

DOCUMENT TRANSMITTAL FORM 79446
FOR DOCUMENTS TRANSMITTED TO DC DESK (NRC)*

DATE: 17 SEP 1992
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DOCUMENT NUMBER	SHEET NUMBER	REVISION NUMBER	COPY NUMBER
AR 501		15	24
AR 951		05	24
AR 953		02	24

INSTRUCTIONS TO THE ADDRESSEE

COMPLETE EACH OF THE INSTRUCTIONS BELOW WHICH ARE MARKED WITH AN "X"

- (1) VERIFY THE DOCUMENTS RECEIVED AGREE WITH THE ABOVE DESCRIPTION
- (2) INCORPORATE THE TRANSMITTED DOCUMENTS INTO YOUR FILES
- (3) DESTROY DOCUMENTS OR PORTIONS OF DOCUMENTS SUPERSEDED BY THE ABOVE
- (4) SIGN AND DATE IN THE SPACES BELOW INDICATING THAT YOU COMPLETED THESE INSTRUCTIONS.
- (5) SIGN BELOW INDICATING THAT YOU HAVE READ AND UNDERSTOOD THE CHANGES AS IDENTIFIED
- (6) RETURN TO DOCUMENT CONTROL, CRYSTAL RIVER UNIT 3, MAC# NA1C
NR2A SA1G _____ FLORIDA POWER CORP., P.O. BOX 219
CRYOTAL RIVER FLA. 34423-0219
- (7) QUALITY PROGRAMS PERSONNEL HAVE READ AND UNDERSTOOD THE CHANGES TO THE AFFECTED GAP'S

SIGNATURE OF ADDRESSEE _____ DATE _____

INDEPENDENT VERIFICATION _____ DATE _____ (OPS)

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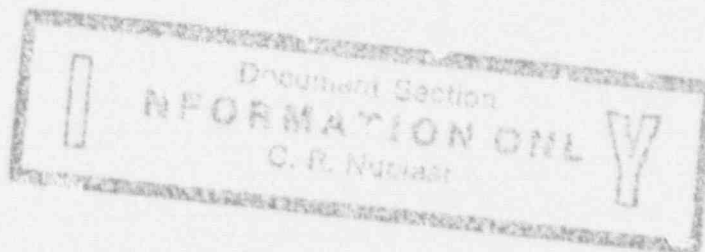
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Rev. 15

09/10/92

Effective Date

9/17/92



ANNUNCIATOR RESPONSE

AR-501

FLORIDA POWER CORPORATION

CRYSTAL RIVER UNIT

ICS I ANNUNCIATOR RESPONSE

THIS PROCEDURE ADDRESSES SAFETY RELATED COMPONENTS

APPROVED BY: Interpretation Contact

W. M. Marshall

DATE:

9-16-92

Interpretation Contact: Nuclear Operations
Supervisor

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1 Annunciator Response	2

1.0 PURPOSE

- 1.1 Establish a reference document for each Annunciator Window on the ICS-CY1 Lampbox.
- 1.2 Establish operator actions for valid Annunciator alarms on the ICS-CY1 Lampbox.
- 1.3 Establish a reference to other procedures which address operator actions for valid Annunciator alarms on the ICS-CY1 Lampbox.

2.0 REFERENCES

2.1 IMPLEMENTING REFERENCES

- 2.1.1 AP-545, Plant Runback
- 2.1.2 OP-302, RC Pump Operation
- 2.1.3 OP-506, LPMS Data Handling Recording and Analysis Equipment

2.2 DEVELOPMENTAL REFERENCES

- 2.2.1 INPO 90-021, Good Practice OP-217, Alarm Response Procedures
- 2.2.2 Annunciator Window Engraving Drawing E-2.4-048

3.0 PERSONNEL INDOCTRINATION

- 3.1 The Annunciator System is powered from VBDP-5 Breaker 28.

4.0 INSTRUCTIONS

- 4.1 Respond to alarms on the ICS-CY1 Lampbox as indicated on Enclosure 1, Annunciator Response.

5.0 FOLLOW-UP ACTIONS

None

ANNUNCIATOR PANEL LOCATION ICS-CY1ANNUNCIATOR PANEL IVERTICAL COLUMN 1

WINDOW TITLE	1. INDICATED CONDITION 2. CONTROL ROOM INDICATION WHICH VERIFY OR PINPOINT TROUBLE	1. AUTO ACTION 2. OPERATOR ACTION - VALID ALARM	SETPOINT	SENSING ELEMENT NUMBER & LOCATION
RC PUMP A TRIP I-1-1	1. a) RC pump A breaker is open with control switch in NORM-AFTER-START position. 2. a) RC pump breaker indication. b) RC flow indication.	1. a) ICS runback to 75% FP load. 2. a) Ensure ICS is controlling proper load. b) Refer to AP-545 (PR). check pump circuitry.	75% FP	BKR CONTACTS
RC PUMP A MTR VIBRATION HIGH I-1-2	1. a) RC pump motor vibration ≥ 2 mils. 2. a) RC motor amperage not normal. b) RC motor vibration indicators.	1. a) None. 2. a) Immediately compare with other pump/motor vibration instrumentation to ensure alarm validity. b) If alarm is valid trip the RC pump.	2 MILS	3RC-42-MS
RC PUMP A CLG WTR FLOW LOW I-1-3	1. a) NSCC flow to RC pump A ≤ 260 gpm. 2. a) NSCC pump amperage not normal. b) NSCC pump tripped. c) NSCC system low pressure. d) N ₂ pressure low.	1. a) None. (However, if NSCC pump discharge header pressure ≤ 110 psig, NSCC emerg. pump will start and NSCC norm. pump will trip following 15 sec time delay). 2. a) Ensure NSCC emerg. pump auto started if normal pump trip. b) Check for proper NSCC valve lineup. c) Ensure N ₂ pressure ≥ 85 psig.	260 GPM 110 psig 85 psig	SW-108-PS2
RC PUMP OVERCURRENT I-1-4	1. a) RC pump A, B, C, D, motor overcurrent alarms at 110% rated amps. 2. a) RC pump motor amperage indicator. b) RC pump vibration indicator. c) RC Flow indication.	1. a) None. 2. a) Secure pump if overload continues.		BKR RELAY 74-DCP
I-1-5				
RC PUMP LIFT OIL PUMP TRIP I-1-6	1. a) RC pumps A, B, C, D AC or DC oil lift pump breaker open and control switch in normal after start. 2. a) Breaker indication.	1. a) DC oil lift pump starts on low oil pressure if AC oil lift pump trips. 2. a) Ensure pump switches in proper position. b) Monitor for proper oil lift pressure when starting or securing RC pumps.		BREAKER CONTACTS CS/SC CS/O

WINDOW TITLE	1. INDICATED CONDITION 2. CONTR. ROOM INDICATION WHICH VERIFY OR PINPOINT TROUBLE	1. AUTO ACTION 2. OPERATOR ACTION - VALID ALARM	SETPOINT	SENSING ELEMENT NUMBER &
RC PUMP B TRIP I-2-1	1. a) RC pump B breaker is open with control switch in NORM-AFTER-START position. 2. a) RC pump: Breaker indication. b) RC flow indication	1. a) ICS runback to 75% FP. 2. a) Ensure ICS is controlling proper load. b) Refer to AP-545 (PR).	75% FP	BKR CONTACTS
RC PUMP B MTR VIBRATION HIGH I-2-2	1. a) RC pump motor vibration ≥ 2 mils. 2. a) RCP motor amperage not normal. b) RCP motor vibration indicators.	1. a) None. 2. a) Immediately compare with other pump/motor vibration instrumentation to ensure alarm validity. b) If alarm is valid trip the RC pump.	2 MILS	3RC-65-MS
RC PUMP B CLG WTR FLOW LOW I-2-3	1. a) NSCC flow to RC pump B ≤ 260 gpm. 2. a) NSCC pump amperage not normal. b) NSCC pump tripped. c) NSCC system low pressure. d) N_2 pressure low.	1. a) None. (However, if NSCC pump discharge header pressure ≤ 110 psig, NSCC emerg. pump will start and NSCC norm. pump will trip following 15 sec time delay). 2. a) Ensure NSCC emerg. pump auto started if normal pump trip. b) Check for proper NSCC valve lineup. c) Ensure N_2 pressure ≥ 85 psig.	260 gpm 110 psig 85 psig	SW-114-B2
RC PUMP MTR THRUST DRG TEMP HIGH I-2-4	1. a) RCP A, S, C, D, thrust bearing temperature $\geq 185^\circ\text{F}$. 2. a) None.	1. a) None. 2. a) Monitor thrust bearing temp for affected pump. b) Insure cooling water supply to affected pump motor. c) If temp continues to increase secure pump.	185°F	RC-133-T1 NM CONT BD
RC PUMP LIFT OIL PUMP AUTO START I-2-5	1. a) RC Pump A, B, C, D, AC or DC oil lift pump breaker closed and control switch in normal after stop. 2. a) Breaker indication.	1. a) AC oil lift pump auto starts when RCP trips. b) DC oil lift pump auto starts when RC BNG oil lift press ≤ 110 psig & RC pump tripped. 2. a) Ensure that oil lift pump has started and check RCP permissive lights for proper indication.	110 psig	BREAKER CONTACTS CS/ST CS/O RC-43, 66, 89, 112-PS5
RC PUMP OIL LIFT PUMP OVERLOAD I-2-6	1. a) RC pump A, B, C, D DC oil lift pump motor current alarm at 115% Rated Amps. 2. a) Low oil lift pressure. b) Lift oil pressure white indicating lamp not on.	1. a) None. 2. a) Start AC oil lift pump (if possible) then secure DC oil lift pump. Maintain oil lift pressure. b) Check valve lineup. c) Notify maintenance to check instrumentation & oil lift system.	115%	49

WINDOW TITLE	1. INDICATED CONDITION 2. CONTROL ROOM INDICATION WHICH VERIFY OR PINPOINT TROUBLE	1. AUTO ACTION 2. OPERATOR ACTION - VALID ALARM	SETPOINT	SENSING ELEMENT NUMBER &
RC PUMP C TRIP I-3-1	1. a) RC pump C breaker is open with control switch in NORM-AFTER-START position. 2. a) RC pump breaker indication. b) RC flow indication.	1. a) ICS runback to 75% FP. 2. a) Ensure ICS is controlling proper load. b) Refer to AP-545 (PR).	75% FP	BKR CONTACT
RC PUMP C MTR VIBRATION HIGH I-3-2	1. a) RC pump motor vibration > 2 mils. 2. a) RCP motor amperage not normal. b) RCP motor vibration indicators.	1. a) None. 2. a) Immediately compare with other pump/motor vibration instrumentation to ensure alarm validity. b) If alarm is valid trip the RC pump.	2 MILS	3RC-8P-MS
RC PUMP C CLG WTR FLOW LOW I-3-3	1. a) NSCC flow to RC pump C < 260 gpm. 2. a) NSCC pump amperage not normal. b) NSCC pump tripped. c) NSCC system low pressure. d) N ₂ pressure low.	1. a) None. (However, if NSCC pump discharge header pressure < 110 psig, NSCC emerg. pump will start and NSCC norm. pump will trip following 15 sec time delay). 2. a) Ensure NSCC emerg. pump auto started if normal pump trip. b) Check for proper NSCC valve lineup. c) Ensure N ₂ pressure ≥ 85 psig.	260 GPM 110 psig 85 psig	SW-96-PS2
RC PUMP VIBRATION ALC. I-3-4	1. a) Abnormal vibration on RCP-1A, 1B, 1C, or 1D b) RCP-1A, 1B, 1C or 1D case vibration high* c) Vibration Monitor(s) not "OK" 2. a) Bentley Nevada panel in Control Room	1. a) None. 2. a) Compare with other pump/motor vibration instrumentation to determine alarm validity b) Notify Site Nuclear Engineering c) Increase Monitoring of affected RCP. d) Refer to the appropriate section of OP-302, RC Pump operation		LP-10 ME 1A thru 1D ME 2A thru 2D ME 4A thru 4D ME 5A thru 5D LP-C* ME 1 thru 4
RC PUMP MTR OIL LEVEL HIGH/LOW I-3-5	1. a) RCP A, B, C, D motor top oil level high/ low alarm. b) RCP A, B, C, D motor bottom oil level high/low alarm. 2. a) Computer point X015 thru X018, X026 thru X029, X037 thru X040, X048 thru X051. b) Upper or lower oil level while indicating permissive lamp out. c) Unable to start associated RC pump.	1. a) Prevents starting of associated RC pump. 2. a) Monitor RC pump bearing temperatures and secure RC pumps if temp. limit is approached. b) Investigate cause of abnormal oil level when possible and restore system to normal.	> + 1 1/4" ≤ - 1.0"	RC-39-LS, 40-LS, 62-LS, 63-LS, 85-LS, 86-LS, 108-LS, 109-LS,
RC PUMP AIR COOLER LEAK I-3-6	1. a) RC pump A, B, C, D air cooler leak exists. 2. a) Computer point X020, X031, X042, X053 b) NS cooling water supply to cooler differential flow alarm.	1. a) None. 2. a) Monitor RCP motor stator temperature and bearing temperatures and secure RCP if limits are approached.		RC-41-LS RC-64-LS RC-87-LS RC-110-LS

*MAR 89-03-01-01

FCN6A Temporarily defeated case vibration from alarming.

WINDOW TITLE	1. INDICATED CONDITION 2. CONTROL ROOM INDICATION WHICH VERIFY OR PINPOINT TROUBLE	1. AUTO ACTION 2. OPERATOR ACTION - VALID ALARM	SETPOINT	SENSING ELEMENT NUMBER & LOCATION
RC PUMP D TRIP I-4-1	1. a) RC pump D breaker is open with control switch in NORM-AFTER-START position. 2. a) RC pump breaker indication. c) RC flow indication.	1. a) ICS : back to 75% FP. 2. a) Ensure ICS is controlling proper load. b) Refer to AP-545 (PR).	75% FP	BKR CONTACTS
RC PUMP D MTR VIBRATION HIGH I-4-2	1. a) RC pump motor vibration ≥ 2 mils. 2. a) RCP motor amperage not normal. b) RCP motor vibration indicators.	1. a) None. 2. a) Immediately compare with other pump/motor vibration instrumentation to ensure alarm validity. b) If alarm is valid trip the RC pump.	2 MILS	3RC-111-MS
RC PUMP D CLG WTR FLOW LOW I-4-3	1. a) NSCC flow to RC pump D ≤ 260 gpm. 2. a) NSCC pump amperage not normal. b) NSCC pump tripped. c) NSCC system low pressure. d) N_2 pressure low.	1. a) None. (However, if NSCC pump discharge header pressure ≤ 110 psig, NSCC emerg. pump will start and NSCC norm. pump will trip following 15 sec time delay). 2. a) Ensure NSCC emerg. pump auto started if normal pump trip. b) Check for proper NSCC valve lineup. c) Ensure N_2 pressure ≥ 85 psig.	260 GPM 110 psig 85 psig	SW-102-FS2
RC PUMP SEAL UPPER STAGE TEMP HIGH I-4-4	1. a) RCP-A, B, C, or D upper stage seal outlet temp $> 150^\circ\text{F}$. 2. a) RCP seal injection flow. b) RCP SW supply. c) RCP seal cavity/temp recorder. d) Plant computer.	1. a) None 2. a) <u>IF</u> RCP upper stage seal outlet temp exceeds 160°F , <u>THEN</u> refer to OP-302.	150°F	RC-206-TS RC-209-TS RC-212-TS RC-215-TS
RC PUMP OIL FILTER P HIGH I-4-5	1. a) RCP pump A, B, C, D AC pump oil filter ≥ 2 psid. b) RCP pump A, B, C, D DC pump oil filter ≥ 2 psid. 2. a) Possible low oil lift pressure alarm.	1. a) If AC filter is dirty, DC pump will start on low pressure. 2. a) Start alternate oil lift pump. b) Notify maintenance to change filter.	2 psid	RC-44-PS1, 44-PS2, 67-PS1, 90-PS1, 90-PS2, 113-PS1, and 113-PS2

WINDOW TITLE	1. INDICATED CONDITION 2. CONTROL ROOM INDICATION WHICH VERIFY OR PINPOINT TROUBLE	1. AUTO ACTION 2. OPERATOR ACTION - VALID ALARM	SETPOINT	SENSING ELEMENT NUMBER & LOCATION
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I-4-6				
PORV SAFETY VALVE OPEN I-5-1	1. a) RCV-8, RCV-9, or RCV-10 open. 2. a) RCS pressure high. b) Ultrasonics indication.	1. a) PORV/Safety valve open. 2. a) Verify RCS pressure decrease. b) Verify PORV/Safety valve reseats.	 ≥2455 psig ≥2500 psig	
PORV SELECTED CLOSED I-5-2	1. a) PORV selector switch in closed position. 2. a) Position of PORV selector switch.	1. a) None. 2. a) Evaluate necessity for PORV to be closed.		
I-5-3				
I-5-4				
I-5-5				
LOOSE PARTS MONITORING TROUBLE I-5-6	1. a) Any one of the loose parts monitoring channels exceeding alarm point. 2. a) Alarm conditions showing on RDS.	1. None. 2. a) Refer to OP-506.		

WINDOW TITLE

1. INDICATED CONDITION
 2. CONTROL ROOM INDICATION WHICH VERIFY OR
 PINPOINT TROUBLE

1. AUTO ACTION
 2. OPERATOR ACTION - VALID ALARM

SETPOINT
 SENSING
 ELEMENT
 NUMBER &
 LOCATION

WINDOW TITLE	1. INDICATED CONDITION 2. CONTROL ROOM INDICATION WHICH VERIFY OR PINPOINT TROUBLE	1. AUTO ACTION 2. OPERATOR ACTION - VALID ALARM	SETPOINT	SENSING ELEMENT NUMBER & LOCATION
PORV SOLENOID ENERGIZED I-6-1	1. a) RCV-10 solenoid energized. 2. a) PORV open. b) PORV ultrasonic indication. c) RCDT level increase.	1. a) None. 2. a) Verify RCS pressure decrease. b) Verify PORV reseats.	≥2455 psig	
PORV BLOCK VALVE CLOSED I-6-2	1. a) RCV-11, pressurizer electromatic relief valve isolation valve in closed position. 2. a) Valve position indication.	1. a) None. 2. a) Evaluate need for PORV block valve to be closed.		33 BC
I-6-3				
I-6-4				
I-6-5				
I-6-6				

WINDOW TITLE	1. INDICATED CONDITION 2. CONTROL ROOM INDICATION WHICH VERIFY OR PINPOINT TROUBLE	1. AUTO ACTION 2. OPERATOR ACTION - VALID ALARM	SETPOINT	SENSING ELEMENT NUMBER & LOCATION
PRESSURIZER LEVEL HIGH 1-7-1	1. a) RC Pressurizer level \geq 275 in-H ₂ O. b) RC Pressurizer level \geq 240 in H ₂ O. 2. a) Pressurizer level indication. b) RC pressure and temperature indication.	1. a) None. 2. a) Check redundant level instrument strings. b) Manually control RC makeup and letdown. c) Have maintenance check instrumentation and possible faulty equipment.	275 in. H ₂ O 240 in. H ₂ O	RC-1-LY4 RC-1-LS1 RC-1-LS2
PRESSURIZER HEATER SCP FAILURE 1-7-2	1. a) RC pressurizer heater SCR failure. 2. a) Abnormal pressurizer temperature, level and/or pressure.	1. a) None. 2. a) Manually control pressurizer heater to maintain RC pressure. b) Notify maintenance to correct problem.		RY-1 and RY-2 of SCR 1 THRU 6
1-7-3				
1-7-4				
RCS PRESS HIGH TEMP LOW 1-7-5	1. a) High RC pressure at low temperature (NDTI). 2. a) Dual Speed Recorder Rc-154-FR/TR.	1. a) None. 2. a) Increase letdown flow and terminate pressure source.	500 psig	RC-3A-PS4 Relay K ¹
1-7-6				

WINDOW TITLE 1. INDICATED CONDITION
2. CONTROL ROOM INDICATION WHICH VERIFY OR
PINPOINT TROUBLE

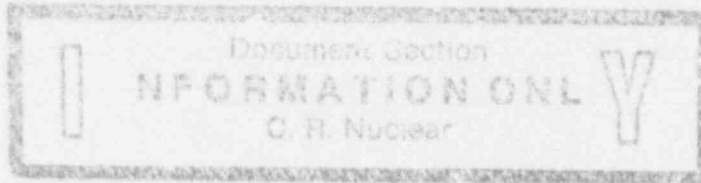
1. AUTO ACTION
2. OPERATOR ACTION - VALID ALARM

SETPOINT SENSING
ELEMENT
NUMBER &
LOCATION

WINDOW TITLE	1. INDICATED CONDITION 2. CONTROL ROOM INDICATION WHICH VERIFY OR PINPOINT TROUBLE	1. AUTO ACTION 2. OPERATOR ACTION - VALID ALARM	SETPOINT	SENSING ELEMENT NUMBER & LOCATION
PRESSURIZER LEVEL LOW I-8-1	1. a) RC Pressurizer level \leq 200 in H ₂ O. b) RC Pressurizer level \leq 40 in H ₂ O. 2. a) Pressurizer level indication. b) Pressurizer makeup control valve malfunction. c) RC pressure and temperature indication.	1. a) Pressurizer heaters de-energize at low-low alarm. 2. a) Check redundant level instrument strings. b) Manually control RC makeup and letdown. c) Have maintenance check instrumentation and possible faulty equipment.	200 in. H ₂ O 40 in. H ₂ O	RC-1-LY4 RC-1-LS2 3RC-1-LS1
PRESSURIZER HEATER GROUP TROUBLE I-8-2	1. a) Pressurizer heater groups L1 through L3 overcurrent alarm. 2. a) Indicating lamps on control switch are out.	1. a) Trips associated breaker to heater group. 2. a) Monitor pressurizer operation. b) Notify maintenance to check heater group circuit.		
I-8-3				
I-8-4				
I-8-5				
I-8-6				

Rev. 5 09/03/92

Effective Date 9/17/92



ANNUNCIATOR RESPONSE

AR-951

FLORIDA POWER CORPORATION

CRYSTAL RIVER UNIT 3

WDA ANNUNCIATOR RESPONSE

THIS PROCEDURE ADDRESSES SAFETY RELATED COMPONENTS

APPROVED BY: Interpretation Contact

W. M. Marshall for W. M. Marshall

DATE: 9-16-92

INTERPRETATION CONTACT: Nuclear Operations Superintendent

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1	Annunciator Response	2

1.0 PURPOSE

- 1.1 Establish a reference document for each Annunciator Window on the WD-WW Panel Lampbox.
- 1.2 Establish operator actions for valid Annunciator alarms on the WD-WW Panel Lampbox.
- 1.3 Establish a reference to other procedures which address operator actions for valid Annunciator alarms on the WD-WW Panel Lampbox.

2.0 REFERENCES

2.1 IMPLEMENTING REFERENCES

- 2.2.1 AP-380, Engineered Safeguards System Actuation

2.2 DEVELOPMENTAL REFERENCES

- 2.2.1 INPO 90-021, Good Practice OP-217, Alarm Response Procedures
- 2.2.2 Annunciator Window Engraving Drawing E-224-050.

3.0 PERSONNEL INDOCTRINATION

None

4.0 INSTRUCTIONS

- 4.1 Respond to alarms on the WD-WW Panel Lampbox as indicated on Enclosure 1, Annunciator Response.

5.0 FOLLOW-UP ACTIONS

None

WINDOW TITLE	ANNUNCIATOR PANEL LOCATION <u>RADWASTE DISPOSAL</u> <u>UBICLE</u>		ANNUNCIATOR PANEL <u>WD-WN (A)</u>		HORIZONTAL ROW	SENSING ELEMENT NUMBER & LOCATION	REFERENCE
	1. INDICATED CONDITION	2. CONTROL ROOM/AUX. BLDG. INDICATION WHICH VERIFY OR PINPOINT TROUBLE	1. AUTO ACTION	2. OPERATOR ACTION - VALID ALARM	SETPOINT		
WASTE GAS COMPRESSOR 3A AUTO-START WN-1-1	1. a) Waste gas surge tank suction press > 1.8 psig and, b) Valve WDV-384 is open and, c) Waste gas decay tank 3A/3B/3C press < 80 psig (any one tank). d) Compressor control switch in NOR/AFT/STOP position e) Compressor pump 'A' selected.	2. a) W.G. surge tk and decay tk pressure indication.	1. a) Waste gas compressor 3A (WDP1A) auto starts. b) Waste gas compressor 3B (WDP1B) auto starts also if waste gas surge tk press > 2.0 psig (other conditions-left-satisfied). 2. a) Determine cause of alarm and ensure that condition is compatible with expected operation.			WD-203-PS2-1 WD-204-PS1-1 WD-205-PS1-1 WD-206-PS1-1	WD-05
WASTE GAS COMPRESSOR 3A TRIP WN-1-2	1. a) Waste gas surge tank suction pressure < 1.4 psig, or b) Waste gas decay tk 3A/3B/3C (all) press > 80 psig c) Valve WDV-384 is shut.	2. a) Waste gas surge tk/decay tk pressure indication.	1. a) Waste gas compressor 3A trips. b) Valve WDV-384 shuts. c) Waste gas decay tk inlet valve (WDV-390, 391 or 392) auto closes when respective tk press > 80 psig. 2. a) Determine cause of alarm and ensure that condition is compatible with expected operation.			WD-203-PS1-2	WD-05
WASTE GAS COMPRESSOR 3B AUTO-START WN-1-3	1. a) Waste gas surge tk suction press > 1.8 psig, and b) Valve WDV-385 is open, and c) Waste gas decay tank 3A/3B/3C press < 80 psig, and d) Compressor control switch in NOR-AFT-STOP position, and e) Compressor pump 'B' selected.	2. a) W.G. surge tk and decay tk pressure indication.	1. a) Waste gas compressor (WDP-1B) auto starts. b) Waste gas compressor 3A (WDP-1A) auto starts also if waste gas surge tk press > 2.0 psig (other conditions-left-satisfied). 2. a) Determine cause of alarm and ensure that condition is compatible with expected operation.			WD-203-PS2-2 WD-204-PS2-2 WD-205-PS2-2 WD-206-PS2-2	WD-06
WASTE GAS COMPRESSOR 3B TRIP WN-1-4	1. a) Waste gas surge tank suction pressure < 1.4 psig, or b) Waste gas decay tank 3A/3B/3C (all) press > 80 psig c) Valve WDV-385 is shut.	2. a) Waste gas surge tk/decay tk pressure indication.	1. a) Waste gas compressor 3B trips. b) Valve WDV-385 shuts. c) Waste gas decay tk inlet valve (WDV-390, 391 or 392) auto closes when respective tk pressure > 80 psig. 2. a) Determine cause of alarm and ensure that condition is compatible with expected operation.			WD-203-PS1-3	WD-06
REACTOR BLDG SUMP PUMP 3A AUTO-START WN-1-5	1. a) RB sump level > 2.0'. b) Valve WDV-3 open (sump pump disch isol valve-inside RB). c) Valve WDV-4 open (sump pump disch isol valve-outside RB). d) RB sump pump 3A selected.	2. a) Pump indicating lamps on WD panel. b) Sump level indicator on WD panel. c) Pump disch press indication on WD panel.	1. a) RB sump pump 3A (WDP-2A) auto-starts. b) RB sump pump 3B (WDP-2B) auto-starts if RB sump level > 3.0'. 2. a) Normal function alarm-if frequency of auto-starts is excessive, determine P ₁ leak rate and implement AP-380 (ESA), if necessary.			WD-131-LS-SW3 WD-131-LS-SW1	WD-07
REACTOR BLDG SUMP PUMP 3A TRIP WN-1-6	1. a) RB sump level < 1.5'. b) Valve WDV-3 closes. c) Valve WDV-4 closes.	2. a) Pump indicating lamps on WD panel.	1. a) RB sump pump 3A trips. 2. a) Normal function alarm-check valve lineup if RB sump level extra high; alarm exists.			WD-131-LS-SW3 WD-131-LS-SW1	WD-07
REACTOR BLDG SUMP PUMP 3B AUTO-START WN-1-7	1. a) RB sump level > 2.0'. b) Valve WDV-3 open (pump disch isol valve-inside RB). c) Valve WDV-4 open (pump disch isol valve-outside RB). d) RB sump pump 3B selected.	2. a) Pump indicating lamps on WD panel. b) Sump level indication on WD panel. c) Pump disch press indicating on WD panel.	1. a) RB sump pump 3B (WDP-2B) auto-starts. b) RB sump pump 3A (WDP-2A) auto-starts if RB sump level > 3.0'. 2. a) Normal function alarm-if frequency of auto-starts is excessive, determine RC leak rate and implement AP-380 (ESA), if necessary.			WD-131-LS-SW-4 WD-131-LS-SW-2	WD-08
WN-1-8							

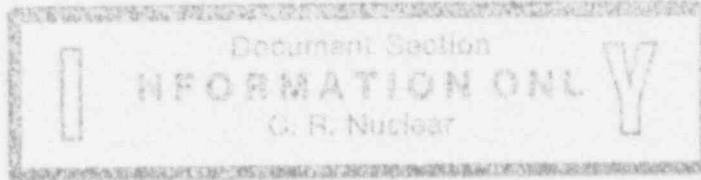
ANNUNCIATOR PANEL LOCATION RADWASTE DISPOSAL CUBICLEANNUNCIATOR PANEL WD-WN (A)

HORIZONTAL ROW

WINDOW TITLE	1. INDICATED CONDITION 2. CONTROL ROOM/AUX. BLDG. INDICATION WHICH VERIFY OR PINPOINT TROUBLE	1. AUTO ACTION 2. OPERATOR ACTION - VALID ALARM	SETPOINT	SENSING ELEMENT NUMBER & LOCATION	REFERENCE
REACTOR BLDG SUMP PUMP 3B TRIP WN-2-1	1. a) RB sump level < 1.5'. b) Valve WDV-3 closes. c) Valve WDV-4 closes. 2. a) Pump indicating lamps on WD panel.	1. a) RB sump pump 3B trips. 2. a) Normal function alarm-check valve lineup if RB sump level extra high alarm exists.		WD-131-LS-SW4 WD-131-LS-SW2	WD-08
WD CUBICLE VENTILATION FAN FAILURE WN-2-2	1. a) Alarms upon low cubicle ventilation, flow or cubicle air temperature > 150°F. 2. a) Fan running indicating lamps on WD panel.	1. a) Auto-start non-selected bank of ventilation fans. 2. a) Check flow sensing reed switch. b) Check fan filters. c) Ensure cubicle doors are closed.		FSSBF-1 THRU 6 3TS1-TY FNX1-TZ FNX2-TZ	WD-148
REACTOR BLDG SUMP LEVEL EXTRA HIGH WN-2-3	1. a) Indicates RB sump level > 3.0'. 2. a) Back-up RB sump pump auto-starts. b) RB sump pump indicating lamps on WD panel.	1. a) Backup RB sump pump auto-starts (if control switch is not in "pull-to-lock" position). 2. a) Check that RB sump pump 3A and/or 3B are running. b) Check RB sump pump valve lineup. c) Calculate RC leak rate and implement AP-380 (ESA) if necessary.		WD-131-LS-2A	WD-07
DECAY HEAT PIT SUMP PUMP 3A AUTO-START WN-2-4	1. a) Pump auto-starts if DH sump 3A level > 2.0'. 2. a) Pump run indicating lamps on WD panel. b) Possible DH pit level extra high alarm. c) Pump discharge pressure indication on WD panel. d) Sump level indication on WD panel.	1. a) DH pit sump pump 1 (WDP-3A) auto-starts. 2. a) Normal function alarm - if frequency of auto-starts is excessive, check valve lineup of systems draining to sump and determine source.		WD-133-LS2	WD-09
DECAY HEAT PIT SUMP PUMP 3A TRIP WN-2-5	1. a) Pump auto-stops if DH sump 3A level < 1.5'. 2. a) Pump run indicating lamps on WD panel. b) Sump level indicator on WD panel.	1. a) Pump trips. 2. a) Normal function alarm - investigate valve lineup/pump switch position if DH pit level extra high alarm exists.		WD-133-LS2	WD-09
WN-2-6					
DECAY HEAT PIT SUMP PUMP 3B AUTO-START WN-2-7	1. a) Pump auto-starts if DH sump 3B level > 2.0'. 2. a) Pump run indicating lamps on WD panel. b) Possible DH pit level extra high alarm. c) Pump discharge pressure on WD panel. d) Sump level indication on WD panel.	1. a) DH pit sump pump 3B (WDP-3B) auto-starts. 2. a) Normal function alarm - if frequency of auto-starts is excessive, check valve lineup of systems draining to sump and determine source.		WD-134-LS2	WD-10
DECAY HEAT PIT SUMP PUMP 3B TRIP WN-2-8	1. a) Pump auto-stops if DH sump 3B level < 1.5'. 2. a) Pump run indicating lamps on WD panel. b) Sump level indicator on WD panel.	1. a) Pump trips. 2. a) Normal function alarm - investigate valve lineup/pump switch position if DH pit level extra high alarm exists.		WD-134-LS2	WD-10

Rev. 2 09/10/92

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ANNUNCIATOR RESPONSE

AR-953

FLORIDA POWER CORPORATION

CRYSTAL RIVER UNIT 3

WDC ANNUNCIATOR RESPONSE

THIS PROCEDURE ADDRESSES SAFETY RELATED COMPONENTS

APPROVED BY: Interpretation Contact

W. M. Marshall for W. M. Marshall

DATE: 9/16/92

INTERPRETATION CONTACT: Nuclear Operations Superintendent

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1.0 PURPOSE

- 1.1 Establish a reference document for each Annunciator Window on the WD-WQ Panel Lampbox.
- 1.2 Establish operator actions for valid Annunciator alarms on the WD-WQ Panel Lampbox.
- 1.3 Establish a reference to other procedures which address operator actions for valid Annunciator alarms on the WD-WQ Panel Lampbox.

2.0 REFERENCES

2.1 IMPLEMENTING REFERENCES

None

2.2 DEVELOPMENTAL REFERENCES

- 2.2.1 INPO 9C-021, Good Practice OP-217, Alarm Response Procedures
- 2.2.2 Annunciator Window Engraving Drawing E-224-050.

3.0 PERSONNEL INDOCTRINATION

None

4.0 INSTRUCTIONS

- 4.1 Respond to alarms on the WD-WQ Panel Lampbox as indicated on Enclosure 1, Annunciator Response.

5.0 FOLLOW-UP ACTIONS

None

ANNUNCIATOR PANEL LOCATION RADWASTE DISPOSAL CUBICLEANNUNCIATOR PANEL WD-WQ (C)HORIZONTAL ROW 1

WINDOW TITLE	1. INDICATED CONDITION 2. CONTROL ROOM/AUX. BLDG. INDICATION WHICH VERIFY OR PINPOINT TROUBLE	1. AUTO ACTION 2. OPERATOR ACTION - VALID ALARM	SETPOINT	SENSING ELEMENT NUMBER & LOCATION	REFERENCE
MISC RAD WASTE TRANSF PUMP 3B TRIP WQ-1-1	1. a) Pump control switch in NOR-AFT-START position and pump not running. 2. a) Pump run indicating lamps on WD panel.	1. a) None. 2. a) Check valve lineup and determine cause of pump motor overload trip condition.		49	WD-17
REACT COOLANT DRAIN PUMP TRIP WQ-1-2	1. a) RC drain pump tripped out on overload (WDP-7). 2. a) Pump run indication on WD panel. b) Pump discharge pressure on WD panel.	1. a) None. 2. a) Determine cause of overload condition on pump motor by checking valve lineup, etc.		SWGR 49 CONTACTS	WD-18
REACT COOLANT DRAIN TK PUMP TRIP WQ-1-3	1. a) Pump (WDP-8) auto-stop at RC drain tank level < 8'10". 2. a) Pump run indication on WD panel. b) RC drain tank level indication on WD panel. c) "RC drain tank level low" alarm on Control Room annunciator.	1. a) None. 2. a) Normal function alarm - Ensure that the "RC drain tank level high" alarm on Control Room annunciator has cleared.		WD-214-LS3	WD-19
NEUTRALIZER PUMP 3A TRIP WQ-1-4	1. a) Neutralizer pump 3A tripped out on overload (WDP-9A). 2. a) Pump run indication on WD panel. b) Pump discharge pressure on WD panel. c) Neutralizer tank level indicator on WD panel.	1. a) None. 2. a) Determine cause of overload condition on pump motor by checking valve lineup, etc.		SWGR 49 CONTACTS	WD-20
NEUTRALIZER PUMP 3B TRIP WQ-1-5	1. a) Neutralizer pump 3B tripped out on overload (WDP-9B). 2. a) Pump run indication on WD panel. b) Pump discharge pressure on WD panel. c) Neutralizer tank level indicator on WD panel.	1. a) None. 2. a) Determine cause of overload condition on pump motor by checking valve lineup, etc.		SWGR 49 CONTACTS	WD-21
DECANT PUMP TRIP WQ-1-6	1. a) Decant pump tripped out on overload (WDP-10). 2. a) Pump run indication on WD panel. b) Pump discharge pressure on WD panel.	1. a) None. 2. a) Determine cause of overload condition on pump motor by checking valve lineup, etc.		SWGR 49 CONTACTS	WD-22
SLURRY PUMP TRIP WQ-1-7	1. a) Pump tripped out on overload (WDP-11) or, b) Pump stopped using "Stop Push Button" on Waste Drum Panel. 2. a) Pump run indication on WD panel and Waste Drum Panel. b) Pump discharge pressure on WD panel.	1. a) None. 2. a) Determine whether pump tripped on overload or was manually stopped at Waste Drum Panel. b) If overload trip, check valve lineup.		SWGR 49 CONTACTS	WD-23
CONC RAD LIQUID WASTE PUMP 3A TRIP WQ-1-8	1. a) Pump tripped out on overload (WDP-12A) or, b) Pump stopped using "Stop Push Button" on Waste Drum Panel. 2. a) Pump run indication on WD panel and Waste Drum Panel. b) Pump discharge pressure on WD panel.	1. a) None. 2. a) Determine whether pump tripped on overload or was manually stopped at Waste Drum Panel. b) If overload trip, check valve lineup.		SWGR 49 CONTACTS	WD-24

ANNUNCIATOR PANEL LOCATION RADWASTE DISPOSAL CUBICLE

ANNUNCIATOR PANEL WD-WQ (C)

HORIZONTAL ROW 2

WINDOW TITLE	1. INDICATED CONDITION	1. AUTO ACTION	SETPOINT	SENSING ELEMENT NUMBER & LOCATION	REFERENCE
	2. CONTROL ROOM/AUX. BLDG. INDICATION WHICH VERIFY OR PINPOINT TROUBLE	2. OPERATOR ACTION - VALID ALARM			

<p>CONC RAD LIQUID WASTE PUMP 3B TRIP</p> <p>WQ-2-1</p>	<p>1. a) Pump tripped out on overload (WDP-12B) or, b) Pump stopped using "Stop Push Button" on Waste Drum Panel.</p> <p>2. a) Pump run indication on WD panel and Waste Drum Panel.</p> <p>b) Pump discharge pressure on WD panel.</p>	<p>1. a) None.</p> <p>2. a) Determine whether pump tripped on overload or was manually stopped at Waste Drum Panel.</p> <p>b) If overload trip, check valve lineup.</p>		<p>SWGR 49 CONTACTS</p>	<p>WD-25</p>
<p>BORIC ACID RECYCLE PUMP 3A TRIP</p> <p>WQ-2-2</p>	<p>1. a) Pump tripped out on overload (WDP-13A) or, b) Pump stopped using "Stop Push Button" on Waste Drum Panel.</p> <p>2. a) Pump run indication on WD panel and Waste Drum Panel.</p> <p>b) Pump discharge pressure on WD panel.</p>	<p>1. a) None.</p> <p>2. a) Determine whether pump tripped on overload or was manually stopped at Waste Drum Panel.</p> <p>b) If overload trip, check valve lineup.</p>		<p>SWGR 49 CONTACTS</p>	<p>WD-26</p>
<p>BORIC ACID RECYCLE PUMP 3B TRIP</p> <p>WQ-2-3</p>	<p>1. a) Pump tripped out on overload (WDP-13B) or, b) Pump stopped using "Stop Push Button" on Waste Drum Panel.</p> <p>2. a) Pump run indication on WD panel and Waste Drum Panel.</p> <p>b) Pump discharge pressure on WD panel.</p>	<p>1. a) None.</p> <p>2. a) Determine whether pump tripped on overload or was manually stopped at Waste Drum Panel.</p> <p>b) If overload trip, check valve lineup.</p>		<p>SWGR 49 CONTACTS</p>	<p>WD-27</p>
<p>EVAPORATOR CONDENSATE PUMP 3A TRIP</p> <p>WQ-2-4</p>	<p>1. a) Pump tripped out on overload (WDP-14A).</p> <p>2. a) Pump run indication on WD panel.</p> <p>b) Pump discharge pressure on WD panel.</p> <p>c) Neutralizer tank level indicator on WD panel.</p>	<p>1. a) None.</p> <p>2. a) Determine cause of overload condition on pump motor by checking valve lineup, etc.</p>		<p>SWGR 49 CONTACTS</p>	<p>WD-28</p>
<p>EVAPORATOR CONDENSATE PUMP 3B TRIP</p> <p>WQ-2-5</p>	<p>1. a) Pump tripped out on overload (WDP-14B).</p> <p>2. a) Pump run indication on WD panel.</p> <p>b) Pump discharge pressure on WD panel.</p> <p>c) Neutralizer tank level indicator on WD panel.</p>	<p>1. a) None.</p> <p>2. a) Determine cause of overload condition on pump motor by checking valve lineup, etc.</p>		<p>SWGR 49 CONTACTS</p>	<p>WD-29</p>
<p>WQ-2-6</p>					
<p>WQ-2-7</p>					
<p>WQ-2-8</p>					