? 3. Output to 100%. Value=~50? 4. Output to 0%. Value=~0.0?	N/A N/A N/A Y / N Y / N Y / N		

Test Witnesses:

Test Director

Date

Cognizant Engineer

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Quality Assurance

Date

2736-ZB HVAC

Performed by:

Step	Accept	Initial	Comments
II SF 5 A. Connect PDIC 1. B. Verify range. 1. PDIC 1 in manual. 2. Output to 50%. Value=~10? 3. Output to 100%. Value=~20? 4. Output to 0%. Value=~0.0?	N/A N/A N/A Y / N Y / N Y / N		
II SF 6 A. Connect PDIC 1. B. Verify range. 1. PDIC 1 in manual. 2. Output to 50%. Value=~10? 3. Output to 100%. Value=~20? 4. Output to 0%. Value=~0.0?	N/A N/A N/A Y / N Y / N Y / N		
II VP 1 A. Connect PDIC 1. B. Verify range. 1. PDIC 1 in manual. 2. Output to 50%. Value=~20? 3. Output to 100%. Value=~40? 4. Output to 0%. Value=~0.0?	N/A N/A N/A Y / N Y / N Y / N		
PDI 6A A. Connect PDIC 1. B. Verify range. 1. PDIC 1 in manual. 2. Output to 50%. Value=~0.0? 3. Output to 100%. Value=~10? 4. Output to 0%. Value=~-10?	N/A N/A N/A Y / N Y / N Y / N		

Test Witnesses:

Test Director

Date

Cognizant Engineer

Date

Quality Assurance

Date

2736-ZB HVAC

Performed by:

Step	Accept	Initial	Comments
II COND2 A. Connect PDIC_1. B. Verify range. 1. PDIC 1 in manual. 2. Output to 50%. Value=~50? 3. Output to 100%. Value=~100? 4. Output to 0%. Value=~0.0?	N/A N/A N/A Y / N Y / N Y / N		
II SF 3 A. Connect PDIC_1. B. Verify range. 1. PDIC 1 in manual. 2. Output to 50%. Value=~10? 3. Output to 100%. Value=~20? 4. Output to 0%. Value=~0.0?	N/A N/A N/A Y / N Y / N Y / N		
II SF 4 A. Connect PDIC_1. B. Verify range. 1. PDIC 1 in manual. 2. Output to 50%. Value=~10? 3. Output to 100%. Value=~20? 4. Output to 0%. Value=~0.0?	N/A N/A N/A Y / N Y / N Y / N		
PDI 3 A. Connect PDIC_1. B. Verify range. 1. PDIC 1 in manual. 2. Output to 50%. Value=~0.0? 3. Output to 100%. Value=~10? 4. Output to 0%. Value=~-10?	N/A N/A N/A Y / N Y / N Y / N		
III. Test EF-1 & EF-2 Controls A. Connect test box. B. Connect flow switch. C. Clear alarms.	N/A N/A N/A N/A		

Test Witnesses:

Test Director

Date

Cognizant Engineer

Date

Quality Assurance

Date

2736-ZB HVAC

Performed by:

Step	Accept	Initial	Comments
D. Test EF-1 Controls	N/A		
1. YI EF 1 reads "PWR OFF"?	Y / N		
2. YI EF 1 reads "OFF", and MICON 18 Points 22 & 23 off?	Y / N		
3. YI EF 1 reads "ON", and Points 22 & 23 on?	Y / N		
4. HS LL 3 to "EF-2".	N/A		
5. MICON 18 Point 6 on?	Y / N		
6. No failure alarm?	Y / N		
7. Test failure alarm.	N/A		
a. Alarm sounds?	Y / N		
b. Alarm clears?	Y / N		
c. MICON 18 Point 6 off, and alarm sounds?	Y / N		
d. Ready signal on.	N/A		
e. Alarm clears?	Y / N		
E. Test interlocks.	N/A		
1. HS LL 3 to "EF-1".	N/A		
2. HS EF 1 to "START"?	Y / N		
3. HS EF 1 to "STOP"?	Y / N		
4. HS EF 2 to "START".	N/A		
5. EF-2 failure alarm, and HS EF 1 to "START"?	Y / N		
6. HS EF 2 to "STOP".	N/A		
7. CoTd smoke alarm, and HS EF 1 to "STOP"?	Y / N		
8. HS EF 1 will not switch?	Y / N		
9. CoTd smoke alarm clears?	Y / N		
F. Signals off.	N/A		

Test Witnesses:

Test Director

Date

Cognizant Engineer

Date

Quality Assurance

Date

2736-ZB HVAC

Performed by:

Step	Accept	Initial	Comments
G. Test EF-2 Controls	N/A		
1. YI EF 2 reads "PWR OFF"?	Y / N		
2. YI EF 2 reads "OFF", and MICON 19 Points 22 & 23 off?	Y / N		
3. YI EF 2 reads "ON", and Points 22 & 23 on?	Y / N		
4. HS LL 3 to "EF-1".	N/A		
5. MICON 19 Point 6 on?	Y / N		
6. No failure alarm?	Y / N		
7. Test failure alarm.	N/A		
a. Alarm sounds?	Y / N		
b. Alarm clears?	Y / N		
c. MICON 19 Point 6 off, and alarm sounds?	Y / N		
d. Ready signal on.	N/A		
e. Alarm clears?	Y / N		
H. Test interlocks.	N/A		
1. HS LL 3 to "EF-2".	N/A		
2. HS EF 2 to "START"?	Y / N		
3. HS EF 2 to "STOP"?	Y / N		
4. HS EF 1 to "START".	N/A		
5. EF-1 failure alarm, and HS EF 2 to "START"?	Y / N		
6. HS EF 1 to "STOP".	N/A		
7. CoId smoke alarm, and HS EF 2 to "STOP"?	Y / N		
8. HS EF 2 will not switch?	Y / N		
9. CoId smoke alarm clears?	Y / N		
I. Signals off.	N/A		
J. Test M-1 Air interlock.	N/A		
1. MICON 20 Point 24 on?	Y / N		
2. Output off?	Y / N		
3. Output off?	Y / N		
4. Output off?	Y / N		
5. Output on?	Y / N		

Test Witnesses:

Test Director

Date

Cognizant Engineer

Date

Quality Assurance

Date

2736-ZB HVAC

Performed by:

Step	Accept	Initial	Comments
K. Test glovebox dry air interlock.	N/A		
1. Fan signal & alarms off.	N/A		
2. MICON 20 Point 19 off?	Y / N		
3. Output on?	Y / N		
4. Output on?	Y / N		
5. Output on?	Y / N		
6. Output off?	Y / N		
7. Output on?	Y / N		
8. Activate cold smoke alarm.	N/A		
9. Alarm & Output off?	Y / N		
10. Alarm clear & Output on?	Y / N		
11. Repeat	N/A		
8. Activate ZB fire alarm.	N/A		
9. Alarm & Output off?	Y / N		
10. Alarm clear & Output on?	Y / N		
11. Repeat	N/A		
8. Activate NDA fire alarm.	N/A		
9. Alarm & Output off?	Y / N		
10. Alarm clear & Output on?	Y / N		
11. Repeat	N/A		
8. Activate glovebox dp alarm.	N/A		
9. Alarm & Output off?	Y / N		
10. Alarm clear & Output on?	Y / N		
12. Switches off	N/A		
L. All switches off & disconnect wires.	N/A		
IV. Test SF-1 & SF-2 Controls	N/A		
A. Connect test box.	N/A		
B. Connect flow switch.	N/A		
C. Clear alarms.	N/A		

Test Witnesses:

Test Director

Date

Cognizant Engineer

Date

Quality Assurance

Date

2736-ZB HVAC

Performed by:

Step	Accept	Initial	Comments
D. Test SF-1 Controls 1. YI SF 1 reads "PWR OFF"? 2. YI SF 1 reads "OFF", and MICON 18 Points 20 & 21 off? 3. YI SF 1 reads "ON", and Points 20 & 21 on? 4. HS L11 to "SF-2". 5. MICON 18 Point 3 on? 6. No failure alarm?	N/A Y / N Y / N Y / N N/A Y / N Y / N		
7. Test failure alarm. a. Alarm sounds? b. Alarm clears? c. MICON 18 Point 3 off, and alarm sounds? d. Ready signal on. e. Alarm clears?	N/A Y / N Y / N Y / N N/A Y / N		

Test Witnesses:

Test Director_____
Date_____
Cognizant Engineer_____
Date_____
Quality Assurance_____
Date

2736-ZB HVAC

Performed by:

Step	Accept	Initial	Comments
E. Test interlocks.	N/A		
1. HS LL1 to "SF-1".	N/A		
2. Activate exhaust Dp.	N/A		
3. HS_SF_1 to "START"?	Y / N		
4. HS_SF_1 to "STOP"?	Y / N		
5. HS_SF_1 to "START"?	Y / N		
6. HS_SF_1 to "STOP"?	Y / N		
7. HS_SF_2 to "START".	N/A		
8. Failure alarm, and HS_SF_1 to "START"?	Y / N		
9. HS_SF_2 to "STOP".	N/A		
10. CoTd smoke alarm, and HS_SF_1 to "STOP"?	Y / N		
11. HS_SF_1 will not switch?	Y / N		
12. CoTd smoke alarm clears?	Y / N		
13. HS_SF_1 to "START".	N/A		
14. Repeat	N/A		
10. ZB fire alarm, and HS_SF_1 to "STOP"?	Y / N		
11. HS_SF_1 will not switch?	Y / N		
12. Alarm clears?	Y / N		
13. HS_SF_1 to "START".	N/A		
14. Repeat	N/A		
10. NDA fire alarm, and HS_SF_1 to "STOP"?	Y / N		
11. HS_SF_1 will not switch?	Y / N		
12. Alarm clears?	Y / N		
13. HS_SF_1 to "START".	N/A		
F. HS_SF_1 to "STOP" and signals off.	N/A		

Test Witnesses:

Test Director

Date

Cognizant Engineer

Date

Quality Assurance

Date

2736-ZB HVAC

Performed by:

Step	Accept	Initial	Comments
G. Test SF-2 Controls	N/A		
1. YI_SF_2 reads "PWR OFF"?	Y / N		
2. YI_SF_2 reads "OFF", and MICON 19 Points 20 & 21 off?	Y / N		
3. YI_SF_2 reads "ON", and Points 20 & 21 on?	Y / N		
4. HS LL1 to "SF-1".	N/A		
5. MICON 19 Point 3 on?	Y / N		
6. No failure alarm?	Y / N		
7. Test failure alarm.	N/A		
a. Alarm sounds?	Y / N		
b. Alarm clears?	Y / N		
c. MICON 19 Point 3 off, and alarm sounds?	Y / N		
d. Ready signal on.	N/A		
e. Alarm clears?	Y / N		

Test Witnesses:

Test Director

Date

Cognizant Engineer

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Quality Assurance

Date

2736-ZB HVAC

Performed by:

Step	Accept	Initial	Comments
H. Test interlocks.	N/A		
1. HS LLI to "SF-2".	N/A		
2. Activate exhaust Dp.	N/A		
3. HS_SF_2 to "START"?	Y / N		
4. HS_SF_2 to "STOP"?	Y / N		
5. HS_SF_2 to "START"?	Y / N		
6. HS_SF_2 to "STOP"?	Y / N		
7. HS_SF_1 to "START".	N/A		
8. Failure alarm, and HS_SF_2 to "START"?	Y / N		
9. HS_SF_1 to "STOP".	N/A		
10. CoId smoke alarm, and HS_SF_2 to "STOP"?	Y / N		
11. HS_SF_2 will not switch?	Y / N		
12. CoId smoke alarm clears?	Y / N		
13. HS_SF_2 to "START".	N/A		
14. Repeat	N/A		
10. ZB fire alarm, and HS_SF_2 to "STOP"?	Y / N		
11. HS_SF_2 will not switch?	Y / N		
12. Alarm clears?	Y / N		
13. HS_SF_2 to "START".	N/A		
14. Repeat	N/A		
10. NDA fire alarm, and HS_SF_2 to "STOP"?	Y / N		
11. HS_SF_2 will not switch?	Y / N		
12. Alarm clears?	Y / N		
13. HS_SF_2 to "START".	N/A		
I. HS_SF_2 to "STOP" and signals off.	N/A		

Test Witnesses:

Test Director

Date

Cognizant Engineer

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Quality Assurance

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2736-ZB HVAC

Performed by:

Step	Accept	Initial	Comments
J. Test rest room fan interlock.	N/A		
1. MICON 20 Point 2 off?	Y / N		
2. Output on?	Y / N		
3. Output on?	Y / N		
4. Output on?	Y / N		
5. Output off?	Y / N		
6. Switches on & HS_SF_1 to "START".	N/A		
7. Output on?	Y / N		
8. Activate failure alarm.	N/A		
9. Output off?	Y / N		
10. HS SF 1 to "STOP" signals off.	N/A		
11. Switches on & HS_SF_2 to "START"	N/A		
12. Output on?	Y / N		
13. Activate failure alarm.	N/A		
14. Output off?	Y / N		
15. HS SF 2 to "STOP" & signals off.	N/A		
K. Test air conditioner interlock.	N/A		
1. Run signals and alarm off.	N/A		
2. MICON 20 Point 1 off?	Y / N		
3. Output on?	Y / N		
4. Output on?	Y / N		
5. Output on?	Y / N		
6. Output off?	Y / N		
7. Output on?	Y / N		
8. Activate cold smoke alarm.	N/A		
9. Alarm sounds, and Output off?	Y / N		
10. Alarm clears, and Output on?	Y / N		
11. Signals off.	N/A		
L. Switches off and disconnect wires.	N/A		
IV. Test RF-1 & RF-2 Controls	N/A		
A. Connect test box.	N/A		
B. Connect flow switch.	N/A		
C. Clear alarms.	N/A		

Test Witnesses:

Test Director

Date

Cognizant Engineer

Date

Quality Assurance

Date

2736-ZB HVAC

Performed by:

Step	Accept	Initial	Comments
D. Test RF-1 Controls	N/A		
1. YI RF 1 reads "PWR OFF"?	Y / N		
2. YI RF 1 reads "OFF", and MICON 18 Points 24 & 25 off?	Y / N		
3. YI RF 1 reads "ON", and Points 24 & 25 on?	Y / N		
4. HS LL 4 to "RF-2".	N/A		
5. MICON 18 Point 9 on?	Y / N		
6. No failure alarm?	Y / N		
7. Test failure alarm.	N/A		
a. Alarm sounds?	Y / N		
b. Alarm clears?	Y / N		
c. MICON 18 Point 9 off, and alarm sounds?	Y / N		
d. Ready signal on.	N/A		
e. Alarm clears?	Y / N		

Test Witnesses:

Test Director_____
Date_____
Cognizant Engineer_____
Date_____
Quality Assurance_____
Date

2736-ZB HVAC

Performed by:

Step	Accept	Initial	Comments
E. Test interlocks.	N/A		
1. HS LL 4 to "RF-1".	N/A		
2. HS_NDA to "START"	N/A		
3. HS_RF_1 to "START"?	Y / N		
4. HS_RF_1 to "STOP"?	Y / N		
5. HS_RF_2 to "START".	N/A		
6. RF-2 failure alarm, and HS RF 1 to "START"?	Y / N		
7. HS_RF_2 to "STOP".	N/A		
8. Alarm, and HS RF 1 to "STOP"?	Y / N		
9. HS_RF_1 will not switch?	Y / N		
10. CoId smoke alarm clears?	Y / N		
11. HS_RF_1 to "START".	N/A		
12. Repeat.	N/A		
8. ZB fire alarm, and HS RF 1 to "STOP"?	Y / N		
9. HS_RF_1 will not switch?	Y / N		
10. Alarm clears?	Y / N		
11. HS_RF_1 to "START"	N/A		
12. Repeat.	N/A		
8. NDA fire alarm, and HS RF 1 to "STOP"?	Y / N		
9. HS_RF_1 will not switch?	Y / N		
10. Alarm clears?	Y / N		
11. HS RF 1 to "START"	N/A		
F. HS RF 1 to "STOP" and signals off.	N/A		
G. Test RF-2 Controls	N/A		
1. YI RF 2 reads "PWR OFF"?	Y / N		
2. YI_RF_2 reads "OFF", and MICON_19 Points 24 & 25 off?	Y / N		
3. YI RF 2 reads "ON", and Points 24 & 25 on?	Y / N		
4. HS LL 4 to "RF-1".	N/A		
5. MICON_19 Point 9 on?	Y / N		
6. No failure alarm?	Y / N		

Test Witnesses:

Test Director

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Quality Assurance

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2736-ZB HVAC

Performed by:

Step	Accept	Initial	Comments
7. Test failure alarm. a. Alarm sounds? b. Alarm clears? c. MICON 19 Point 9 off, and alarm sounds? d. Ready signal on. e. Alarm clears?	N/A Y / N Y / N Y / N N/A Y / N		
H. Test interlocks. 1. HS_LL 4 to "RF-2". 2. HS_NDA to "START". 3. HS_RF 2 to "START"? 4. HS_RF 2 to "STOP"? 5. HS_RF 1 to "START". 6. RF-1 failure alarm, and HS RF 2 to "START"? 7. HS_RF 1 to "STOP". 8. CoId smoke alarm, and HS RF 2 to "STOP"? 9. HS_RF 2 will not switch? 10. Alarm clears? 11. HS RF 2 to "START". 12. Repeat. 8. ZB fire alarm, and HS RF 2 to "STOP"? 9. HS_RF 2 will not switch? 10. Alarm clears? 11. HS_RF 2 to "START" 12. Repeat. 8. NDA fire alarm, and HS RF 2 to "STOP"? 9. HS_RF 2 will not switch? 10. Alarm clears? 11. HS RF 2 to "START" I. HS RF 2 to "STOP" and signals off.	N/A N/A N/A Y / N Y / N N/A Y / N N/A Y / N Y / N Y / N N/A N/A N/A Y / N Y / N Y / N N/A N/A Y / N Y / N N/A N/A		

Test Witnesses:

Test Director

Date

Cognizant Engineer

Date

Quality Assurance

Date

2736-ZB HVAC

Performed by:

Step	Accept	Initial	Comments
J. Test M-2 Air interlock. 1. MICON 20 Point 23 on? 2. Output off? 3. Output off? 4. Output off? 5. Output on?	N/A Y / N Y / N Y / N Y / N Y / N		
K. Switches off, and disconnect wires.	N/A		
VI. Tet SF-3 and SF-4 controls. A. Connect test box. B. Connect flow switch. C. Connect RF-1 & 2 run signals. D. Clear alarms.	N/A N/A N/A N/A N/A		
E. Test SF-3 controls. 1. YI_SF_3 reads "PWR OFF"? 2. YI_SF_3 reads "OFF", and MICON 18 Points 29 & 30 off? 3. YI_SF_3 reads "ON", and Points 29 & 30 on? 4. HS LL2 to "SF-4". 5. MICON 18 Point 17 on? 6. No failure alarm?	N/A Y / N Y / N Y / N N/A Y / N Y / N		
7. Test failure alarm. a. Alarm sounds? b. Alarm clears? c. MICON 18 Point 17 off, and alarm sounds? d. Ready signal on. e. Alarm clears?	N/A Y / N Y / N Y / N N/A Y / N		

Test Witnesses:

Test Director

Date

Cognizant Engineer

Date

Quality Assurance

Date

2736-ZB HVAC

Performed by:

Step	Accept	Initial	Comments
F. Test interlocks	N/A		
1. HS LL2 to "SF-3".	N/A		
2. Activate RF-1 run.	N/A		
3. HS SF 3 to "START"?	Y / N		
4. HS SF 3 to "STOP"?	Y / N		
5. Unplug run & HS_RF_1 to "STOP".	N/A		
6. Repeat	N/A		
2. Activate RF-2 run.	N/A		
3. HS SF 3 to "START"?	Y / N		
4. HS SF 3 to "STOP"?	Y / N		
5. Unplug run & HS RF_2 to "STOP".	N/A		
7. HS SF 3 to "START".	N/A		
8. HS SF 3 to "STOP"?	Y / N		
9. HS SF 4 to "START".	N/A		
10. HS SF 3 to "START"?	Y / N		
11. HS SF 4 to "STOP".	N/A		
12. CoTd smoke alarm, and HS SF 3 to "STOP"?	Y / N		
13. HS SF 3 will not switch?	Y / N		
14. Alarm clears?	Y / N		
15. HS SF 3 to "START"	N/A		
16. Repeat	N/A		
12. ZB fire alarm, and HS SF 3 to "STOP"?	Y / N		
13. HS SF 3 will not switch?	Y / N		
14. Alarm clears?	Y / N		
15. HS SF 3 to "START"	N/A		
16. Repeat	N/A		
12. NDA fire alarm, and HS SF 3 to "STOP"?	Y / N		
13. HS SF 3 will not switch?	Y / N		
14. Alarm clears?	Y / N		
15. HS SF 3 to "START"	N/A		
G. HS SF 3 to "STOP" & signals off.	N/A		

Test Witnesses:

Test Director

Date

Cognizant Engineer

Date

Quality Assurance

Date

2736-ZB HVAC

Performed by:

Step	Accept	Initial	Comments
H. Test SF-4 controls. 1. YI SF 4 reads "PWR OFF"? 2. YI SF 4 reads "OFF", and MICON 19 Points 29 & 30 off? 3. YI SF 4 reads "ON", and Points 29 & 30 on? 4. HS LL2 to "SF-3". 5. MICON 19 Point 17 on? 6. No failure alarm?	N/A Y / N Y / N Y / N N/A Y / N Y / N		
7. Test failure alarm. a. Alarm sounds? b. Alarm clears? c. MICON 19 Point 17 off, and alarm sounds? d. Ready signal on. e. Alarm clears?	N/A Y / N Y / N Y / N N/A Y / N		

Test Witnesses:

Test Director

Date

Cognizant Engineer

Date

Quality Assurance

Date

2736-ZB HVAC

Performed by:

Step	Accept	Initial	Comments
I. Test interlocks	N/A		
1. HS LL2 to "SF4".	N/A		
2. Activate RF-1 run.	N/A		
3. HS_SF_4 to "START"?	Y / N		
4. HS_SF_4 to "STOP"?	Y / N		
5. Unplug run & HS_RF_1 to "STOP".	N/A		
6. Repeat	N/A		
2. Activate RF-2 run.	N/A		
3. HS_SF_4 to "START"?	Y / N		
4. HS_SF_4 to "STOP"?	Y / N		
5. Unplug run & HS_RF_2 to "STOP".	N/A		
7. HS_SF_4 to "START".	N/A		
8. HS_SF_4 to "STOP"?	Y / N		
9. HS_SF_3 to "START".	N/A		
10. Alarm & HS_SF_4 to "START"?	Y / N		
11. HS_SF_3 to "STOP".	N/A		
12. CoId smoke alarm, and HS_SF_4 to "STOP"?	Y / N		
13. HS_SF_4 will not switch?	Y / N		
14. Alarm clears?	Y / N		
15. HS_SF_4 to "START"	N/A		
16. Repeat	N/A		
12. ZB fire alarm, and HS_SF_4 to "STOP"?	Y / N		
13. HS_SF_4 will not switch?	Y / N		
14. Alarm clears?	Y / N		
15. HS_SF_4 to "START"	N/A		
16. Repeat	N/A		
12. NDA fire alarm, and HS_SF_4 to "STOP"?	Y / N		
13. HS_SF_4 will not switch?	Y / N		
14. Alarm clears?	Y / N		
15. HS_SF_4 to "START"	N/A		
J. HS_SF_4 to "STOP" & signals off.	N/A		

Test Witnesses:

Test Director

Date

Cognizant Engineer

Date

Quality Assurance

Date

2736-ZB HVAC

Performed by:

Step	Accept	Initial	Comments
K. Test COND-2 interlock. 1. Run signals and alarm off. 2. MICON 20 Point 5 off? 3. Output on? 4. Output on? 5. Output on? 6. Output off? 7. Output on? 8. Activate cold smoke alarm. 9. Alarm sounds, and Output off? 10. Alarm clears, and Output on? 11. Signals off.	N/A N/A Y / N Y / N Y / N Y / N Y / N N/A Y / N Y / N N/A		
L. Switches off, and disconnect wires.	N/A		
VII. Test EF-1-1 and EF-1-2 controls. A. Connect test box. B. Connect run timer input. C. Clear alarm.	N/A N/A N/A N/A		
D. Test EF-1-1 controls. 1. YI 1 1 reads "PWR OFF"? 2. YI 1 1 reads "OFF", and MICON 18 Point 28 off? 3. MICON 18 Point 11 on, and YI 1 1 reads "ON"? 4. MICON 18 Point 28 on? 5. No failure alarm?	N/A Y / N Y / N Y / N Y / N Y / N		
6. Test failure alarm. a. Alarm sounds? b. Alarm clears? c. MICON 18 Point 11 off, and alarm sounds? d. Ready signal on. e. Alarm clears?	N/A Y / N Y / N Y / N N/A Y / N		

Test Witnesses:

Test Director

Date

Cognizant Engineer

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Quality Assurance

Date

2736-ZB HVAC

Performed by:

Step	Accept	Initial	Comments
E. Test EF-1-1 Interlocks 1. HS 1 1 to "START". 2. CoTd smoke alarm, and HS 1 1 to "STOP"? 3. HS 1 1 will not switch? 4. Alarm clears? F. Switches off	N/A N/A Y / N Y / N Y / N N/A		
G. Test EF-1-2 controls. 1. YI 1 2 reads "PWR OFF"? 2. YI 1 2 reads "OFF", and MICON 19 Point 28 off? 3. MICON 19 Point 11 on, and YI 1 2 reads "ON"? 4. MICON 19 Point 28 on? 5. No failure alarm?	N/A Y / N Y / N Y / N Y / N Y / N		
6. Test failure alarm. a. Alarm sounds? b. Alarm clears? c. MICON 19 Point 11 off, and alarm sounds? d. Ready signal on. e. Alarm clears?	N/A Y / N Y / N Y / N N/A Y / N		
H. Test EF-1-2 Interlocks 1. HS 1 2 to "START". 2. CoTd smoke alarm, and HS 1 2 to "STOP"? 3. HS 1 2 will not switch? 4. Alarm clears? I. Switches off.	N/A N/A Y / N Y / N Y / N N/A		

Test Witnesses:

Test Director

Date

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Performed by:

Step	Accept	Initial	Comments
J. Test M-3 Air interlock. 1. Switches on. 2. MICON 20 Point 25 on? 3. Output off? 4. Output off? 5. HS 1 2 to "STOP". 6. Failure alarm, and Output on? 7. Output off? 8. Failure alarm, and Output on?	N/A N/A Y / N Y / N Y / N N/A Y / N Y / N Y / N		
K. Switches off, and disconnect wires	N/A		
VIII. Test SF-5 and SF-6 controls. A. Connect test box. B. Connect flow switch. C. Clear alarm.	N/A		
D. Test SF-5 controls. 1. YI SF 5 reads "PWR OFF"? 2. YI SF 5 reads "OFF", and MICON 18 Points 26 & 27 off? 3. YI SF 5 reads "ON", and Points 26 & 27 on? 4. MICON 18 Point 14 on? 5. No failure alarm?	N/A Y / N Y / N Y / N Y / N Y / N Y / N		
6. Test failure alarm. a. Alarm sounds? b. Alarm clears? c. MICON 18 Point 14 off, and alarm sounds? d. Ready signal on. e. Alarm clears?	N/A Y / N Y / N Y / N N/A Y / N		

Test Witnesses:

Test Director

Date

Cognizant Engineer

Date

Quality Assurance

Date

2736-ZB HVAC

Performed by:

Step	Accept	Initial	Comments
E. Test SF-5 Interlocks. 1. HS_SF 5 to "START". 2. HS_1 I to "START". 3. EF_1_1 failure alarm, and HS_SF 5 to "STOP"? 4. HS_1 I to "STOP", and HS_SF 5 to "START". 5. CoId smoke alarm, and HS_SF 5 to "STOP"? 6. HS_SF_5 will not switch? 7. Alarm clears?	N/A N/A N/A Y / N N/A Y / N Y / N Y / N		
F. Test SF-6 controls. 1. YI_SF 6 reads "PWR OFF"? 2. YI_SF_6 reads "OFF", and MICON_19 Points 26 & 27 off? 3. YI_SF 6 reads "ON", and Points 26 & 27 on? 4. MICON 19 Point 14 on? 5. No failure alarm?	N/A Y / N Y / N Y / N Y / N Y / N		
6. Test failure alarm. a. Alarm sounds? b. Alarm clears? c. MICON 19 Point 14 off, and alarm sounds? d. Ready signal on. e. Alarm clears?	N/A Y / N Y / N Y / N N/A Y / N		

Test Witnesses:

Test Director

Date

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Quality Assurance

Date

2736-ZB HVAC

Performed by:

Step	Accept	Initial	Comments
G. Test SF-6 Interlocks. 1. HS SF 6 to "START". 2. HS ₁ 2 to "START". 3. EF ₁ 2 failure alarm, and HS SF 6 to "STOP"? 4. HS ₁ 2 to "STOP", and HS SF 6 to "START". 5. CoTd smoke alarm, and HS SF 6 to "STOP"? 6. HS SF 6 will not switch? 7. Alarm clears?	N/A N/A N/A Y / N N/A Y / N Y / N Y / N		
H. Test 2736-Z damper interlock. 1. Run signals off. 2. MICON 20 Point 27 off? 3. Output on? 4. Output on? 5. Output on? 6. Output off?	N/A N/A Y / N Y / N Y / N Y / N Y / N		
I. Switches off and disconnect wires.	N/A		
IX. Test the 2736-Z auto-start interlock. A. Connect test box. B. Connect supply fan flow switches. C. Connect exhaust fan run signals.	N/A N/A N/A N/A		

Test Witnesses:

Test Director_____
Date_____
Cognizant Engineer_____
Date_____
Quality Assurance_____
Date

2736-ZB HVAC

Performed by:

Step	Accept	Initial	Comments
D. exhaust fan flow switches on.	N/A		
E. HS 1 1 to "START".	N/A		
F. EF-1-1 & SF-5 run on.	N/A		
G. HS SF 5 to "START"?	Y / N		
H. HS 1 2 to "START"?	Y / N		
I. EF-1-2 & SF-6 run on.	N/A		
J. HS SF 6 to "START"?	Y / N		
K. All HS's to "STOP".	N/A		
L. SF-5 & 6 runs off.	N/A		
M. EF-1-1 & 2 run jumpers.	N/A		
N. HS 1 2 stays in "STOP"?	Y / N		
O. SF-5 run off.	N/A		
P. HS 1 1 to "START".	N/A		
Q. EF-1-1 failure alarm, and HS 1 2 to "START"?	Y / N		
R. EF-1-2 and SF-6 run on.	N/A		
S. HS SF 6 to "START"?	Y / N		
T. All HS's to "STOP".	N/A		
U. Switches off and disconnect wires.	N/A		
X. Test miscellaneous interlocks.	N/A		
A. Test recirculation flow interlock.	N/A		
1. Connect alarms.	N/A		
2. MICON 20 Point 22 on?	Y / N		
3. Disconnect cold smoke jumper.	N/A		
4. Cold smoke alarm, and Output off?	Y / N		
5. Jumpers.	N/A		
6. NDA CAM alarm, and Output off?	Y / N		
7. Output off?	Y / N		
B. Test NDA low Dp interlock.	N/A		
1. MICON 20 Point 30 off?	Y / N		
2. Connect PS-8.	N/A		
3. Output on?	Y / N		
4. Output off?	Y / N		

Test Witnesses:

Test Director

Date

Cognizant Engineer

Date

Quality Assurance

Date

2736-ZB HVAC

Performed by:

Step	Accept	Initial	Comments
XI. Test Miscellaneous output. A. Test Auto/Manual switches.	N/A N/A		
HS_1 1. MICON 20 Point 18 on? 2. Output off?	N/A N/A		
HS_2 1. MICON 20 Point 21 on? 2. Output off?	N/A N/A		
HS_3 1. MICON 20 Point 29 on? 2. Output off?	N/A N/A		
HS_4 1. MICON 20 Point 20 on? 2. Output off?	N/A N/A		
HS_5 1. MICON 20 Point 26 on? 2. Output off?	N/A N/A		
HS_6 1. MICON 20 Point 28 on? 2. Output off?	N/A N/A		
B. Test instrument air compressor output. 1. MICON 20 Point 3 on? 2. Output off?	N/A Y / N Y / N		
XII. Test miscellaneous alarms A. Test the contact open alarms.	N/A N/A		
PA_ZA AC 1. Connect jumper. 2. Alarm clears? 3. Alarm sounds?	N/A Y / N Y / N		

Test Witnesses:

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2736-ZB HVAC

Performed by:

Step	Accept	Initial	Comments
LAL_VP_1 1. Connect jumper. 2. Alarm clears? 3. Alarm sounds?	N/A Y / N Y / N		
XA_EGF 1. Connect jumper. 2. Alarm clears? 3. Alarm sounds?	N/A Y / N Y / N		
XA_PLC_1 1. Connect jumper. 2. Alarm clears? 3. Alarm sounds?	N/A Y / N Y / N		
LAL_CFT 1. Connect jumper. 2. Alarm clears? 3. Alarm sounds?	N/A Y / N Y / N		
LALL_CFT 1. Connect jumper. 2. Alarm clears? 3. Alarm sounds?	N/A Y / N Y / N		
XA_EGS_1 1. Connect jumper. 2. Alarm clears? 3. Alarm sounds?	N/A Y / N Y / N		
XA_EGS_2 1. Connect jumper. 2. Alarm clears? 3. Alarm sounds?	N/A Y / N Y / N		
YA_G1_1 1. Connect jumper. 2. Alarm clears? 3. Alarm sounds?	N/A Y / N Y / N		

Test Witnesses:

Test Director

Date

Cognizant Engineer

Date

Quality Assurance

Date

2736-ZB HVAC

Performed by:

Step	Accept	Initial	Comments
LAL_VP_2 1. Connect jumper. 2. Alarm clears? 3. Alarm sounds?	N/A Y / N Y / N		
YA_G1_2 1. Connect jumper. 2. Alarm clears? 3. Alarm sounds?	N/A Y / N Y / N		
XA_G1_2 1. Connect jumper. 2. Alarm clears? 3. Alarm sounds?	N/A Y / N Y / N		
YA_G2_1 1. Connect jumper. 2. Alarm clears? 3. Alarm sounds?	N/A Y / N Y / N		
YA_G2_2 1. Connect jumper. 2. Alarm clears? 3. Alarm sounds?	N/A Y / N Y / N		
XA_G2_2 1. Connect jumper. 2. Alarm clears? 3. Alarm sounds?	N/A Y / N Y / N		
XA_FAZN2 1. Connect jumper. 2. Alarm clears? 3. Alarm sounds?	N/A Y / N Y / N		
XA_FZB_B 1. Connect jumper. 2. Alarm clears? 3. Alarm sounds?	N/A Y / N Y / N		

Test Witnesses:

Test Director

Date

Cognizant Engineer

Date

Quality Assurance

Date

2736-ZB HVAC

Performed by:

Step	Accept	Initial	Comments
XA_ZN8B 1. Connect jumper. 2. Alarm clears? 3. Alarm sounds?	N/A Y / N Y / N		
XA_ZN2B 1. Connect jumper. 2. Alarm clears? 3. Alarm sounds?	N/A Y / N Y / N		
PA_PCR 1. Connect jumper. 2. Alarm clears? 3. Alarm sounds?	N/A Y / N Y / N		
XA_232Z 1. Connect jumper. 2. Alarm clears? 3. Alarm sounds?	N/A Y / N Y / N		
YA_G3_1 1. Connect jumper. 2. Alarm clears? 3. Alarm sounds?	N/A Y / N Y / N		
YA_G3_2 1. Connect jumper. 2. Alarm clears? 3. Alarm sounds?	N/A Y / N Y / N		
XA_G3_2 1. Connect jumper. 2. Alarm clears? 3. Alarm sounds?	N/A Y / N Y / N		
XA_NDA_P 1. Connect jumper. 2. Alarm clears? 3. Alarm sounds?	N/A Y / N Y / N		

Test Witnesses:

Test Director

Date

Cognizant Engineer

Date

Quality Assurance

Date

2736-ZB HVAC

Performed by:

Step	Accept	Initial	Comments
XA_UPS1 1. Connect jumper. 2. Alarm clears? 3. Alarm sounds?	N/A Y / N Y / N		
XA_UPS2 1. Connect jumper. 2. Alarm clears? 3. Alarm sounds?	N/A Y / N Y / N		
XA_UPS3 1. Connect jumper. 2. Alarm clears? 3. Alarm sounds?	N/A Y / N Y / N		
XA_XFR1 1. Connect jumper. 2. Alarm clears? 3. Alarm sounds?	N/A Y / N Y / N		
XA_XFR2 1. Connect jumper. 2. Alarm clears? 3. Alarm sounds?	N/A Y / N Y / N		
B. Test the contact closed alarms.	N/A		
XA_SWB1 1. Connect jumper. 2. Alarm sounds? 3. Alarm clears?	N/A Y / N Y / N		
TAH_GEN1 1. Connect jumper. 2. Alarm sounds? 3. Alarm clears?	N/A Y / N Y / N		

Test Witnesses:

Test Director

Date

Cognizant Engineer

Date

Quality Assurance

Date

2736-ZB HVAC

Performed by:

Step	Accept	Initial	Comments
PAL_GEN1 1. Connect jumper. 2. Alarm sounds? 3. Alarm clears?	N/A Y / N Y / N		
XA_G1_1 1. Connect jumper. 2. Alarm sounds? 3. Alarm clears?	N/A Y / N Y / N		
SAH_GEN1 1. Connect jumper. 2. Alarm sounds? 3. Alarm clears?	N/A Y / N Y / N		
EAL_GEN1 1. Connect jumper. 2. Alarm sounds? 3. Alarm clears?	N/A Y / N Y / N		
TAH_GEN2 1. Connect jumper. 2. Alarm sounds? 3. Alarm clears?	N/A Y / N Y / N		
PAL_GEN2 1. Connect jumper. 2. Alarm sounds? 3. Alarm clears?	N/A Y / N Y / N		
XA_G2_1 1. Connect jumper. 2. Alarm sounds? 3. Alarm clears?	N/A Y / N Y / N		
SAH_GEN2 1. Connect jumper. 2. Alarm sounds? 3. Alarm clears?	N/A Y / N Y / N		

Test Witnesses:

Test Director

Date

Cognizant Engineer

Date

Quality Assurance

Date

2736-ZB HVAC

Performed by:

Step	Accept	Initial	Comments
EAL_GEN2 1. Connect jumper. 2. Alarm sounds? 3. Alarm clears?	N/A Y / N Y / N		
TAH_GEN3 1. Connect jumper. 2. Alarm sounds? 3. Alarm clears?	N/A Y / N Y / N		
PAL_GEN3 1. Connect jumper. 2. Alarm sounds? 3. Alarm clears?	N/A Y / N Y / N		
XA_G3_1 1. Connect jumper. 2. Alarm sounds? 3. Alarm clears?	N/A Y / N Y / N		
SAH_GEN3 1. Connect jumper. 2. Alarm sounds? 3. Alarm clears?	N/A Y / N Y / N		
EAL_GEN3 1. Connect jumper. 2. Alarm sounds? 3. Alarm clears?	N/A Y / N Y / N		
XIII. Test miscellaneous inputs. A. Test the vacum pump status indicators.	N/A N/A		
YI_VP_1 1. Connect jumper. 2. Indicator "OFF"? 3. Indicator "ON"?	N/A Y / N Y / N		

Test Witnesses:

Test Director

Date

Cognizant Engineer

Date

Quality Assurance

Date

WHC-SD-610-ATP-002 Rev. 0

Project B610 Process Control Configuration ATP

2736-ZB HVAC

Performed by:

Step	Accept	Initial	Comments
YI VP 2 1. Connect jumper. 2. Indicator "OFF"? 3. Indicator "ON"?	N/A Y / N Y / N		

Test Witnesses:

Test Director

Date

Cognizant Engineer

Date

Quality Assurance

Date

234-5Z HVAC

Performed by:

Step	Accept	Initial	Comments
I. Test zone pressure controllers.	N/A		
PIC 1 A. Connect output to input. B. Verify range. 1. Controller in manual. 2. Output=50%, PV=~0.1? 3. Output=100%, PV=~0? 4. Output=0%, PV=~0.2? E. Verify action. 1. Output to 50%. 2. Setpoint to 0.05. 3. Output decreases?	N/A N/A N/A Y / N Y / N Y / N N/A N/A N/A Y / N		
PIC2 A. Connect output to input. B. Verify range. 1. Controller in manual. 2. Output=50%, PV=~0.1? 3. Output=100%, PV=~0? 4. Output=0%, PV=~0.2? E. Verify action. 1. Output to 50%. 2. Setpoint to 0.05. 3. Output increases?	N/A N/A N/A Y / N Y / N Y / N N/A N/A N/A Y / N		
PIC 4 A. Connect output to input. B. Verify range. 1. Controller in manual. 2. Output=50%, PV=~0.1? 3. Output=100%, PV=~0? 4. Output=0%, PV=~0.2? E. Verify action. 1. Output to 50%. 2. Setpoint to 0.05. 3. Output increases?	N/A N/A N/A Y / N Y / N Y / N N/A N/A N/A Y / N		

Test Witnesses:

Test Director

Date

Cognizant Engineer

Date

Quality Assurance

Date

234-5Z HVAC

Performed by:

Step	Accept	Initial	Comments
PIC 5 A. Connect output to input. B. Verify range. 1. Controller in manual. 2. Output=50%, PV=~0.1? 3. Output=100%, PV=~0? 4. Output=0%, PV=~0.2? E. Verify action. 1. Output to 50%. 2. Setpoint to 0.05. 3. Output increases?	N/A N/A N/A Y / N Y / N Y / N N/A N/A N/A Y / N		
PIC 6 A. Connect output to input. B. Verify range. 1. Controller in manual. 2. Output=50%, PV=~0.1? 3. Output=100%, PV=~0? 4. Output=0%, PV=~0.2? E. Verify action. 1. Output to 50%. 2. Setpoint to 0.05. 3. Output increases?	N/A N/A N/A Y / N Y / N Y / N N/A N/A N/A Y / N		

Test Witnesses:

Test Director

Date

Cognizant Engineer

Date

Quality Assurance

Date

234-5Z HVAC

Performed by:

Step	Accept	Initial	Comments
PIC 1 S A. Connect output to input. B. Verify range. 1. Controller in manual. 2. Output=50%, PV=~1.5? 3. Output=100%, PV=~1.0? 4. Output=0%, PV=~4.0? C. Verify low alarm. 1. Adjust output. 2. Low alarm=~0.5? D. Verify high alarm. 1. Adjust output. 2. High alarm=~2.4? E. Verify action. 1. Output to 50%. 2. Setpoint to 0.25. 3. Output decreases?	N/A N/A N/A Y / N Y / N Y / N N/A N/A Y / N N/A N/A Y / N N/A N/A N/A Y / N		
PDIC 1F A. Connect output to input. B. Verify range. 1. Controller in manual. 2. Output=50%, PV=~2.5? 3. Output=100%, PV=~5.0? 4. Output=0%, PV=~0? E. Verify action. 1. Output to 50%. 2. Setpoint to 1.3. 3. Output decreases?	N/A N/A N/A Y / N Y / N Y / N N/A N/A N/A Y / N		

Test Witnesses:

Test Director

Date

Cognizant Engineer

Date

Quality Assurance

Date

234-5Z HVAC

Performed by:

Step	Accept	Initial	Comments
II. Test Analog indicators A. Test using PIC 1 S auxiliary.	N/A N/A		
AI_FAN 1. Connect PIC_1_S aux. output. 2. Verify range. a. PIC_1_S in manual. b. Output=50%, Value=~75? c. Output=100%, Value=~0? d. Output=0%, Value=~150?	N/A N/A N/A Y / N Y / N Y / N		
PI_3 1. Connect PIC_1_S aux. output. 2. Verify range. a. PIC_1_S in manual. b. Output=50%, Value=~0.1? c. Output=100%, Value=~0? d. Output=0%, Value=~0.2?	N/A N/A N/A Y / N Y / N Y / N		
TI_10 1. Connect PIC_1_S aux. output. 2. Verify range. a. PIC_1_S in manual. b. Output=50%, Value=~50? c. Output=100%, Value=~0? d. Output=0%, Value=~100?	N/A N/A N/A Y / N Y / N Y / N		
PI_5 1. Connect PIC_1_S aux. output. 2. Verify range. a. PIC_1_S in manual. b. Output=50%, Value=~0.1? c. Output=100%, Value=~0? d. Output=0%, Value=~0.2?	N/A N/A N/A Y / N Y / N Y / N		

Test Witnesses:

Test Director

Date

Cognizant Engineer

Date

Quality Assurance

Date

234-5Z HVAC

Performed by:

Step	Accept	Initial	Comments
PDI 228A 1. Connect PIC 1 S aux. output. 2. Verify range. a. PIC 1 S in manual. b. Output=50%, Value=~0.5? c. Output=100%, Value=~0? d. Output=0%, Value=~1.0?	N/A N/A N/A Y / N Y / N Y / N		
PDI 230A 1. Connect PIC 1 S aux. output. 2. Verify range. a. PIC 1 S in manual. b. Output=50%, Value=~0.5? c. Output=100%, Value=~0? d. Output=0%, Value=~1.0?	N/A N/A N/A Y / N Y / N Y / N		
B. Test using PIC 5 auxiliary output.	N/A		
PDI 232A 1. Connect PIC 5 aux. output. 2. Verify range. a. PIC 5 in manual. b. Output=50%, Value=~0.5? c. Output=100%, Value=~0? d. Output=0%, Value=~1.0?	N/A N/A N/A Y / N Y / N Y / N		
PDI 308 1. Connect PIC 5 aux. output. 2. Verify range. a. PIC 5 in manual. b. Output=50%, Value=~0? c. Output=100%, Value=~0.5? d. Output=0%, Value=~0.5?	N/A N/A N/A Y / N Y / N Y / N		

Test Witnesses:

Test Director_____
Date_____
Cognizant Engineer_____
Date_____
Quality Assurance_____
Date

234-5Z HVAC

Performed by:

Step	Accept	Initial	Comments
AI_TST 1. Connect PIC_5 aux. output. 2. Verify range. a. PIC_5 in manual. b. Output=50%, Value=~7.0? c. Output=100%, Value=~0? d. Output=0%, Value=~14.0? 3. Verify low alarm. a. Adjust output. b. Low alarm=~4.0? 4. Verify high alarm. a. Adjust output. b. High alarm=~10.0?	N/A N/A N/A Y / N Y / N Y / N N/A N/A Y / N N/A N/A Y / N		
AI_DA1E 1. Connect PIC_5 aux. output. 2. Verify range. a. PIC_5 in manual. b. Output=50%, Value=~50? c. Output=100%, Value=~0? d. Output=0%, Value=~100?	N/A N/A N/A Y / N Y / N Y / N		
AI_TC1E 1. Connect PIC_5 aux. output. 2. Verify range. a. PIC_5 in manual. b. Output=50%, Value=~75? c. Output=100%, Value=~0? d. Output=0%, Value=~150?	N/A N/A N/A Y / N Y / N Y / N		

Test Witnesses:

Test Director_____
Date_____
Cognizant Engineer_____
Date_____
Quality Assurance_____
Date

234-5Z HVAC

Performed by:

Step	Accept	Initial	Comments
C. Test using PIC2 auxiliary output.	N/A		
TI_TC2E 1. Connect PIC2 aux. output. 2. Verify range. a. PIC2 in manual. b. Output=50%, Value=~75? c. Output=100%, Value=~0? d. Output=0%, Value=~150?	N/A N/A N/A Y / N Y / N Y / N		
TI_TPI1E 1. Connect PIC2 aux. output. 2. Verify range. a. PIC2 in manual. b. Output=50%, Value=~75? c. Output=100%, Value=~0? d. Output=0%, Value=~150?	N/A N/A N/A Y / N Y / N Y / N		
TI_TPI2E 1. Connect PIC2 aux. output. 2. Verify range. a. PIC2 in manual. b. Output=50%, Value=~75? c. Output=100%, Value=~0? d. Output=0%, Value=~150?	N/A N/A N/A Y / N Y / N Y / N		
TI_TP01E 1. Connect PIC2 aux. output. 2. Verify range. a. PIC2 in manual. b. Output=50%, Value=~75? c. Output=100%, Value=~0? d. Output=0%, Value=~150?	N/A N/A N/A Y / N Y / N Y / N		

Test Witnesses:

Test Director

Date

Cognizant Engineer

Date

Quality Assurance

Date

234-5Z HVAC

Performed by:

Step	Accept	Initial	Comments
TI_TP02E 1. Connect PIC2 aux. output. 2. Verify range. a. PIC2 in manual. b. Output=50%, Value=~75? c. Output=100%, Value=~0? d. Output=0%, Value=~150?	N/A N/A N/A Y / N Y / N Y / N		
PDI_COR4 1. Connect PIC2 aux. output. 2. Verify range. a. PIC2 in manual. b. Output=50%, Value=~75? c. Output=100%, Value=~0? d. Output=0%, Value=~150?	N/A N/A N/A Y / N Y / N Y / N		
PDI_262 1. Connect PIC2 aux. output. 2. Verify range. a. PIC2 in manual. b. Output=50%, Value=~75? c. Output=100%, Value=~0? d. Output=0%, Value=~150?	N/A N/A N/A Y / N Y / N Y / N		
D. Test using PIC 4 auxiliary output.	N/A		
PDI_1 1. Connect PIC_4 aux. output. 2. Verify range. a. PIC_4 in manual. b. Output=50%, Value=~0.0? c. Output=100%, Value=~-1.0? d. Output=0%, Value=~1.0? 3. Verify low alarm. a. Adjust output. b. Low alarm=~0.1?	N/A N/A N/A Y / N Y / N Y / N N/A N/A Y / N		

Test Witnesses:

Test Director

Date

Cognizant Engineer

Date

Quality Assurance

Date

234-5Z HVAC

Performed by:

Step	Accept	Initial	Comments
PI_4 1. Connect PIC_4 aux. output. 2. Verify range. a. PIC_4 in manual. b. Output=50%, Value=~0.1? c. Output=100%, Value=~0? d. Output=0%, Value=~0.2?	N/A N/A N/A Y / N Y / N Y / N		
TI_11 1. Connect PIC_4 aux. output. 2. Verify range. a. PIC_4 in manual. b. Output=50%, Value=~50? c. Output=100%, Value=~0? d. Output=0%, Value=~100?	N/A N/A N/A Y / N Y / N Y / N		
PDI_166 1. Connect PIC_4 aux. output. 2. Verify range. a. PIC_4 in manual. b. Output=50%, Value=~0.5? c. Output=100%, Value=~0? d. Output=0%, Value=~1.0?	N/A N/A N/A Y / N Y / N Y / N		
PDI_228B 1. Connect PIC_4 aux. output. 2. Verify range. a. PIC_4 in manual. b. Output=50%, Value=~0.5? c. Output=100%, Value=~0? d. Output=0%, Value=~1.0?	N/A N/A N/A Y / N Y / N Y / N		

Test Witnesses:

Test Director

Date

Cognizant Engineer

Date

Quality Assurance

Date

234-5Z HVAC

Performed by:

Step	Accept	Initial	Comments
PDI 230B 1. Connect PIC_4 aux. output. 2. Verify range. a. PIC_4 in manual. b. Output=50%, Value=~0.5? c. Output=100%, Value=~0? d. Output=0%, Value=~1.0?	N/A N/A N/A Y / N Y / N Y / N		
PDI 235A 1. Connect PIC_4 aux. output. 2. Verify range. a. PIC_4 in manual. b. Output=50%, Value=~0.5? c. Output=100%, Value=~0? d. Output=0%, Value=~1.0?	N/A N/A N/A Y / N Y / N Y / N		
PDI 9 1. Connect PIC_4 aux. output. 2. Verify range. a. PIC_4 in manual. b. Output=50%, Value=~2.5? c. Output=100%, Value=~0? d. Output=0%, Value=~5.0?	N/A N/A N/A Y / N Y / N Y / N		

Test Witnesses:

Test Director_____
Date_____
Cognizant Engineer_____
Date_____
Quality Assurance_____
Date

234-5Z HVAC

Performed by:

Step	Accept	Initial	Comments
E. Test using PDIC 1F auxiliary output.	N/A		
LI_TST 1. Connect PDIC_1F aux. output. 2. Verify range. a. PDIC_1F in manual. b. Output=50%, Value=~6? c. Output=100%, Value=~12? d. Output=0%, Value=~0? 3. Verify low alarm. a. Adjust output. b. Low alarm=~5? 4. Verify high alarm. a. Adjust output. b. High alarm=~11?	N/A N/A N/A Y / N Y / N Y / N N/A N/A Y / N N/A N/A Y / N		
AI_DAIS 1. Connect PDIC_1F aux. output. 2. Verify range. a. PDIC_1F in manual. b. Output=50%, Value=~50? c. Output=100%, Value=~100? d. Output=0%, Value=~0?	N/A N/A N/A Y / N Y / N Y / N		
TI_TC1S 1. Connect PDIC_1F aux. output. 2. Verify range. a. PDIC_1F in manual. b. Output=50%, Value=~75? c. Output=100%, Value=~150? d. Output=0%, Value=~0?	N/A N/A N/A Y / N Y / N Y / N		

Test Witnesses:

Test Director

Date

Cognizant Engineer

Date

Quality Assurance

Date

234-5Z HVAC

Performed by:

Step	Accept	Initial	Comments
TI_TC2S 1. Connect PDIC_1F aux. output. 2. Verify range. a. PDIC_1F in manual. b. Output=50%, Value=~75? c. Output=100%, Value=~150? d. Output=0%, Value=~0?	N/A N/A N/A Y / N Y / N Y / N		
TI_TPI1S 1. Connect PDIC_1F aux. output. 2. Verify range. a. PDIC_1F in manual. b. Output=50%, Value=~75? c. Output=100%, Value=~150? d. Output=0%, Value=~0?	N/A N/A N/A Y / N Y / N Y / N		
TI_TPI2S 1. Connect PDIC_1F aux. output. 2. Verify range. a. PDIC_1F in manual. b. Output=50%, Value=~75? c. Output=100%, Value=~150? d. Output=0%, Value=~0?	N/A N/A N/A Y / N Y / N Y / N		
TI_TP01S 1. Connect PDIC_1F aux. output. 2. Verify range. a. PDIC_1F in manual. b. Output=50%, Value=~75? c. Output=100%, Value=~150? d. Output=0%, Value=~0?	N/A N/A N/A Y / N Y / N Y / N		

Test Witnesses:

Test Director

Date

Cognizant Engineer

Date

Quality Assurance

Date

234-5Z HVAC

Performed by:

Step	Accept	Initial	Comments
TI TP02S 1. Connect PDIC 1F aux. output. 2. Verify range. a. PDIC 1F in manual. b. Output=50%, Value=~75? c. Output=100%, Value=~150? d. Output=0%, Value=~0?	N/A N/A N/A Y / N Y / N Y / N		
PDI 263 1. Connect PDIC 1F aux. output. 2. Verify range. a. PDIC 1F in manual. b. Output=50%, Value=~75? c. Output=100%, Value=~150? d. Output=0%, Value=~0?	N/A N/A N/A Y / N Y / N Y / N		
F. Test using PIC 6 auxiliary output.	N/A		
PI 1 1. Connect PIC 6 aux. output. 2. Verify range. a. PIC 6 in manual. b. Output=50%, Value=~0.1? c. Output=100%, Value=~0? d. Output=0%, Value=~0.2?	N/A N/A N/A Y / N Y / N Y / N		
TI 9 1. Connect PIC 6 aux. output. 2. Verify range. a. PIC 6 in manual. b. Output=50%, Value=~50? c. Output=100%, Value=~0? d. Output=0%, Value=~100?	N/A N/A N/A Y / N Y / N Y / N		

Test Witnesses:

Test Director

Date

Cognizant Engineer

Date

Quality Assurance

Date

234-5Z HVAC

Performed by:

Step	Accept	Initial	Comments
TI_12 1. Connect PIC_6 aux. output. 2. Verify range. a. PIC_6 in manual. b. Output=50%, Value=~50? c. Output=100%, Value=~0? d. Output=0%, Value=~100?	N/A N/A N/A Y / N Y / N Y / N		
PDI_227 1. Connect PIC_6 aux. output. 2. Verify range. a. PIC_6 in manual. b. Output=50%, Value=~0.5? c. Output=100%, Value=~0? d. Output=0%, Value=~1.0?	N/A N/A N/A Y / N Y / N Y / N		
PDI_228C 1. Connect PIC_6 aux. output. 2. Verify range. a. PIC_6 in manual. b. Output=50%, Value=~0.5? c. Output=100%, Value=~0? d. Output=0%, Value=~1.0?	N/A N/A N/A Y / N Y / N Y / N		
PDI_230C 1. Connect PIC_6 aux. output. 2. Verify range. a. PIC_6 in manual. b. Output=50%, Value=~0.5? c. Output=100%, Value=~0? d. Output=0%, Value=~1.0?	N/A N/A N/A Y / N Y / N Y / N		

Test Witnesses:

Test Director

Date

Cognizant Engineer

Date

Quality Assurance

Date

234-5Z HVAC

Performed by:

Step	Accept	Initial	Comments
PDI_236 1. Connect PIC_6 aux. output. 2. Verify range. a. PIC_6 in manual. b. Output=50%, Value=~0.5? c. Output=100%, Value=~0? d. Output=0%, Value=~1.0?	N/A N/A N/A Y / N Y / N Y / N		
PI_1128 1. Connect PIC_6 aux. output. 2. Verify range. a. PIC_6 in manual. b. Output=50%, Value=~15? c. Output=100%, Value=~0? d. Output=0%, Value=~30?	N/A N/A N/A Y / N Y / N Y / N		
G. Test using PIC 1 auxiliary output.	N/A		
TI_TST 1. Connect PIC_1 aux. output. 2. Verify range. a. PIC_1 in manual. b. Output=50%, Value=~75? c. Output=100%, Value=~0? d. Output=0%, Value=~150? 4. Verify high alarm. a. Adjust output. b. High alarm=~110?	N/A N/A N/A Y / N Y / N Y / N N/A N/A Y / N		
AI_DA 1. Connect PIC_1 aux. output. 2. Verify range. a. PIC_1 in manual. b. Output=50%, Value=~50? c. Output=100%, Value=~0? d. Output=0%, Value=~100?	N/A N/A N/A Y / N Y / N Y / N		

Test Witnesses: .

Test Director

Date

Cognizant Engineer

Date

Quality Assurance

Date

234-5Z HVAC

Performed by:

Step	Accept	Initial	Comments
PDI_RMA 1. Connect PIC_1 aux. output. 2. Verify range. a. PIC_1 in manual. b. Output=50%, Value=~1.25? c. Output=100%, Value=~0? d. Output=0%, Value=~2.5? 4. Verify high alarm. a. Adjust output. b. High alarm=~0.50?	N/A N/A N/A Y / N Y / N Y / N N/A N/A Y / N		
AI_236_A 1. Connect PIC_1 aux. output. 2. Verify range. a. PIC_1 in manual. b. Output=50%, Value=~50? c. Output=100%, Value=~0? d. Output=0%, Value=~100?	N/A N/A N/A Y / N Y / N Y / N		
PI_INSTA 1. Connect PIC_1 aux. output. 2. Verify range. a. PIC_1 in manual. b. Output=50%, Value=~50? c. Output=100%, Value=~0? d. Output=0%, Value=~100? 3. Verify low alarm. a. Adjust output. b. Low alarm=~45?	N/A N/A N/A Y / N Y / N Y / N N/A N/A Y / N		
PI_90PA 1. Connect PIC_1 aux. output. 2. Verify range. a. PIC_1 in manual. b. Output=50%, Value=~75? c. Output=100%, Value=~0? d. Output=0%, Value=~150?	N/A N/A N/A Y / N Y / N Y / N		

Test Witnesses:

Test Director

Date

Cognizant Engineer

Date

Quality Assurance

Date

234-5Z HVAC

Performed by:

Step	Accept	Initial	Comments
AI_291 A 1. Connect PIC_1 aux. output. 2. Verify range. a. PIC_1 in manual. b. Output=50%, Value=~50? c. Output=100%, Value=~0? d. Output=0%, Value=~100?	N/A N/A N/A Y / N Y / N Y / N		
PI_17VAC 1. Connect PIC_1 aux. output. 2. Verify range. a. PIC_1 in manual. b. Output=50%, Value=~15? c. Output=100%, Value=~0? d. Output=0%, Value=~30?	N/A N/A N/A Y / N Y / N Y / N		
PDI_264 1. Connect PIC_1 aux. output. 2. Verify range. a. PIC_1 in manual. b. Output=50%, Value=~15? c. Output=100%, Value=~0? d. Output=0%, Value=~30?	N/A N/A N/A Y / N Y / N Y / N		

Test Witnesses:

Test Director_____
Date_____
Cognizant Engineer_____
Date_____
Quality Assurance_____
Date

234-5Z HVAC

Performed by:

Step	Accept	Initial	Comments
III. Test supply fans and spray pumps	N/A		
SF-1 & SP-1			
A. Connect test box.	N/A		
1. Connect fan status.	N/A		
2. Connect spray pump status.	N/A		
B. Test fan controls.	N/A		
1. HS SPI 2 to "MANUAL".	N/A		
2. YI_SF1 reads "OFF"?	Y / N		
3. YI_SF1 reads "ON"?	Y / N		
4. MICON 36 Point 2 on 10 sec.?	Y / N		
5. Failure alarm?	Y / N		
6. Alarm clears?	Y / N		
7. MICON 36 Point 3 on 5 sec.?	Y / N		
8. Status signal off.	N/A		
C. Test spray pump controls.	N/A		
1. YI SP 1 reads "OFF"?	Y / N		
2. YI_SP1 reads "ON"?	Y / N		
3. MICON 36 Point 5 on 10 sec.?	Y / N		
4. Failure alarm?	Y / N		
5. Alarm clears?	Y / N		
6. MICON 36 Point 6 on 5 sec.?	Y / N		
7. Status signal off.	N/A		
D. Test spray pump interlock.	N/A		
1. HS SPI 2 to "AUTO".	N/A		
2. Spray pump status on.	N/A		
3. HS SPI 1 to "START"?	Y / N		
4. HS_SPI1 to "STOP"?	Y / N		
E. Switches off and disconnect wires.	N/A		

Test Witnesses:

Test Director

Date

Cognizant Engineer

Date

Quality Assurance

Date

234-5Z HVAC

Performed by:

Step	Accept	Initial	Comments
SF-2 & SP-2			
A. Connect test box.	N/A		
1. Connect fan status.	N/A		
2. Connect spray pump status.	N/A		
B. Test fan controls.	N/A		
1. HS SP2 2 to "MANUAL".	N/A		
2. YI_SF2 reads "OFF"?	Y / N		
3. YI_SF2 reads "ON"?	Y / N		
4. MICON 37 Point 2 on 10 sec.?	Y / N		
5. Failure alarm?	Y / N		
6. Alarm clears?	Y / N		
7. MICON 37 Point 3 on 5 sec.?	Y / N		
8. Status signal off.	N/A		
C. Test spray pump controls.	N/A		
1. YI SP 2 reads "OFF"?	Y / N		
2. YI SP 2 reads "ON"?	Y / N		
3. MICON 37 Point 5 on 10 sec.?	Y / N		
4. Failure alarm?	Y / N		
5. Alarm clears?	Y / N		
6. MICON 37 Point 6 on 5 sec.?	Y / N		
7. Status signal off.	N/A		
D. Test spray pump interlock.	N/A		
1. HS SP2 2 to "AUTO".	N/A		
2. Spray pump status on.	N/A		
3. HS SP2 1 to "START"?	Y / N		
4. HS SP2 1 to "STOP"?	Y / N		
E. Switches off and disconnect wires.	N/A		

Test Witnesses:

Test Director

Date

Cognizant Engineer

Date

Quality Assurance

Date

234-5Z HVAC

Performed by:

Step	Accept	Initial	Comments
SF-3 & SP-3			
A. Connect test box.	N/A		
1. Connect fan status.	N/A		
2. Connect spray pump status.	N/A		
B. Test fan controls.	N/A		
1. HS SP3 2 to "MANUAL".	N/A		
2. YI_SF3 reads "OFF"?	Y / N		
3. YI_SF3 reads "ON"?	Y / N		
4. MICON 38 Point 2 on 10 sec.?	Y / N		
5. Failure alarm?	Y / N		
6. Alarm clears?	Y / N		
7. MICON 38 Point 3 on 5 sec.?	Y / N		
8. Status signal off.	N/A		
C. Test spray pump controls.	N/A		
1. YI SP 3 reads "OFF"?	Y / N		
2. YI SP 3 reads "ON"?	Y / N		
3. MICON 38 Point 5 on 10 sec.?	Y / N		
4. Failure alarm?	Y / N		
5. Alarm clears?	Y / N		
6. MICON 38 Point 6 on 5 sec.?	Y / N		
7. Status signal off.	N/A		
D. Test spray pump interlock.	N/A		
1. HS SP3 2 to "AUTO".	N/A		
2. Spray pump status on.	N/A		
3. HS SP3 1 to "START"?	Y / N		
4. HS SP3 1 to "STOP"?	Y / N		
E. Switches off and disconnect wires.	N/A		

Test Witnesses:

Test Director_____
Date_____
Cognizant Engineer_____
Date_____
Quality Assurance_____
Date

234-5Z HVAC

Performed by:

Step	Accept	Initial	Comments
SF-4 & SP-4			
A. Connect test box.	N/A		
1. Connect fan status.	N/A		
2. Connect spray pump status.	N/A		
B. Test fan controls.	N/A		
1. HS SP4 2 to "MANUAL".	N/A		
2. YI_SF4 reads "OFF"?	Y / N		
3. YI_SF4 reads "ON"?	Y / N		
4. MICON 39 Point 2 on 10 sec.?	Y / N		
5. Failure alarm?	Y / N		
6. Alarm clears?	Y / N		
7. MICON 39 Point 3 on 5 sec.?	Y / N		
8. Status signal off.	N/A		
C. Test spray pump controls.	N/A		
1. YI SP 4 reads "OFF"?	Y / N		
2. YI SP 4 reads "ON"?	Y / N		
3. MICON 39 Point 5 on 10 sec.?	Y / N		
4. Failure alarm?	Y / N		
5. Alarm clears?	Y / N		
6. MICON 39 Point 6 on 5 sec.?	Y / N		
7. Status signal off.	N/A		
D. Test spray pump interlock.	N/A		
1. HS SP4 2 to "AUTO".	N/A		
2. Spray pump status on.	N/A		
3. HS SP4 1 to "START"?	Y / N		
4. HS SP4 1 to "STOP"?	Y / N		
E. Switches off and disconnect wires.	N/A		

Test Witnesses:

Test Director_____
Date_____
Cognizant Engineer_____
Date_____
Quality Assurance_____
Date

234-5Z HVAC

Performed by:

Step	Accept	Initial	Comments
SF-5 & SP-5			
A. Connect test box.	N/A		
1. Connect fan status.	N/A		
2. Connect spray pump status.	N/A		
B. Test fan controls.	N/A		
1. HS SP5 2 to "MANUAL".	N/A		
2. YI_SF5 reads "OFF"?	Y / N		
3. YI_SF5 reads "ON"?	Y / N		
4. MICON 40 Point 2 on 10 sec.?	Y / N		
5. Failure alarm?	Y / N		
6. Alarm clears?	Y / N		
7. MICON 40 Point 3 on 5 sec.?	Y / N		
8. Status signal off.	N/A		
C. Test spray pump controls.	N/A		
1. YI SP 5 reads "OFF"?	Y / N		
2. YI SP 5 reads "ON"?	Y / N		
3. MICON 40 Point 5 on 10 sec.?	Y / N		
4. Failure alarm?	Y / N		
5. Alarm clears?	Y / N		
6. MICON 40 Point 6 on 5 sec.?	Y / N		
7. Status signal off.	N/A		
D. Test spray pump interlock.	N/A		
1. HS SP5 2 to "AUTO".	N/A		
2. Spray pump status on.	N/A		
3. HS SP5 1 to "START"?	Y / N		
4. HS SP5 1 to "STOP"?	Y / N		
E. Switches off and disconnect wires.	N/A		

Test Witnesses:

Test Director_____
Date_____
Cognizant Engineer_____
Date_____
Quality Assurance_____
Date

234-5Z HVAC

Performed by:

Step	Accept	Initial	Comments
SF-6 & SP-6			
A. Connect test box.	N/A		
1. Connect fan status.	N/A		
2. Connect spray pump status.	N/A		
B. Test fan controls.	N/A		
1. HS SP6 2 to "MANUAL".	N/A		
2. YI_SF6 reads "OFF"?	Y / N		
3. YI_SF6 reads "ON"?	Y / N		
4. MICON 41 Point 2 on 10 sec.?	Y / N		
5. Failure alarm?	Y / N		
6. Alarm clears?	Y / N		
7. MICON 41 Point 3 on 5 sec.?	Y / N		
8. Status signal off.	N/A		
C. Test spray pump controls.	N/A		
1. YI SP 6 reads "OFF"?	Y / N		
2. YI SP 6 reads "ON"?	Y / N		
3. MICON 41 Point 5 on 10 sec.?	Y / N		
4. Failure alarm?	Y / N		
5. Alarm clears?	Y / N		
6. MICON 41 Point 6 on 5 sec.?	Y / N		
7. Status signal off.	N/A		
D. Test spray pump interlock.	N/A		
1. HS SP6 2 to "AUTO".	N/A		
2. Spray pump status on.	N/A		
3. HS SP6 1 to "START"?	Y / N		
4. HS SP6 1 to "STOP"?	Y / N		
E. Switches off and disconnect wires.	N/A		

Test Witnesses:

Test Director

Date

Cognizant Engineer

Date

Quality Assurance

Date

234-5Z HVAC

Performed by:

Step	Accept	Initial	Comments
SF-7 & SP-7			
A. Connect test box.	N/A		
1. Connect fan status.	N/A		
2. Connect spray pump status.	N/A		
B. Test fan controls.	N/A		
1. HS SP7 2 to "MANUAL".	N/A		
2. YI_SF7 reads "OFF"?	Y / N		
3. YI_SF7 reads "ON"?	Y / N		
4. MICON 42 Point 2 on 10 sec.?	Y / N		
5. Failure alarm?	Y / N		
6. Alarm clears?	Y / N		
7. MICON 42 Point 3 on 5 sec.?	Y / N		
8. Status signal off.	N/A		
C. Test spray pump controls.	N/A		
1. YI SP 7 reads "OFF"?	Y / N		
2. YI SP 7 reads "ON"?	Y / N		
3. MICON 42 Point 5 on 10 sec.?	Y / N		
4. Failure alarm?	Y / N		
5. Alarm clears?	Y / N		
6. MICON 42 Point 6 on 5 sec.?	Y / N		
7. Status signal off.	N/A		
D. Test spray pump interlock.	N/A		
1. HS SP7 2 to "AUTO".	N/A		
2. Spray pump status on.	N/A		
3. HS SP7 1 to "START"?	Y / N		
4. HS SP7 1 to "STOP"?	Y / N		
E. Switches off and disconnect wires.	N/A		

Test Witnesses:

Test Director

Date

Cognizant Engineer

Date

Quality Assurance

Date

234-5Z HVAC

Performed by:

Step	Accept	Initial	Comments
SF-8 & SP-8			
A. Connect test box.	N/A		
1. Connect fan status.	N/A		
2. Connect spray pump status.	N/A		
B. Test fan controls.	N/A		
1. HS SP8 2 to "MANUAL".	N/A		
2. YI_SF8 reads "OFF"?	Y / N		
3. YI_SF8 reads "ON"?	Y / N		
4. MICON 43 Point 2 on 10 sec.?	Y / N		
5. Failure alarm?	Y / N		
6. Alarm clears?	Y / N		
7. MICON 43 Point 3 on 5 sec.?	Y / N		
8. Status signal off.	N/A		
C. Test spray pump controls.	N/A		
1. YI SP 8 reads "OFF"?	Y / N		
2. YI SP 8 reads "ON"?	Y / N		
3. MICON 43 Point 5 on 10 sec.?	Y / N		
4. Failure alarm?	Y / N		
5. Alarm clears?	Y / N		
6. MICON 43 Point 6 on 5 sec.?	Y / N		
7. Status signal off.	N/A		
D. Test spray pump interlock.	N/A		
1. HS SP8 2 to "AUTO".	N/A		
2. Spray pump status on.	N/A		
3. HS SP8 1 to "START"?	Y / N		
4. HS SP8 1 to "STOP"?	Y / N		
E. Switches off and disconnect wires.	N/A		

Test Witnesses:

Test Director

Date

Cognizant Engineer

Date

Quality Assurance

Date

234-5Z HVAC

Performed by:

Step	Accept	Initial	Comments
IV. Test main exhaust fans.	N/A		
EF-1 A. Connect test box. B. Test fan controls. 1. YI EM1 reads "OFF"? 2. YI EM1 reads "ON"? 3. MICON 36 Point 8 on 10 sec.? 4. Failure alarm? 5. Alarm clears? 6. MICON 36 Point 9 on 5 sec.? 7. Status signal off. C. Switches off and disconnect wires.	N/A N/A Y / N Y / N Y / N Y / N Y / N N/A N/A		
EF-2 A. Connect test box. B. Test fan controls. 1. YI EM2 reads "OFF"? 2. YI EM2 reads "ON"? 3. MICON 37 Point 8 on 10 sec.? 4. Failure alarm? 5. Alarm clears? 6. MICON 37 Point 9 on 5 sec.? 7. Status signal off. C. Switches off and disconnect wires.	N/A N/A Y / N Y / N Y / N Y / N Y / N N/A N/A		
EF-3 A. Connect test box. B. Test fan controls. 1. YI EM3 reads "OFF"? 2. YI EM3 reads "ON"? 3. MICON 38 Point 8 on 10 sec.? 4. Failure alarm? 5. Alarm clears? 6. MICON 38 Point 9 on 5 sec.? 7. Status signal off. C. Switches off and disconnect wires.	N/A N/A Y / N Y / N Y / N Y / N Y / N N/A N/A		

Test Witnesses:

Test Director

Date

Cognizant Engineer

Date

Quality Assurance

Date

234-5Z HVAC

Performed by:

Step	Accept	Initial	Comments
EF-4 A. Connect test box. B. Test fan controls. 1. YI EM4 reads "OFF"? 2. YI EM4 reads "ON"? 3. MICON 39 Point 8 on 10 sec.? 4. Failure alarm? 5. Alarm clears? 6. MICON 39 Point 9 on 5 sec.? 7. Status signal off. C. Switches off and disconnect wires.	N/A N/A Y / N Y / N Y / N Y / N Y / N N/A N/A		
EF-5 A. Connect test box. B. Test fan controls. 1. YI EM5 reads "OFF"? 2. YI EM5 reads "ON"? 3. MICON 40 Point 8 on 10 sec.? 4. Failure alarm? 5. Alarm clears? 6. MICON 40 Point 9 on 5 sec.? 7. Status signal off. C. Switches off and disconnect wires.	N/A N/A Y / N Y / N Y / N Y / N Y / N N/A N/A		
EF-6 A. Connect test box. B. Test fan controls. 1. YI EM6 reads "OFF"? 2. YI EM6 reads "ON"? 3. MICON 41 Point 8 on 10 sec.? 4. Failure alarm? 5. Alarm clears? 6. MICON 41 Point 9 on 5 sec.? 7. Status signal off. C. Switches off and disconnect wires.	N/A N/A Y / N Y / N Y / N Y / N Y / N N/A N/A		

Test Witnesses:

Test Director_____
Date_____
Cognizant Engineer_____
Date_____
Quality Assurance_____
Date

234-5Z HVAC

Performed by:

Step	Accept	Initial	Comments
EF-7 A. Connect test box. B. Test fan controls. 1. YI EM7 reads "OFF"? 2. YI EM7 reads "ON"? 3. MICON 42 Point 8 on 10 sec.? 4. Failure alarm? 5. Alarm clears? 6. MICON 42 Point 9 on 5 sec.? 7. Status signal off. C. Switches off and disconnect wires.	N/A N/A Y / N Y / N Y / N Y / N Y / N N/A N/A		
V. Test EF-11 and EF-12 controls. A. Connect test box. 1. Connect EF-11 status. 2. Connect EF-12 status. B. Connect PDI 1. C. PDIC 1F to manual, Output=0%	N/A N/A N/A N/A N/A N/A		
D. Test EF-11 controls. 1. YI EM11 reads "OFF"? 2. YI EM11 reads "ON"? 3. MICON 36 Point 11 on 10 sec.? 4. Failure alarm? 5. Alarm clears? 6. MICON 36 Point 12 on 5 sec.?	N/A Y / N Y / N Y / N Y / N Y / N Y / N		
E. Test EF-12 controls. 1. YI EM12 reads "OFF"? 2. YI EM12 reads "ON"? 3. MICON 37 Point 11 on 10 sec.? 4. Failure alarm? 5. Alarm clears? 6. MICON 37 Point 12 on 5 sec.?	N/A Y / N Y / N Y / N Y / N Y / N Y / N		

Test Witnesses:

Test Director

Date

Cognizant Engineer

Date

Quality Assurance

Date

234-5Z HVAC

Performed by:

Step	Accept	Initial	Comments
F. Test EF-11 and EF-12 interlocks. 1. Status inputs on. 2. HS EM11 & 12 to "START". 3. HS EM11A & 12A to "BYPASS". 4. Activate Dp alarm. 5. HS EM11 & 12 remain in "START"? 6. Clear alarm. 7. HS EM11A & 12A to "NORMAL". 8. Briefly activate alarm. 9. HS EM11 & 12 remain in "START"? 10. Activate Dp alarm. 11. HS EM11 & 12 to "STOP"? 12. PDIC 1F output to 0%	N/A N/A N/A N/A N/A Y / N N/A N/A N/A Y / N N/A Y / N N/A		
G. Switches off and disconnect wires.	N/A		
VI. Test EF-14 and EF-15 controls. A. Connect test box. 1. Connect EF-14 status. 2. Connect EF-15 status.	N/A N/A N/A N/A		
B. Test EF-14 controls. 1. YI EM14 reads "OFF"? 2. YI EM14 reads "ON"? 3. MICON 38 Point 11 on 10 sec.? 4. Failure alarm? 5. Alarm clears? 6. MICON 38 Point 12 on 5 sec.?	N/A Y / N Y / N Y / N Y / N Y / N Y / N		
C. Test EF-15 controls. 1. YI EM15 reads "OFF"? 2. YI EM15 reads "ON"? 3. MICON 39 Point 11 on 10 sec.? 4. Failure alarm? 5. Alarm clears? 6. MICON 39 Point 12 on 5 sec.?	N/A Y / N Y / N Y / N Y / N Y / N Y / N		
D. Switches off and disconnect wires.	N/A		

Test Witnesses:

Test Director

Date

Cognizant Engineer

Date

Quality Assurance

Date

234-5Z HVAC

Performed by:

Step	Accept	Initial	Comments
VII. Test S-10 Controls. A. Connect test box. B. YI S10 reads "OFF"? C. YI S10 reads "ON"? D. MICON 43 Point 8 on? E. MICON 43 Point 8 off? F. MICON 43 Point 8 on? G. Failure alarm, and output off? H. Alarm Clears? I. HS S10 to "STOP". J. Switches off and disconnect wires.	N/A N/A Y / N Y / N Y / N Y / N Y / N Y / N N/A N/A		
VIII. Test PDIC 1F alarms. A. Connect test box. 1. Connect EF-3 status. 2. Connect EF-4 status. B. Switches off. C. PDIC 1F output=100%, and no alarm? D. Output=80%, and EF-3 status on. E. Alarm=~90%? F. Alarm clears ~80%? G. Status off. H. Repeat. D. Output=80%, and EF-4 status on. E. Alarm=~90%? F. Alarm clears ~80%? G. Status off. I. Switches off and disconnect wires.	N/A N/A N/A N/A N/A Y / N N/A Y / N Y / N N/A N/A N/A N/A Y / N Y / N N/A N/A		
IX. Test fan interlocks.	N/A		
A. Test supply fan interlock bypass. 1. MICON 44 Points 2 & 3 off? 2. HS SFI to "BYPASS". 3. Bypass alarm sounds, and MICON 44 Points 2 & 3 on? 4. HS SFI to "NORMAL". 5. Alarm clears, and outputs off?	N/A Y / N N/A Y / N N/A Y / N		

Test Witnesses:

Test Director

Date

Cognizant Engineer

Date

Quality Assurance

Date

234-5Z HVAC

Performed by:

Step	Accept	Initial	Comments
B. Test the master air supply interlock. 1. Connect test box. 2. MICON 44 Point 1 off? 3. Switches on and HS 26712 to "RESET". 4. MICON 44 Point 1 on? 5. Switches off one at a time. 6. Output on until last switch off? 7. Switches off and disconnect wires.	N/A N/A Y / N N/A Y / N N/A Y / NN/A		
C. Test the steam turbin reset. 1. MICON 42 Point 12 off? 2. Output on for 5 seconds?	N/A Y / N Y / N		
X. Test miscellaneous alarms. A. Test the contact open alarms.	N/A N/A		
XA2736 1 1. Connect test box. 2. Alarm clears? 3. Alarm sounds?	N/A Y / N Y / N		
XA2736 2 1. Connect test box. 2. Alarm clears? 3. Alarm sounds?	N/A Y / N Y / N		
XA UPS 1. Connect test box. 2. Alarm clears? 3. Alarm sounds?	N/A Y / N Y / N		
B. Test the contact closed alarms.	N/A		
PDA HC3 1. Connect test box. 2. Alarm sounds? 3. Alarm clears?	N/A Y / N Y / N		

Test Witnesses:

Test Director

Date

Cognizant Engineer

Date

Quality Assurance

Date

234-5Z HVAC

Performed by:

Step	Accept	Initial	Comments
PA_17VAC 1. Connect test box. 2. Alarm sounds? 3. Alarm clears?	N/A Y / N Y / N		
PDAH_291 1. Connect test box. 2. Alarm sounds? 3. Alarm clears?	N/A Y / N Y / N		
LAH_291 1. Connect test box. 2. Alarm sounds? 3. Alarm clears?	N/A Y / N Y / N		
PAL_STM 1. Connect test box. 2. Alarm sounds? 3. Alarm clears?	N/A Y / N Y / N		
PAL_WTR 1. Connect test box. 2. Alarm sounds? 3. Alarm clears?	N/A Y / N Y / N		
PDA_HC2 1. Connect test box. 2. Alarm sounds? 3. Alarm clears?	N/A Y / N Y / N		
PDA_HA28 1. Connect test box. 2. Alarm sounds? 3. Alarm clears?	N/A Y / N Y / N		
PAH_ET 1. Connect test box. 2. Alarm sounds? 3. Alarm clears?	N/A Y / N Y / N		

Test Witnesses:

Test Director

Date

Cognizant Engineer

Date

Quality Assurance

Date

WHC-SD-610-ATP-002 Rev. 0

Project B610 Process Control Configuration ATP

234-5Z HVAC

Performed by:

Step	Accept	Initial	Comments
C. Switches off and disconnect wires.	N/A		

Test Witnesses:

Test Director

Date

Cognizant Engineer

Date

Quality Assurance

Date

Process Vacuum

Performed by:

Step	Accept	Initial	Comments
I. Test SWP-1 and SV-2 interlock. A. Connect pump status. B. Connect Dp alarm. C. Connect LI TST.	N/A N/A N/A N/A		
D. Test SWP-1 controls. 1. Clear level alarm. 2. Clear Dp alarm. 3. YI SWP1 reads "OFF"? 4. YI SWP1 reads "ON"? 5. MICON 44 Point 11 on 10 sec., and MICON 44 Point 12 on? 6. Failure alarm? 7. Alarm clears? 8. MICON 44 Point 12 off 1 sec.?	N/A N/A N/A Y / N Y / N Y / N Y / N Y / N Y / N Y / N Y / N		
E. Test SPW-1 interlocks. 1. HS SWP1 to "START". 2. Activate Dp alarm. 3. Alarm sounds, and HS SWP1 to "STOP"? 4. Clear alarm, and HS SWP1 to "START". 5. Activate tank low level alarm. 6. Alarm sounds, and HS SWP1 to "STOP"? 7. Clear alarm, and HS SWP1 to "START". 8. Activate tank high level alarm. 9. Alarm sounds, and HS SWP1 to "STOP"? 10. Clear alarm.	N/A N/A N/A Y / N N/A N/A Y / N N/A N/A Y / N N/A		
F. Test SV-2 interlock. 1. Switch on. 2. MICON 44 Point 5 on? 3. Activate Dp alarm. 4. Alarm sounds, and output off?	N/A N/A Y / N N/A Y / N		
G. Switches off and disconnect wires.	N/A		

Test Witnesses:

Test Director

Date

Cognizant Engineer

Date

Quality Assurance

Date

Process Vacuum

Performed by:

Step	Accept	Initial	Comments
II. Test PVVP-1. A. Connect pump status. B. Connect E4 alarm. C. Connect SWP-1 status. D. Connect #1 demister leak detector. E. Connect LI TST.	N/A N/A N/A N/A N/A N/A		
F. Test PVVP-1 controls. 1. Clear level alarm. 2. Clear Dp alarm. 3. SWP-1 status on. 4. YI VP1 reads "OFF"? 5. YI VP1 reads "ON"? 6. MICON 45 Point 7 on 10 sec., and MICON 45 Point 8 on? 7. Failure alarm? 8. Alarm clears? 9. MICON 45 Point 8 off 1 sec.?	N/A N/A N/A N/A Y / N Y / N Y / N Y / N Y / N Y / N Y / N		

Test Witnesses:

Test Director_____
Date_____
Cognizant Engineer_____
Date_____
Quality Assurance_____
Date

Process Vacuum

Performed by:

Step	Accept	Initial	Comments
G. Test PVVP-1 interlocks.	N/A		
1. HS VP1 to "START".	N/A		
2. Activate Dp alarm.	N/A		
3. Alarm sounds, and HS VP1 to "STOP"?	Y / N		
4. Clear alarm, and HS VP1 to "START".	N/A		
5. Activate tank low level alarm.	N/A		
6. Alarm sounds, and HS VP1 to "STOP"?	Y / N		
7. Clear alarm, and HS VP1 to "START".	N/A		
8. Activate tank high level alarm.	N/A		
9. Alarm sounds, and HS VP1 to "STOP"?	Y / N		
10. Clear alarm, and HS VP1 to "START".	N/A		
11. Simulate SWP-1 shutdown.	N/A		
12. HS VP1 to "STOP"?	Y / N		
13. Status on, and HS VP1 to "START".	N/A		
14. Activate #1 filter leak alarm.	N/A		
15. Alarm sounds, and HS VP1 to "STOP"?	Y / N		
16. Clear alarm, and HS VP1 to "START".	N/A		
17. Connect #2 alarm.	N/A		
18. Activate #2 filter leak alarm.	N/A		
19. Alarm sounds, and HS VP1 to "STOP"?	Y / N		
20. Clear alarm.	N/A		
H. Switches off and disconnect wires.	N/A		
III. Test PVVP-2.	N/A		
A. Connect pump status.	N/A		
B. Connect E4 alarm.	N/A		
C. Connect SWP-1 status.	N/A		
D. Connect #1 demister leak detector.	N/A		
E. Connect LI TST.	N/A		

Test Witnesses:

Test Director

Date

Cognizant Engineer

Date

Quality Assurance

Date

Process Vacuum

Performed by:

Step	Accept	Initial	Comments
F. Test PVVP-2 controls.	N/A		
1. Clear level alarm.	N/A		
2. Clear Dp alarm.	N/A		
3. SWP-1 status on.	N/A		
4. YI VP2 reads "OFF"?	Y / N		
5. YI VP2 reads "ON"?	Y / N		
6. MICON 46 Point 7 on 10 sec., and MICON 46 Point 8 on?	Y / N		
7. Failure alarm?	Y / N		
8. Alarm clears?	Y / N		
9. MICON 46 Point 8 off 1 sec.?	Y / N		
G. Test PVVP-2 interlocks.	N/A		
1. HS VP2 to "START".	N/A		
2. Activate Dp alarm.	N/A		
3. Alarm sounds, and HS VP2 to "STOP"?	Y / N		
4. Clear alarm, and HS VP2 to "START".	N/A		
5. Activate tank low level alarm.	N/A		
6. Alarm sounds, and HS VP2 to "STOP"?	Y / N		
7. Clear alarm, and HS VP2 to "START".	N/A		
8. Activate tank high level alarm.	N/A		
9. Alarm sounds, and HS VP2 to "STOP"?	Y / N		
10. Clear alarm, and HS VP2 to "START".	N/A		
11. Simulate SWP-1 shutdown.	N/A		
12. HS VP2 to "STOP"?	Y / N		
13. Status on, and HS VP2 to "START".	N/A		
14. Activate #1 filter leak alarm.	N/A		
15. Alarm sounds, and HS VP2 to "STOP"?	Y / N		
16. Clear alarm, and HS VP2 to "START".	N/A		
17. Connect #2 alarm.	N/A		
18. Activate #2 filter leak alarm.	N/A		
19. Alarm sounds, and HS VP2 to "STOP"?	Y / N		
20. Clear alarm.	N/A		
H. Switches off and disconnect wires.	N/A		

Test Witnesses:

Test Director

Date

Cognizant Engineer

Date

Quality Assurance

Date

Process Vacuum

Performed by:

Step	Accept	Initial	Comments
IV. Test GCP-1 and GCP-2. A. Connect pump statuses. B. Connect Dp alarm. C. Clear Dp alarm.	N/A N/A N/A N/A		
D. Test GCP-1 controls. 1. YI GCP1 reads "OFF"? 2. YI GCP1 reads "ON"? 3. MICON 45 Point 10 on 10 sec., and MICON 45 Point 11 on? 4. Failure alarm? 5. Alarm clears? 6. MICON 45 Point 8 off 1 sec.?	N/A Y / N Y / N Y / N Y / N Y / N Y / N		
E. Test GCP-1 interlock. 1. HS GCP1 to START". 2. Activate Dp alarm. 3. Alarm sounds, and HS_GCP1 to "STOP"? 4. Clear alarm.	N/A N/A N/A Y / N N/A		
F. Test GCP-2 controls. 1. YI GCP2 reads "OFF"? 2. YI GCP2 reads "ON"? 3. MICON 46 Point 10 on 10 sec., and MICON 46 Point 11 on? 4. Failure alarm? 5. Alarm clears? 6. MICON 46 Point 8 off 1 sec.?	N/A Y / N Y / N Y / N Y / N Y / N Y / N		
G. Test GCP-2 interlock. 1. HS GCP2 to START". 2. Activate Dp alarm. 3. Alarm sounds, and HS_GCP2 to "STOP"? 4. Clear alarm.	N/A N/A N/A Y / N N/A		
H. Switches off and disconnect wires.	N/A		

Test Witnesses:

Test Director

Date

Cognizant Engineer

Date

Quality Assurance

Date

Process Vacuum

Performed by:

Step	Accept	Initial	Comments
V. Test miscellaneous outputs.	N/A		
A. Test silencer tank drain. 1. MICON 44 Point 7 on? 2. MICON 44 Point 7 off?	N/A Y / N Y / N		
B. Test seal water discharge. 1. MICON 44 Point 8 on? 2. MICON 44 Point 8 off?	N/A Y / N Y / N		
C. Test silencer tank fill. 1. MICON 44 Point 9 on? 2. MICON 44 Point 9 off?	N/A Y / N Y / N		
VI. Test miscellaneous alarms	N/A		
A. Test the leak detector failure alarms.	N/A		
XA_1LDB 1. Connect test box. 2. Alarm clears? 3. Alarm sounds?	N/A Y / N Y / N		
XA_2LDD 1. Connect test box. 2. Alarm clears? 3. Alarm sounds?	N/A Y / N Y / N		
B. Test the HEPa filter Dp alarms.	N/A		
PDA_1 1. Connect test box. 2. Alarm sounds? 3. Alarm clears?	N/A Y / N Y / N		
PDA_2 1. Connect test box. 2. Alarm sounds? 3. Alarm clears?	N/A Y / N Y / N		

Test Witnesses:

Test Director

Date

Cognizant Engineer

Date

Quality Assurance

Date

Process Vacuum

Performed by:

Step	Accept	Initial	Comments
PDA 3 1. Connect test box. 2. Alarm sounds? 3. Alarm clears?	N/A Y / N Y / N		
PDA 4 1. Connect test box. 2. Alarm sounds? 3. Alarm clears?	N/A Y / N Y / N		
C. Switches off and disconnect wires.	N/A		

Test Witnesses:

Test Director_____
Date_____
Cognizant Engineer_____
Date_____
Quality Assurance_____
Date

Dry Air

Performed by:

Step	Accept	Initial	Comments
I. Test the Steam/Electric selector.	N/A		
A. HS DA1 to "OFF" & HS DA2 to "ELECTRIC" MICON 44 Point 13 on? MICON 44 Point 14 on? ZI DA1 reads "OPEN"? ZI DA2 reads "CLOSED"? ZI DA4 reads "OPEN"? ZI DA5 reads "CLOSED"?	N/A Y / N Y / N Y / N Y / N Y / N Y / N		
B. HS DA1 to "ON" MICON 44 Point 13 on? MICON 44 Point 14 off? ZI DA1 reads "CLOSED"? ZI DA2 reads "OPEN"? ZI DA4 reads "OPEN"? ZI DA5 reads "CLOSED"?	N/A Y / N Y / N Y / N Y / N Y / N Y / N		
C. HS DA2 to "STEAM" MICON 44 Point 13 off? MICON 44 Point 14 on? ZI DA1 reads "OPEN"? ZI DA2 reads "CLOSED"? ZI DA4 reads "CLOSED"? ZI DA5 reads "OPEN"?	N/A Y / N Y / N Y / N Y / N Y / N Y / N		
D. HS DA1 to "OFF" MICON 44 Point 13 on? MICON 44 Point 14 on? ZI DA1 reads "OPEN"? ZI DA2 reads "CLOSED"? ZI DA4 reads "OPEN"? ZI DA5 reads "CLOSED"?	N/A Y / N Y / N Y / N Y / N Y / N Y / N		

Test Witnesses:

Test Director

Date

Cognizant Engineer

Date

Quality Assurance

Date

Dry Air

Performed by:

Step	Accept	Initial	Comments
II. Test dryer controls. A. MICON 45 Point 12 on? B. MICON 45 Point 12 off? C. MICON 46 Point 12 on? D. MICON 46 Point 12 off?	N/A Y / N Y / N Y / N Y / N		
III. Test the dryer status indicators. A. Connect test box.	N/A N/A		
B. Test electric air dryer status. 1. YI DAE reads "PWR OFF"? 2. YI DAE reads "OFF"? 3. YI DAE reads "ON"?	N/A Y / N Y / N Y / N		
C. Test steam air dryer status. 1. YI DAS reads "PWR OFF"? 2. YI DAS reads "OFF"? 3. YI DAS reads "ON"?	N/A Y / N Y / N Y / N		
D. Switches off and disconnect wires.	N/A		
IV. Test indicators and alarms. A. Test the dryer indicators.	N/A N/A		
YI_CU1E 1. Connect test box. 2. Indicator reads "ON"? 3. Indicator reads "OFF"?	N/A Y / N Y / N		
YI_CU2E 1. Connect test box. 2. Indicator reads "ON"? 3. Indicator reads "OFF"?	N/A Y / N Y / N		
YI_STG1E 1. Connect test box. 2. Indicator reads "ON"? 3. Indicator reads "OFF"?	N/A Y / N Y / N		

Test Witnesses:

Test Director

Date

Cognizant Engineer

Date

Quality Assurance

Date

Dry Air

Performed by:

Step	Accept	Initial	Comments
YI_STG2E 1. Connect test box. 2. Indicator reads "ON"? 3. Indicator reads "OFF"?	N/A Y / N Y / N		
YI_CU1S 1. Connect test box. 2. Indicator reads "ON"? 3. Indicator reads "OFF"?	N/A Y / N Y / N		
YI_CU2S 1. Connect test box. 2. Indicator reads "ON"? 3. Indicator reads "OFF"?	N/A Y / N Y / N		
B. Test dryer alarms.	N/A		
PAH_DA 1. Connect test box. 2. Alarm sounds? 3. Alarm clears?	N/A Y / N Y / N		
TAH_DA2 1. Connect test box. 2. Alarm sounds? 3. Alarm clears?	N/A Y / N Y / N		
TAH_DA1 1. Connect test box. 2. Alarm sounds? 3. Alarm clears?	N/A Y / N Y / N		
PAH_DAE 1. Connect test box. 2. Alarm sounds? 3. Alarm clears?	N/A Y / N Y / N		

Test Witnesses:

Test Director

Date

Cognizant Engineer

Date

Quality Assurance

Date

Dry Air

Performed by:

Step	Accept	Initial	Comments
PAHH DAE 1. Connect test box. 2. Alarm sounds? 3. Alarm clears?	N/A Y / N Y / N		
PAH DA2E 1. Connect test box. 2. Alarm sounds? 3. Alarm clears?	N/A Y / N Y / N		
PAH DAS 1. Connect test box. 2. Alarm sounds? 3. Alarm clears?	N/A Y / N Y / N		
PAHH DAS 1. Connect test box. 2. Alarm sounds? 3. Alarm clears?	N/A Y / N Y / N		
PAH DA2S 1. Connect test box. 2. Alarm sounds? 3. Alarm clears?	N/A Y / N Y / N		
C. Switches off and disconnect wires.	N/A		

Test Witnesses:

Test Director

Date

Cognizant Engineer

Date

Quality Assurance

Date

291-Z Closed Loop Cooling

Performed by:

Step	Accept	Initial	Comments
I. Test indicators and alarms. A. Test the status indicators.	N/A N/A		
YI_P23A1 1. Connect test box. 2. Indicator reads "ON"? 3. Indicator reads "OFF?"	N/A Y / N Y / N		
YI_23A1 1. Connect test box. 2. Indicator reads "ON"? 3. Indicator reads "OFF?"	N/A Y / N Y / N		
YI_23P_1 1. Connect test box. 2. Indicator reads "ON"? 3. Indicator reads "OFF?"	N/A Y / N Y / N		
YI_P23A2 1. Connect test box. 2. Indicator reads "ON"? 3. Indicator reads "OFF?"	N/A Y / N Y / N		
YI_23A2 1. Connect test box. 2. Indicator reads "ON"? 3. Indicator reads "OFF?"	N/A Y / N Y / N		
YI_23P_2 1. Connect test box. 2. Indicator reads "ON"? 3. Indicator reads "OFF?"	N/A Y / N Y / N		
B. Test system alarms.	N/A		
FAL_23J1 1. Connect test box. 2. Alarm sounds? 3. Alarm Clears?	N/A Y / N Y / N		

Test Witnesses:

Test Director

Date

Cognizant Engineer

Date

Quality Assurance

Date

291-Z Closed Loop Cooling

Performed by:

Step	Accept	Initial	Comments
LAL_23A1 1. Connect test box. 2. Alarm sounds? 3. Alarm Clears?	N/A Y / N Y / N		
TAH_23A1 1. Connect test box. 2. Alarm sounds? 3. Alarm Clears?	N/A Y / N Y / N		
TAH_23J1 1. Connect test box. 2. Alarm sounds? 3. Alarm Clears?	N/A Y / N Y / N		
XA_23A1 1. Connect test box. 2. Alarm sounds? 3. Alarm Clears?	N/A Y / N Y / N		
XA_23P_1 1. Connect test box. 2. Alarm sounds? 3. Alarm Clears?	N/A Y / N Y / N		
FAL_23J2 1. Connect test box. 2. Alarm sounds? 3. Alarm Clears?	N/A Y / N Y / N		
LAL_23A2 1. Connect test box. 2. Alarm sounds? 3. Alarm Clears?	N/A Y / N Y / N		
TAH_23A2 1. Connect test box. 2. Alarm sounds? 3. Alarm Clears?	N/A Y / N Y / N		

Test Witnesses:

Test Director

Date

Cognizant Engineer

Date

Quality Assurance

Date

WHC-SD-610-ATP-002 Rev. 0

Project B610 Process Control Configuration ATP

291-Z Closed Loop Cooling

Performed by:

Step	Accept	Initial	Comments
TAH_23J2 1. Connect test box. 2. Alarm sounds? 3. Alarm Clears?	N/A Y / N Y / N		
XA_23A2 1. Connect test box. 2. Alarm sounds? 3. Alarm Clears?	N/A Y / N Y / N		
XA_23P_2 1. Connect test box. 2. Alarm sounds? 3. Alarm Clears?	N/A Y / N Y / N		
C. Switches off and disconnect wires.			

Test Witnesses:

Test Director_____
Date_____
Cognizant Engineer_____
Date_____
Quality Assurance_____
Date

Building Accelerometer

Performed by:

Step	Accept	Initial	Comments
I. Test indicators and alarms. A. Test the status indicators.	N/A N/A		
XI_ACC3 1. Connect test box. 2. Indicator reads "PWR ON"? 3. Indicator reads "PWR OFF"?	N/A Y / N Y / N		
XI_ACC1 1. Connect test box. 2. Indicator reads "ON LINE"? 3. Indicator reads "OFF LINE"?	N/A Y / N Y / N		
XA_ACC2 1. Connect test box. 2. Indicator reads "ON LINE"? 3. Indicator reads "OFF LINE"?	N/A Y / N Y / N		
B. Test system alarms.	N/A		
XA_ACC2 1. Connect test box. 2. Alarm sounds? 3. Alarm Clears?	N/A Y / N Y / N		
XA_ACC3 1. Connect test box. 2. Alarm sounds? 3. Alarm Clears?	N/A Y / N Y / N		
XA_ACC1 1. Connect test box. 2. Alarm sounds? 3. Alarm Clears?	N/A Y / N Y / N		
C. Switches off and disconnect wires.			

Test Witnesses:

Test Director

Date

Cognizant Engineer

Date

Quality Assurance

Date

Evacuation Siren

Performed by:

Step	Accept	Initial	Comments
I. Test siren switches.	N/A		
A. Test evacuation siren switch. 1. MICON 44 Point 19 on? 2. Output off?	N/A Y / N Y / N		
B. Test take cover siren switch? 1. MICON 44 Point 20 on? 2. Output off?	N/A Y / N Y / N		

Test Witnesses:

Test Director_____
Date_____
Cognizant Engineer_____
Date_____
Quality Assurance_____
Date

Stack CAMs

Performed by:

Step	Accept	Initial	Comments
I. Test CAM alarms.	N/A		
XA_232SC 1. Connect test box. 2. Alarm sounds? 3. Alarm Clears?	N/A Y / N Y / N		
XA_241_1 1. Connect test box. 2. Alarm sounds? 3. Alarm Clears?	N/A Y / N Y / N		
XA_241_2 1. Connect test box. 2. Alarm sounds? 3. Alarm Clears?	N/A Y / N Y / N		
XA_241_3 1. Connect test box. 2. Alarm sounds? 3. Alarm Clears?	N/A Y / N Y / N		
XA2736RC 1. Connect test box. 2. Alarm sounds? 3. Alarm Clears?	N/A Y / N Y / N		
XA_2736C 1. Connect test box. 2. Alarm sounds? 3. Alarm Clears?	N/A Y / N Y / N		
XA_ZB RC 1. Connect test box. 2. Alarm sounds? 3. Alarm Clears?	N/A Y / N Y / N		

Test Witnesses:

Test Director

Date

Cognizant Engineer

Date

Quality Assurance

Date

Stack CAMs

Performed by:

Step	Accept	Initial	Comments
XAZB SCA 1. Connect test box. 2. Alarm sounds? 3. Alarm Clears?	N/A Y / N Y / N		
XA_ZB_SC 1. Connect test box. 2. Alarm sounds? 3. Alarm Clears?	N/A Y / N Y / N		
XA_291C_1 1. Connect test box. 2. Alarm sounds? 3. Alarm Clears?	N/A Y / N Y / N		
XA_291C_2 1. Connect test box. 2. Alarm sounds? 3. Alarm Clears?	N/A Y / N Y / N		
XA_291C_3 1. Connect test box. 2. Alarm sounds? 3. Alarm Clears?	N/A Y / N Y / N		
XA_9AB_1 1. Connect test box. 2. Alarm sounds? 3. Alarm Clears?	N/A Y / N Y / N		
XA_9AB_2 1. Connect test box. 2. Alarm sounds? 3. Alarm Clears?	N/A Y / N Y / N		
II. Switches off and disconnect wires.	N/A		

Test Witnesses:

Test Director

Date

Cognizant Engineer

Date

Quality Assurance

Date

Fire

Performed by:

Step	Accept	Initial	Comments
I. Test reset button. A. MICON 45 Points 28, 29, 30, & 31 on? B. HS RES to "RESET" C. Outputs off 5 sec.?	N/A Y / N N/A Y / N		
II. Test 309/310 damper control. A. HS 309 10 to "CLSE 310". B. MICON 46 Point 30 off, and MICON 46 Point 31 on? C. HS 309 10 to "CLSE 309". D. MICON 46 Point 30 on, and MICON 46 Point 31 off?	N/A N/A Y / N N/A Y / N		
III. Test damper indicators.	N/A		
ZI BYP A. Jumper open input. B. Indicator reads "OPEN"? C. Indicator reads "MOVING"? D. Indicator reads "CLOSED"? E. Remove jumper.	N/A Y / N Y / N Y / N N/A		
ZI 9A A. Jumper open input. B. Indicator reads "OPEN"? C. Indicator reads "MOVING"? D. Indicator reads "CLOSED"? E. Remove jumper.	N/A Y / N Y / N Y / N N/A		
ZI 9AB A. Jumper open input. B. Indicator reads "OPEN"? C. Indicator reads "MOVING"? D. Indicator reads "CLOSED"? E. Remove jumper.	N/A Y / N Y / N Y / N N/A		

Test Witnesses:

Test Director

Date

Cognizant Engineer

Date

Quality Assurance

Date

Fire

Performed by:

Step	Accept	Initial	Comments
ZI 9B A. Jumper open input. B. Indicator reads "OPEN"? C. Indicator reads "MOVING"? D. Indicator reads "CLOSED"? E. Remove jumper.	N/A Y / N Y / N Y / N N/A		
ZI 309 A. Jumper open input. B. Indicator reads "OPEN"? C. Indicator reads "MOVING"? D. Indicator reads "CLOSED"? E. Remove jumper.	N/A Y / N Y / N Y / N N/A		
ZI 310 A. Jumper open input. B. Indicator reads "OPEN"? C. Indicator reads "MOVING"? D. Indicator reads "CLOSED"? E. Remove jumper.	N/A Y / N Y / N Y / N N/A		
IV. Test fire alarms.	N/A		
XA F32 1 A. Jumper input. B. Alarm sounds? C. Alarm clears?	N/A Y / N Y / N		
XA F32 2 A. Jumper input. B. Alarm sounds? C. Alarm clears?	N/A Y / N Y / N		
XA F36 1 A. Jumper input. B. Alarm sounds? C. Alarm clears?	N/A Y / N Y / N		

Test Witnesses:

Test Director

Date

Cognizant Engineer

Date

Quality Assurance

Date

Fire

Performed by:

Step	Accept	Initial	Comments
XA F36 2 A. Jumper input. B. Alarm sounds? C. Alarm clears?	N/A Y / N Y / N		
PDA 9B A. Jumper input. B. Alarm sounds? C. Alarm clears?	N/A Y / N Y / N		
XA FA1 A. Jumper input. B. Alarm sounds? C. Alarm clears?	N/A Y / N Y / N		
XA FA2 A. Jumper input. B. Alarm sounds? C. Alarm clears?	N/A Y / N Y / N		
XA FA3 A. Jumper input. B. Alarm sounds? C. Alarm clears?	N/A Y / N Y / N		
XA FA4 A. Jumper input. B. Alarm sounds? C. Alarm clears?	N/A Y / N Y / N		
XA FA5 A. Jumper input. B. Alarm sounds? C. Alarm clears?	N/A Y / N Y / N		
XA FA6 A. Jumper input. B. Alarm sounds? C. Alarm clears?	N/A Y / N Y / N		

Test Witnesses:

Test Director

Date

Cognizant Engineer

Date

Quality Assurance

Date

Fire

Performed by:

Step	Accept	Initial	Comments
XA FA7 A. Jumper input. B. Alarm sounds? C. Alarm clears?	N/A Y / N Y / N		
XA FA8 A. Jumper input. B. Alarm sounds? C. Alarm clears?	N/A Y / N Y / N		
XA FA9 A. Jumper input. B. Alarm sounds? C. Alarm clears?	N/A Y / N Y / N		
XA FA10 A. Jumper input. B. Alarm sounds? C. Alarm clears?	N/A Y / N Y / N		
XA FA11 A. Jumper input. B. Alarm sounds? C. Alarm clears?	N/A Y / N Y / N		
XA FA12 A. Jumper input. B. Alarm sounds? C. Alarm clears?	N/A Y / N Y / N		
XA FA13 A. Jumper input. B. Alarm sounds? C. Alarm clears?	N/A Y / N Y / N		
XA FA14 A. Jumper input. B. Alarm sounds? C. Alarm clears?	N/A Y / N Y / N		

Test Witnesses:

Test Director

Date

Cognizant Engineer

Date

Quality Assurance

Date

Fire

Performed by:

Step	Accept	Initial	Comments
XA FA15 A. Jumper input. B. Alarm sounds? C. Alarm clears?	N/A Y / N Y / N		
XA FA16 A. Jumper input. B. Alarm sounds? C. Alarm clears?	N/A Y / N Y / N		
XA FA17 A. Jumper input. B. Alarm sounds? C. Alarm clears?	N/A Y / N Y / N		
XA FA18 A. Jumper input. B. Alarm sounds? C. Alarm clears?	N/A Y / N Y / N		
XA FA19 A. Jumper input. B. Alarm sounds? C. Alarm clears?	N/A Y / N Y / N		
XA FA20 A. Jumper input. B. Alarm sounds? C. Alarm clears?	N/A Y / N Y / N		
XA FA21 A. Jumper input. B. Alarm sounds? C. Alarm clears?	N/A Y / N Y / N		
XA FA22 A. Jumper input. B. Alarm sounds? C. Alarm clears?	N/A Y / N Y / N		

Test Witnesses:

Test Director

Date

Cognizant Engineer

Date

Quality Assurance

Date

Fire

Performed by:

Step	Accept	Initial	Comments
XA FA23 A. Jumper input. B. Alarm sounds? C. Alarm clears?	N/A Y / N Y / N		
XA FA24 A. Jumper input. B. Alarm sounds? C. Alarm clears?	N/A Y / N Y / N		
XA FA25 A. Jumper input. B. Alarm sounds? C. Alarm clears?	N/A Y / N Y / N		
XA FA26 A. Jumper input. B. Alarm sounds? C. Alarm clears?	N/A Y / N Y / N		
XA FA27 A. Jumper input. B. Alarm sounds? C. Alarm clears?	N/A Y / N Y / N		
XA FA28 A. Jumper input. B. Alarm sounds? C. Alarm clears?	N/A Y / N Y / N		
XA FA29 A. Jumper input. B. Alarm sounds? C. Alarm clears?	N/A Y / N Y / N		
XA FA30 A. Jumper input. B. Alarm sounds? C. Alarm clears?	N/A Y / N Y / N		

Test Witnesses:

Test Director

Date

Cognizant Engineer

Date

Quality Assurance

Date

Fire

Performed by:

Step	Accept	Initial	Comments
XA FA31 A. Jumper input. B. Alarm sounds? C. Alarm clears?	N/A Y / N Y / N		
XA FA32 A. Jumper input. B. Alarm sounds? C. Alarm clears?	N/A Y / N Y / N		
XA FA33 A. Jumper input. B. Alarm sounds? C. Alarm clears?	N/A Y / N Y / N		
XA FA34 A. Jumper input. B. Alarm sounds? C. Alarm clears?	N/A Y / N Y / N		
XA FA35 A. Jumper input. B. Alarm sounds? C. Alarm clears?	N/A Y / N Y / N		
XA FA36 A. Jumper input. B. Alarm sounds? C. Alarm clears?	N/A Y / N Y / N		
PA 309 10 A. Jumper input. B. Alarm sounds? C. Alarm clears?	N/A Y / N Y / N		
XA FA37 A. Jumper input. B. Alarm sounds? C. Alarm clears?	N/A Y / N Y / N		

Test Witnesses:

Test Director

Date

Cognizant Engineer

Date

Quality Assurance

Date

Fire

Performed by:

Step	Accept	Initial	Comments
XA FA38 A. Jumper input. B. Alarm sounds? C. Alarm clears?	N/A Y / N Y / N		
XA FA39 A. Jumper input. B. Alarm sounds? C. Alarm clears?	N/A Y / N Y / N		
XA FA40 A. Jumper input. B. Alarm sounds? C. Alarm clears?	N/A Y / N Y / N		
XA FA41 A. Jumper input. B. Alarm sounds? C. Alarm clears?	N/A Y / N Y / N		
XA FA42 A. Jumper input. B. Alarm sounds? C. Alarm clears?	N/A Y / N Y / N		
XA FA43 A. Jumper input. B. Alarm sounds? C. Alarm clears?	N/A Y / N Y / N		
XA FA44 A. Jumper input. B. Alarm sounds? C. Alarm clears?	N/A Y / N Y / N		
XA FA45 A. Jumper input. B. Alarm sounds? C. Alarm clears?	N/A Y / N Y / N		

Test Witnesses:

Test Director

Date

Cognizant Engineer

Date

Quality Assurance

Date

Fire

Performed by:

Step	Accept	Initial	Comments
XA FA46 A. Jumper input. B. Alarm sounds? C. Alarm clears?	N/A Y / N Y / N		
XA FA47 A. Jumper input. B. Alarm sounds? C. Alarm clears?	N/A Y / N Y / N		
XA FA48 A. Jumper input. B. Alarm sounds? C. Alarm clears?	N/A Y / N Y / N		
XA FA49 A. Jumper input. B. Alarm sounds? C. Alarm clears?	N/A Y / N Y / N		
XA FA50 A. Jumper input. B. Alarm sounds? C. Alarm clears?	N/A Y / N Y / N		
XA FA51 A. Jumper input. B. Alarm sounds? C. Alarm clears?	N/A Y / N Y / N		
XA FA52 A. Jumper input. B. Alarm sounds? C. Alarm clears?	N/A Y / N Y / N		
XA FA53 A. Jumper input. B. Alarm sounds? C. Alarm clears?	N/A Y / N Y / N		

Test Witnesses:

Test Director

Date

Cognizant Engineer

Date

Quality Assurance

Date

Fire

Performed by:

Step	Accept	Initial	Comments
XA FA54 A. Jumper input. B. Alarm sounds? C. Alarm clears?	N/A Y / N Y / N		
XA FA55 A. Jumper input. B. Alarm sounds? C. Alarm clears?	N/A Y / N Y / N		
XA FA56 A. Jumper input. B. Alarm sounds? C. Alarm clears?	N/A Y / N Y / N		
XA FA57 A. Jumper input. B. Alarm sounds? C. Alarm clears?	N/A Y / N Y / N		
XA FA58 A. Jumper input. B. Alarm sounds? C. Alarm clears?	N/A Y / N Y / N		
XA FA59 A. Jumper input. B. Alarm sounds? C. Alarm clears?	N/A Y / N Y / N		
XA FA60 A. Jumper input. B. Alarm sounds? C. Alarm clears?	N/A Y / N Y / N		
XA FA61 A. Jumper input. B. Alarm sounds? C. Alarm clears?	N/A Y / N Y / N		

Test Witnesses:

Test Director

Date

Cognizant Engineer

Date

Quality Assurance

Date

WHC-SD-610-ATP-002 Rev. 0

Project B610 Process Control Configuration ATP

Fire

Performed by:

Step	Accept	Initial	Comments
XA FA62 A. Jumper input. B. Alarm sounds? C. Alarm clears?	N/A Y / N Y / N		

Test Witnesses:

Test Director

Date

Cognizant Engineer

Date

Quality Assurance

Date

WHC-SD-610-ATP-002 Rev. 0

Project B610 Process Control Configuration ATP

Complete Test

Performed by:

Step	Accept	Initial	Comments
I. Verify all step have been completed, and all data sheets filled out.	N/A		
II. If necessary, repeat uncompleted portions.	N/A		

Test Witnesses:

Test Director

Date

Cognizant Engineer

Date

Quality Assurance

Date

EXCEPTIONS

The following is an example Test Exceptions data sheet. Make as many copies of this data sheet as required.

Whenever the control configuration does not perform as expected, an exception must be created. Enter the number of the exception in the "No." block at the far right. In the "Description" block, enter a brief description of the problem. When it has been resolved, enter a brief description of the resolution in the "Resolution" block. After an exception has been resolved, the Test Director must sign and date in the "Signature/Date" block. Quality Assurance and Cognizant Engineer signatures are required only if the exception is resolved as "accept as is". When Quality Assurance and Cognizant Engineer signatures are not required, mark these two lines "N/A".

WHC-SD-610H-ATP- Rev. 0

Project B610 Process Control Configuration ATP

Test Exceptions

No.	Description	Resolution	Signature/Date
			<div>Test Director</div> <div>Quality Assurance</div> <div>Cognizant Engineer</div>
			<div>Test Director</div> <div>Quality Assurance</div> <div>Cognizant Engineer</div>
			<div>Test Director</div> <div>Quality Assurance</div> <div>Cognizant Engineer</div>
			<div>Test Director</div> <div>Quality Assurance</div> <div>Cognizant Engineer</div>
			<div>Test Director</div> <div>Quality Assurance</div> <div>Cognizant Engineer</div>

APPENDIX A

MICON TERMINATIONS

Cabinet Location: 2736-ZB RM 602		Rack Number: UR-1	
Pt	Slot: I Card Type: U32 MICON Number: 15 Tag: ZB MAIN	Slot: II Card Type: U32b MICON Number: 15 Tag: ZB MAIN	Slot: III Card Type: C MICON Number: 16 Tag: ZB 1 3
1			ai: PE-1 (AI PE 1)
2			ai: PE-2 (AI PE 2)
3			ai: PE-5 (AI PE 5)
4			ai: PE-3 (AI PE 3)
5			ai: PE-7 (AI PE 7)
6			ai: PE-4 (AI PE 4)
7			ai:
8			ai:
9			ai:
10			ai:
11			ai:
12			ai:
13			ai:
14			ai:
15			ai:
16			ai:
17			ai:
18			ai:
19			ao: EP-1 (AO EP 1)
20			ao: EP-2 (AO EP 2)
21			ao: EP-4 (AO EP 4)
22			ao: EP-5 (AO EP 5)
23			ao: EP-6 (AO EP 6)
24			ao: EP-3 (AO EP 3)
25			ao:
26			ao:
27			ao:
28			ao:
29			ao:
30			ao:
31			d:
32			d:

Cabinet Location: 2736-ZB RM 602		Rack Number: UR-1	
Pt	Slot: IV Card Type: A MICON Number: 17 Tag: ZB 1 4	Slot: V	Slot: VI
1	ai: AMP-COND-1 (AI CON 1)		
2	ai: AMP-SF-1 (AI SF 1A)		
3	ai: AMP-SF-2 (AI SF 2A)		
4	ai: DPY-1 (AI DPY 1)		
5	ai: AMP-AC-1 (AI AC 1A)		
6	ai: AMP-AC-2 (AI AC 2A)		
7	ai: DPY-2 (AI DPY 2)		
8	ai: DPY-4 (AI DPY 4)		
9	ai: AMP-EF-1 (AI EF 1A)		
10	ai: AMP-EF-2 (AI EF 2A)		
11	ai: AMP-RF-1 (AI RF 1A)		
12	ai: AMP-RF-2 (AI RF 2A)		
13	ai: DPY-1A (AI DPY1A)		
14	ai: DP-5 (AI DPY 5)		
15	ai: AMP-EF-1-1 (AI 1 1A)		
16	ai: AMP-EF-1-2 (AI 1 2A)		
17	ai: AMP-SF-5 (AI SF 5A)		
18	ai: AMP-SF-6 (AI SF 6A)		
19	ai: AMP-VP-1 (AI VP 1A)		
20	ai: DPY-6 (AI DPY 6)		
21	ai: AMP-COND-2 (AI CON2)		
22	ai: AMP-SF-3 (AI SF 3A)		
23	ai: AMP-SF-4 (AI SF 4A)		
24	ai: DPY-3 (AI DPY 3)		
25	ai:		
26	ai:		
27	ao:		
28	ao:		
29	ao:		
30	ao:		
31	d :		
32	d :		

Cabinet Location: 2736-ZB RM 602		Rack Number: UR-2	
Pt	Slot: I Card Type: Dr MICON Number: 18 Tag: ZB 2 1	Slot: II Card Type: Dr MICON Number: 19 Tag: ZB 2 2	Slot: III Card Type: D MICON Number: 20 Tag: ZB 2 3
1	di: SF-1 RUN (DI SF 1A)	di: SF-2 RUN (DI SF 2A)	do: COND-1 (DO CON 1)
2	di: SF-1 READY (DI SF 1B)	di: SF-2 READY (DI SF 2B)	do: EF-3 (DO EF 3)
3	do: SF-1 CONTROL (DO SF 1)	do: SF-2 CONTROL (DO SF 2)	do: AC-2736-ZA (DO ZA)
4	di: EF-1 RUN (DI EF 1A)	di: EF-2 RUN (DI EF 2A)	di: PS-2-1 (DI 2 1PS)
5	di: EF-1 READY (DI EF 1B)	di: EF-2 READY (DI EF 2B)	do: COND-2 (DO CON 2)
6	do: EF-1 CONTROL (DO EF 1)	do: EF-2 CONTROL (DO EF 2)	d :
7	di: RF-1 RUN (DI RF 1A)	di: RF-2 RUN (DI RF 2A)	d :
8	di: RF-1 READY (DI RF 1B)	di: RF-2 READY (DI RF 2B)	d :
9	do: RF-1 CONTROL (DO RF 1)	do: RF-2 CONTROL (DO RF 2)	d :
10	di: EF-1-1 READY (DI 1 1A)	di: EF-1-2 READY (DI 1 1A)	d :
11	do: EF-1-1 CONTR (DO 1 1)	do: EF-1-2 CONTR (DO 1 2)	d :
12	di: SF-5 RUN (DI SF 5A)	di: SF-6 RUN (DI SF 6A)	d :
13	di: SF-5 READY (DI SF 5B)	di: SF-6 READY (DI SF 6B)	d :
14	do: SF-5 CONTROL (DO SF 5)	do: SF-6 CONTROL (DO SF 6)	d :
15	di: SF-3 RUN (DI SF 3A)	di: SF-4 RUN (DI SF 4A)	d :
16	di: SF-3 READY (DI SF 3B)	di: SF-4 READY (DI SF 4B)	d :
17	do: SF-3 CONTROL (DO SF 3)	do: SF-4 CONTROL (DO SF 4)	d :
18	d :	d :	do: EV-27 (DO-EV 27)
19	d :	d :	do: EV-23 (DO EV 23)
20	do: EV-1 (DO EV 1)	do: EV-3 (DO EV 3)	do: EV-25 (DO EV 25)
21	do: EV-2 (DO EV 2)	do: EV-4 (DO EV 4)	do: EV-26 (DO EV 26)
22	do: EV-11 (DO EV 11)	do: EV-13 (DO EV 13)	do: EV-19 (DO EV 19)
23	do: EV-12 (DO EV 12)	do: EV-14 (DO EV 14)	do: EV-20 (DO EV 20)
24	do: EV-15 (DO EV 15)	do: EV-17 (DO EV 17)	do: EV-21 (DO EV 21)
25	do: EV-16 (DO EV 16)	do: EV-18 (DO EV 18)	do: EV-22 (DO EV 22)
26	do: EV-9 (DO EV 9)	do: EV-10 (DO EV 10)	do: EV-28 (DO EV 28)
27	do: EV-31 (DO EV 31)	do: EV-32 (DO EV 32)	do: EV-29 (DO EV 29)
28	do: EV-33 (DO EV 33)	do: EV 34 (DO EV 34)	do: EV-30 (DO EV 30)
29	do: EV-5 (DO EV 5)	do: EV-7 (DO EV 7)	do: EV-24 (DO EV 24)
30	do: EV-6 (DO EV 6)	do: EV-8 (DO EV 8)	do: EV-24A (DO EV24A)
31	d :	d :	d :
32	d : <i>Pulse DO, Do Not Use</i>	d : <i>Pulse DO, Do Not Use</i>	d : <i>Pulse DO, Do Not Use</i>

Cabinet Location: 2736-ZB RM 602		Rack Number: UR-2	
Pt	Slot: IV Card Type: D MICON Number: 21 Tag: ZB 2 4	Slot: V Card Type: D MICON Number: 22 Tag: ZB 2 5	Slot: VI Card Type: D MICON Number: 23 Tag: ZB 2 6
1	di: EF-1-1 TIMER (DI 1 1B)	di: EF-1-2 TIMER (DI 1 2B)	di: EF-1-2 SS (DI 1 2C)
2	di: COLD SMOKE (DI CSA)	di: FIRE ALARM (DI FA ZB)	di: FA ZN2 (DI FA 2)
3	di: FS-1 (DI FS 1)	di: FS-2 (DI FS 2)	di: FA ZN8 (DI FA 8)
4	di: FS-5 (DI FS 5)	di: FS-6 (DI FS 6)	di: MS 2736FA (DI ZB BY)
5	di: FS-7 (DI FS 7)	di: FS-8 (DI FS 8)	di: MS ZN8 (DI BY 8)
6	di: FS-10 (DI FS 10)	di: FS-9 (DI FS 9)	di: MS ZNII (DI BY 2)
7	di: FS-3 (DI FS 3)	di: FS-4 (DI FS 4)	di: MTS-1 (DI VP 1A)
8	di: DPS-1 (DI DPS 1)	di: DPS-2 (DI DPS 2)	di: MTS-2 (DI VP-2A)
9	di: VP1-OIL (DI VP 1B)	di: VP2-OIL (DI VP 2B)	di: PS-1-2 (DI 1 2PS)
10	di: NDA CAMS (DI CAM)	di: PS-8 (DI PS 8)	di: 232-Z EXH FAN ALARM
11	d :	d :	d :
12	d :	d :	d :
13	d :	d :	d :
14	d :	d :	d :
15	di: 234-5Z EMERG GND FLT	di: GEN 1 SYNC'ED	di: GEN 3 OVERCRANK
16	di: 2721-Z PLC OFF/FAIL	di: GEN 1 SYS NOT READY	di: GEN 3 OVERSPEED
17	di: CENT FUEL TK 1/2 EMPTY	di: GEN 2 HI WATER TEMP	di: GEN 3 RUNNING
18	di: CENT FUEL TK LOLO	di: GEN 2 LO OIL PRESS	di: GEN 3 START BATRY LO
19	di: DIST SWB NORM PWR OFF	di: GEN 2 OVER CRANK	di: GEN 3 SYNC'ED
20	di: EGS 2721 GND FAULT	di: GEN 2 OVER SPEED	di: GEN 3 SYS NOT READY
21	di: EGS NORM SORUCE GND F	di: GEN 2 RUNNING	di: NDA LAB PWR SHUTDOWN
22	di: GEN 1 HI WATER TEMP	di: GEN 2 START BATRY LO	di: UPS BUS FAILURE
23	di: GEN 1 LO OIL PRESS	di: GEN 2 SNC'ED	di: UPS SYS OFF NORMAL
24	di: GEN 1 OVER CRANK	di: GEN 2 SYS NOT READY	di: UPS XFR SW BYPASSED
25	di: GEN 1 OVER SPEED	di: GEN 3 HI WATER TEMP	di: XFR SW NORM PWR OFF
26	di: GEN 1 RUNNING	di: GEN 3 LO OIL PRESS	di: XFR SW ON EMER PWR
27	di: GEN 1 START BATRY LO	d :	d :
28	d :	d :	d :
29	d :	d :	d :
30	d :	d :	d :
31	d :	d :	d :
32	d : <i>Pulse DO, Do Not Use</i>	d : <i>Pulse DO, Do Not Use</i>	d : <i>Pulse DO, Do Not Use</i>

Cabinet Location: 234-5Z RM 321A		Rack Number: UR-1	
Pt	Slot: I Card Type: U32 MICON Number: 31 Tag: RM321 MAIN	Slot: II Card Type: U32b MICON Number: 31 Tag: RM321 MAIN	Slot: III Card Type: C MICON Number: 32 Tag: RM321 1 3
1			ai: PT-1-25A (AI PT1)
2			ai: PY-1-25A (AI PY1)
3			ai: PY-2-25A (AI PY2)
4			ai: PY-4-25A (AI PY4)
5			ai: PY-5-25A (AI-PY5)
6			ai: PY-6-25A (AI PY6)
7			ai: PDT-2-25A (AI PDT2)
8			ai:
9			ai:
10			ai:
11			ai:
12			ai:
13			ai:
14			ai:
15			ai:
16			ai:
17			ai:
18			ai:
19			ao: PY-3-25A (AO PY3)
20			ao: PY-7-25A (AO PY7)
21			ao: PY-8-25A (AO-PY8)
22			ao: PY-9-25A (AO-PY9)
23			ao: PY-10-25A (AO-PY10)
24			ao: PY-11-25A (AO-PY11)
25			ao: PDY-1-25A (AO-PDY1)
26			ao:
27			ao:
28			ao:
29			ao:
30			ao:
31			d:
32			d:

Cabinet Location: 234-5Z RM 321A		Rack Number: UR-1	
Pt	Slot: IV Card Type: A MICON Number: 33 Tag: RM321 1 4	Slot: V Card Type: A MICON Number: 34 Tag: RM321 1 5	Slot: VI Card Type: A MICON Number: 35 Tag: RM321 1 6
1	ai: ET-1-25A (AI-FAN)	ai: PDT-1-25A (AI PDT1)	ai: PT-2-25A (AI PT2)
2	ai: PT-3-25A (AI PT3)	ai: PT-4 25A (AI PT4)	ai: TT-9-25A (AI TT9)
3	ai: TT-10-25A (AI-TT10)	ai: TT-11-25A (AI TT11)	ai: TT-12-25A (AI TT12)
4	ai: PT-5-25A (AI PT5)	ai: PDT-166 (AI-166)	ai: PDT-227 (AI 227)
5	ai: PDT-228A (AI 228A)	ai: PDT-228B (AI-228B)	ai: PDT-228C (AI 228C)
6	ai: PDT-230A (AI 230A)	ai: PDT-230B (AI 230B)	ai: PDT-230C (AI 230C)
7	ai: PDT-232A (AI 232A)	ai: PDT-235A (AI 235A)	ai: PDT-236 (AI 236)
8	ai: PDT-308 (AI 308)	ai: PDT-9-25A (AI PDT9)	ai: DPT2008-23B (AI 1128)
9	ai: PHT-1 (AI PHT 1)	ai: PVLT-1 (AI PVLT1)	ai: TT-1 (AI TE 1)
10	ai: DA-DS-1E (AI DAE)	ai: DA-DS-1S (AI DAS)	ai: DRY AIR D PT (AI DAT)
11	ai: TC1E (AI TC1E)	ai: TC1S (AI TC1S)	ai: RMA CONV HOOD PRESS
12	ai: TC2E (AI TC2E)	ai: TC2S (AI TC2S)	ai: 236-Z PROC AIR DEW P
13	ai: TPI1E (AI TPI1E)	ai: TPI1S (AI TPI1S)	ai: INST AIR PRESS
14	ai: TPI2E (AI TPI2E)	ai: TPI2S (AI TPI2S)	ai: 90# AIR PRESS
15	ai: TPO1E (AI TPO1E)	ai: TPO1S (AI TPO1S)	ai: 291-Z AIR DEW POINT
16	ai: TPI2E (AI TPO2E)	ai: TPO2S (AI TPO2S)	ai: 17" VACUUM
17	ai: DPT-CORR4 (AI COR4)	ai: DPT 263 (AI 263)	ai: DPT 264 (AI 264)
18	ai: DPT-262 (AI 262)	ai:	ai:
19	ai:	ai:	ai:
20	ai:	ai:	ai:
21	ai:	ai:	ai:
22	ai:	ai:	ai:
23	ai:	ai:	ai:
24	ai:	ai:	ai:
25	ai:	ai:	ai:
26	ai:	ai:	ai:
27	ao: PY-12-25A (AO PY12)	ao: PY-15-25A (AO PY15)	ao: PY-17-25A (AO PY17)
28	ao: PY-16-25A (AO PY16)	ao: PDY-2-25A (AO PDY2)	ao: PY-13-25A (AO PY13)
29	ao: PY-14-25A (AO PY14)	ao:	ao:
30	ao:	ao:	ao:
31	d :	d :	d :
32	d :	d :	d :

Cabinet Location: 234-5Z RM 321A		Rack Number: UR-2	
Pt	Slot: I Card Type: Dr MICON Number: 36 Tag: RM321 2 1	Slot: II Card Type: Dr MICON Number: 37 Tag: RM321 2 2	Slot: III Card Type: Dr MICON Number: 38 Tag: RM321 2 3
1	di: SF-1 STATUS (DI SF1)	di: SF-2 STATUS (DI SF2)	di: SF-3 STATUS (DI SF3)
2	do: SF-1 START (DO SF1 A)	do: SF-2 START (DO SF2 A)	do: SF-3 START (DO SF3 A)
3	do: SF-1 STOP (DO SF1 B)	do: SF-2 STOP (DO SF2 B)	do: SF-3 STOP (DO SF3 B)
4	di: SP-1 STATUS (DI DP1)	di: SP-2 STATUS (DI SP2)	di: SP-3 STATUS (DI SP3)
5	do: SP-1 START (DO SP1 A)	do: SP-2 START (DO SP2 A)	do: SP-3 START (DO SP3 A)
6	do: SP-1 STOP (DO SP1 B)	do: SP-2 STOP (DO SP2 B)	do: SP-3 STOP (DO SP3 B)
7	di: EF-1 STATUS (DI EF1)	di: EF-2 STATUS (DI EF2)	di: EF-3 STATUS (DI EF3)
8	do: EF-1 START (DO EF1 A)	do: EF-2 START (DO EF2 A)	do: EF-3 START (DO EF3 A)
9	do: EF-1 STOP (DO EF1 B)	do: EF-2 STOP (DO EF2 B)	do: EF-3 STOP (DO EF3 B)
10	di: EF-11 STATUS (DI EF11)	di: EF-12 STATUS (DI EF12)	di: EF-14 STATS (DI EF14)
11	do: EF-11 START (DO EF11A)	do: EF-12 START (DO EF12A)	do: EF-14 STRT (DO EF14A)
12	do: EF-11 STOP (DO EF11B)	do: EF-12 STOP (DO EF12B)	do: EF-14 STOP (DO EF14B)
13	di: PS-2-3	di: 291Z SUMP FILTER HI DP	di: 2736ZA EMR GEN TROUB
14	di: 17" VAC FAILURE	di: 291-Z SUMP HI LEVEL	di: 2736-ZA EM GEN RUN
15	di: FAL-23J-3001	di: FAL-23J-3002	di: 232-Z STK CAM A/F
16	di: LAL-23A-3001	di: LAL-23A-3002	di: 225# STEAM LO PRESS
17	di: TAH-23A-3001	di: TAH-23A-3002	di: SAN. WATER LO PRESS
18	di: TAH-23J-3001	di: TAH-23J-3002	d :
19	di: XA-23A-3001	di: XA-23A-3002	d :
20	di: YL-P23A-3001	di: YL-P23A-3002	d :
21	di: YL-VP23A-3001	di: YL-VP23A-3002	d :
22	di: AC-23P-3001 ON	di: AC-23P-3002 ON	d :
23	di: AC-23P-3001 TROUBLE	di: AC-23P-3002 TROUBLE	d :
24	d :	d :	d :
25	d :	d :	d :
26	d :	d :	d :
27	d :	d :	d :
28	d :	d :	d :
29	d :	d :	d :
30	d :	d :	d :
31	d :	d :	d :
32	d : Pulse DO, Do Not Use	d : Pulse DO, Do Not Use	d : Pulse DO, Do Not Use

Cabinet Location: 234-5Z RM 321A		Rack Number: UR-2	
Pt	Slot: IV Card Type: Dr MICON Number: 39 Tag: RM321 2 4	Slot: V Card Type: Dr MICON Number: 40 Tag: RM321 2 5	Slot: VI Card Type: Dr MICON Number: 41 Tag: RM321 2 6
1	di: SF-4 STATUS (DI SF4)	di: SF-5 STATUS (DI SF5)	di: SF-6 STATUS (DI SF6)
2	do: SF-4 START (DO SF4 A)	do: SF-5 START (DO SF5 A)	do: SF-6 START (DO SF6 A)
3	do: SF-4 STOP (DO SF4 B)	do: SF-5 STOP (DO SF5 B)	do: SF-6 STOP (DO SF6 B)
4	di: SP-4 STATUS (DI SP4)	di: SP-1 STATUS (DI SP5)	di: SP-6 STATUS (DI SP6)
5	do: SP-4 START (DO SP4 A)	do: SP-1 START (DO SP5 A)	do: SP-6 START (DO SP6 A)
6	do: SP-4 STOP (DO SP4 B)	do: SP-1 STOP (DO SP5 B)	do: SP-6 STOP (DO SP6 B)
7	di: EF-4 STATUS (DI EF4)	di: EF-5 STATUS (DI EF5)	di: EF-6 STATUS (DI-EF6)
8	do: EF-4 START (DO EF4 A)	do: EF-5 START (DO EF5 A)	do: EF-6 START (DO EF6 A)
9	do: EF-4 STOP (DO EF4 B)	do: EF-5 STOP (DO EF5 B)	do: EF-6 STOP (DO EF6 B)
10	di: EF-15 STATUS (DI EF15)	di: ACCL2 BYPSSD (DI ACC2)	di: SEIS DET ON (DI ACC3)
11	do: EF-15 START (DO EF15A)	di: ACCEL PWR ON (DI ACC6)	d :
12	do: EF-15 STOP (DO EF15B)	di: DPS-HC2	di: HA HOOD HI PRESS
13	di: 241/296 STK CAM ALARM	di: 2736 Z ROOM CAM A/F	di: 2736-ZB ROOM CAM A/F
14	di: 241/296 CAM FAIL	di: 2736-ZA CAM FAIL	di: 2736-ZB STK CAM ALARM
15	di: 241/296 PUMP FAIL	d :	di: 2736-ZB STK CAM FAIL
16	d :	d :	d :
17	d :	d :	d :
18	d :	d :	d :
19	d :	d :	d :
20	d :	d :	d :
21	d :	d :	d :
22	d :	d :	d :
23	d :	d :	d :
24	d :	d :	d :
25	d :	d :	d :
26	d :	d :	d :
27	d :	d :	d :
28	d :	d :	d :
29	d :	d :	d :
30	d :	d :	d :
31	d :	d :	d :
32	d : Pulse DO, Do Not Use	d : Pulse DO, Do Not Use	d : Pulse DO, Do Not Use

Cabinet Location: 234-5Z RM 321A		Rack Number: UR-3	
Pt	Slot: I Card Type: Dr MICON Number: 42 Tag: RM321 3 1	Slot: II Card Type: Dr MICON Number: 43 Tag: RM321 3 2	Slot: III Card Type: Dr MICON Number: 44 Tag: RM321 3 3
1	di: SF-7 STATUS (DI SF7)	di: SF-8 STATUS (DI SF8)	do: EV-10-25A (DO EV10)
2	do: SF-7 START (DO SF7 A)	do: SF-8 START (DO SF8 A)	do: EV-9-25A (DO EV9 1)
3	do: SF-7 STOP (DO SF7 B)	do: SF-8 STOP (DO SF8 B)	do: KS-1-25A (DO EV9 2)
4	di: SP-7 STATUS (DI SP7)	di: SP-8 STATUS (DI SP8)	di: DPAS-6 (DI DPAS6)
5	do: SP-7 START (DO SP7 A)	do: SP-8 START (DO SP8 A)	do: PVG-SV-2 (DO PVG2)
6	do: SP-7 STOP (DO SP7 B)	do: SP-8 STOP (DO SP8 B)	di: DPAS 5 (DI DPAS5)
7	di: EF-7 STATUS (DI EF7)	di: S-10 STATUS (DI S10)	do: EVW-SV-4 (DO EVW4)
8	do: EF-7 START (DO EF7 A)	do: S-10 CONTROL (DO S10)	do: PVA-SV-23 (DO PVA23)
9	do: EF-7 STOP (DO EF7 B)	di: ACCL1 BYPSSD (DI ACC1)	do: PVW-SV-1 (DO PVW1)
10	di: SEISMIC ALRM (DI ACC4)	di: UPS 1/2 ON (DI ACC5)	di: SWP-1 STATS (DI SWP1)
11	di: K-2A/2B (DI ET)	di: ET-8/9 UPS (DI UPS 1)	do: SWP-1 STRT (DO SWP1A)
12	do: K-RA/RB (DO ET)	d:	do: SWP-1 STOP (DO SWP1B)
13	di: 291-Z STK CAM ALARM	di: 9AB FILTER ALPHA AL	do: EV-3/4 (DO DAE)
14	di: 291-Z STP PUMP FAIL	di: 9AB FILTER CAM FAIL	do: EV-1/2 (DO DAS)
15	di: 291-Z STK CAM FAIL	d :	di: PS-5-2 (DI DAP)
16	d :	d :	di: TIS-5-3 (DI DAT2)
17	d :	d :	di: TS-1-1-1 (DI DAT1)
18	d :	d :	d :
19	d :	d :	do: SIREN EVACUATE
20	d :	d :	do: SIREN TAKE COVER
21	d :	d :	d :
22	d :	d :	d :
23	d :	d :	d :
24	d :	d :	d :
25	d :	d :	d :
26	d :	d :	d :
27	d :	d :	d :
28	d :	d :	d :
29	d :	d :	d :
30	d :	d :	d :
31	d :	d :	d :
32	d : Pulse DO, Do Not Use	d : Pulse DO, Do Not Use	d : Pulse DO, Do Not Use

Cabinet Location: 234-5Z RM 321A		Rack Number: UR-3	
Pt	Slot: IV Card Type: Dr MICON Number: 45 Tag: RM321 3 4	Slot: V Card Type: Dr MICON Number: 46 Tag: RM321 3 5	Slot: VI
1	di: KFS-1-1 (DI KFS11)	di: KFS-1-2 (DI KFS12)	
2	di: DPAS-1 (DI DPAS1)	di: DPAS-3 (DI DPAS3)	
3	di: DPAS-2 (DI DPAS2)	di: DPAS-4 (DI DPAS4)	
4	di: 1K1 (DI ILDA)	di: 2K1 (DI 2LDC)	
5	di: 1K2 (DI 1LDB)	di: 2K2 (DI 2LDD)	
6	di: PVVP-1 STATUS (DI VP1)	di: PVVP-2 STATUS (DI VP2)	
7	do: PVVP-1 START (DO VP1A)	do: PVVP-2 START (DO VP2A)	
8	do: PVVP-1 STOP (DO VP1B)	do: PVVP-2 STOP (DO VP2B)	
9	di: GCP-1 STATUS (DI GCP1)	di: GCP-2 STATUS (DI GCP2)	
10	do: GCP-1 START (DO GCP1A)	do: GCP-2 START (DO GCP2A)	
11	do: GCP-1 STOP (DO GCP1B)	do: GCP-2 STOP (DO GCP2B)	
12	do: SW-7E (DO SW1E)	do: SW-7S (DO SW1S)	
13	di: ELEC DA PWR (DI DA1E)	di: STM DA PWR (DI DA1S)	
14	di: ELEC DA ON (DI DA2E)	di: STM DA ON (DI DA2S)	
15	di: STG 1 COOLNG (DI CU1E)	di: STG 1 COOLNG (DI CU1S)	
16	di: STG 2 COOLNG (DI CU2E)	di: STG 2 COOLNG (DI CU2S)	
17	di: #1 REACTOR (DI STG1E)	d:	
18	di: #2 REACTOR (DI STG2E)	d:	
19	di: DA-IPS-1E (DI PSHE)	di: DA-IPS-1S (DI PSHS)	
20	di: DA-IPS-1E (DI PSHHE)	di: DA-IPS-1S (DI PSHHS)	
21	di: DA-PS-1/2E (DI DA3E)	di: DA-PS-1/2S (DI DA3S)	
22	d :	d :	
23	d :	d :	
24	d :	d :	
25	d :	d :	
26	d :	d :	
27	d :	d :	
28	do: 309/310 RESET (1)	d :	
29	do: 309/310 RESET (2)	d :	
30	do: 309/310 RESET (3)	do: 309 DAMPER CONTROL	
31	do: 309/310 RESET (4)	do: 310 DAMPER CONTROL	
32	d : Pulse DO, Do Not Use	d : Pulse DO, Do Not Use	

Cabinet Location: 234-5Z RM 321A #2		Rack Number: UR-1	
Pt	Slot: I Card Type: U32 MICON Number: 47 Tag: R321B MAIN	Slot: II Card Type: U32b MICON Number: 47 Tag: R321B MAIN	Slot: III Card Type: MICON Number: Tag:
1			
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Cabinet Location: 234-5Z RM 321A		Rack Number: UR-2	
Pt	Slot: I Card Type: D MICON Number: 48 Tag: R321B 2 1	Slot: II Card Type: D MICON Number: 49 Tag: R321B 2 2	Slot: III Card Type: D MICON Number: 50 Tag: R321B 2 3
1	di: 9AB BYPASS OPEN	di: FA LIGHT 11	di: FA LIGHT 37
2	di: 9AB BYPASS CLOSED	di: FA LIGHT 12	di: FA LIGHT 38
3	di: 232-Z FIRE ALARM	di: FA LIGHT 13	di: FA LIGHT 39
4	di: 232-Z FIRE AL FAIL	di: FA LIGHT 14	di: FA LIGHT 40
5	di: 2736-Z FIRE ALARM	di: FA LIGHT 15	di: FA LIGHT 41
6	di: 2736-Z FIRE AL FAIL	di: FA LIGHT 16	di: FA LIGHT 42
7	di: HF-9A OPEN	di: FA LIGHT 17	di: FA LIGHT 43
8	di: HF-9A CLOSED	di: FA LIGHT 18	di: FA LIGHT 44
9	di: HF-9AB OPEN	di: FA LIGHT 19	di: FA LIGHT 45
10	di: HF-9AB CLOSED	di: FA LIGHT 20	di: FA LIGHT 46
11	di: HF-9B OPEN	di: FA LIGHT 21	di: FA LIGHT 47
12	di: HF-9B CLOSED	di: FA LIGHT 22	di: FA LIGHT 48
13	di: HF-9B HI DP	di: FA LIGHT 23	di: FA LIGHT 49
14	di: RM 309 DAMPER OPEN	di: FA LIGHT 24	di: FA LIGHT 50
15	di: RM 309 DAMPER CLSED	di: FA LIGHT 25	di: FA LIGHT 51
16	di: RM 310 DAMPER OPEN	di: FA LIGHT 26	di: FA LIGHT 52
17	di: RM 310 DAMPER CLSED	di: FA LIGHT 27	di: FA LIGHT 53
18	di: FA LIGHT 1	di: FA LIGHT 28	di: FA LIGHT 54
19	di: FA LIGHT 2	di: FA LIGHT 29	di: FA LIGHT 55
20	di: FA LIGHT 3	di: FA LIGHT 30	di: FA LIGHT 56
21	di: FA LIGHT 4	di: FA LIGHT 31	di: FA LIGHT 57
22	di: FA LIGHT 5	di: FA LIGHT 32	di: FA LIGHT 58
23	di: FA LIGHT 6	di: FA LIGHT 33	di: FA LIGHT 59
24	di: FA LIGHT 7	di: FA LIGHT 34	di: FA LIGHT 60
25	di: FA LIGHT 8	di: FA LIGHT 35	di: FA LIGHT 61
26	di: FA LIGHT 9	di: FA LIGHT 36	di: FA LIGHT 62
27	di: FA LIGHT 10	di: RM 309/310 HI DP	d :
28	d :	d :	d :
29	d :	d :	d :
30	d :	d :	d :
31	d :	d :	d :
32	d : Pulse DO, Do Not Use	d : Pulse DO, Do Not Use	d : Pulse DO, Do Not Use

APPENDIX B

MICON RCM CONTROLLER

FACEPLATES AND TERMINATION PANELS

MICON RCM-32 A or C

FRONT PANEL

Push tab to
insert wire

Insert wire here

TERMINATION
PANEL
(BACK)

MI CON RCM-32 D

FRONT PANEL

MICON RCM-32 Dr

FRONT PANEL

Push tab to
insert wire

Insert wire here

TERMINATION
PANEL
(BACK)

I/O

IN