

DOCUMENT TRANSMITTAL FORM 48118
FOR DOCUMENTS TRANSMITTED TO DC DESK (NRC)*

DATE 05 MAR 1991
BATCH 100

DOCUMENT NUMBER	SHEET NUMBER	REVISION NUMBER	COPY NUMBER
AR 001		04	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- ☒ (3) DESTROY DOCUMENTS OR PORTIONS OF DOCUMENTS SUPERSEDED BY THE ABOVE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 ☒ FLA POWER CORP. P.O. BOX 219 CRYSTAL RIVER FLA 32623

SIGNATURE OF ADDRESSEE

DATE

INDEPENDENT VERIFICATION

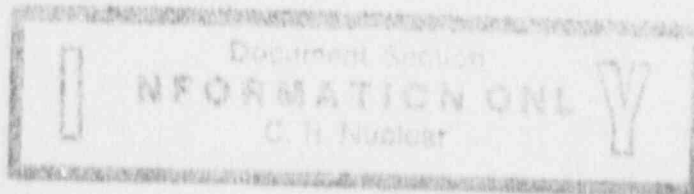
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Rev. 12 02/18/91

Effective Date 3-5-91



ANNUNCIATOR RESPONSE

AR-501

FLORIDA POWER CORPORATION

CRYSTAL RIVER UNIT 3

ICS 1 ANNUNCIATOR RESPONSE

THIS PROCEDURE ADDRESSES SAFETY RELATED COMPONENTS

APPROVED BY: Interpretation Contact

W. Marshall

Date:

3/1/91

Interpretation Contact: Nuclear Operations
Superintendent

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 1-1-1	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 1-1-2	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-42-MS
RC PUMP A CLG WTR FLOW LOW 1-1-3	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	5W-10B-PS2
RC PUMP OVERCURRENT 1-1-4	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
1-1-5				
RC PUMP LIFT OIL PUMP TRIP 1-1-6	1. a) RC pumps A, B, C, C 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 lc 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

ANNUNCIATOR PANEL LOCATION ICS-CY1ANNUNCIATOR PANEL IVERTICAL COLUMN 2

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

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 MTR 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 BRG TEMP HIGH I-2-4	1. a) RCP A, B, 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 NN 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-PSS
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

ANNUNCIATOR PANEL LOCATION ICS-CY1ANNUNCIATOR PANEL 1VERTICAL COLUMN 3

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 1-3-1	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 CONTACTS
RC PUMP C MTR VIBRATION HIGH 1-3-2	1. a) RC pump motor vibration > 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-88-MS
RC PUMP C CLG WTR FLOW LOW 1-3-3	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 ALERT 1-3-4	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) Bently 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 10 ME 2A thru 20 ME 4A thru 40 ME 5A thru 50 LP-9* ME 1 thru 4
RC PUMP MTR OIL LEVEL HIGH/LOW 1-3-5	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 white 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 1-3-6	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.

ANNUNCIATOR PANEL LOCATION ICS-CY1ANNUNCIATOR PANEL 1VERTICAL COLUMN 4

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 1-4-1	<ol style="list-style-type: none"> 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. 	<ol style="list-style-type: none"> 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 D MTR VIBRATION HIGH 1-4-2	<ol style="list-style-type: none"> 1. a) RC pump motor vibration ≥ 2 mils. 2. a) RCP motor amperage not normal. b) RCP motor vibration indicators. 	<ol style="list-style-type: none"> 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 1-4-3	<ol style="list-style-type: none"> 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) N₂ pressure low. 	<ol style="list-style-type: none"> 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 N₂ pressure ≥ 85 psig. 	260 GPM 110 psig 85 psig	SW-102-FS2
1-4-4				
RC PUMP OIL FILTER P HIGH 1-4-5	<ol style="list-style-type: none"> 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. 	<ol style="list-style-type: none"> 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
1-4-6				

ANNUNCIATOR PANEL LOCATION ICS-CY1ANNUNCIATOR PANEL IVERTICAL COLUMN 5

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 SAFETY VALVE OPEN 1-5-1	<ol style="list-style-type: none"> 1. a) RCV-8, RCV-9, or RCV-10 open. 2. a) RCS pressure high. b) Ultrasonics incication. 	<ol style="list-style-type: none"> 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 1-5-2	<ol style="list-style-type: none"> 1. a) PORV selector switch in closed position. 2. a) Position of PORV selector switch. 	<ol style="list-style-type: none"> 1. a) None. 2. a) Evaluate necessity for PORV to be closed. 		
1-5-3				
1-5-4				
1-5-5				
LOOSE PARTS MONITORING TROUBLE 1-5-6	<ol style="list-style-type: none"> 1. a) Any one of the loose parts monitoring channel, exceeding alarm point. 2. a) Alarm conditions showing on RDS. 	<ol style="list-style-type: none"> 1. None. 2. a) Refer to OP-506. 		

ANNUNCIATOR PANEL LOCATION ICS-CY1ANNUNCIATOR PANEL IVERTICAL COLUMN 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

PORV SOLENOID ENERGIZED I-6-1	<ol style="list-style-type: none"> 1. a) RCV-10 solenoid energized. 2. a) PORV open. b) PORV ultrasonic indication. c) RCDT level increase. 	<ol style="list-style-type: none"> 1. a) None. 2. a) Verify RCS pressure decrease. b) Verify PORV reseats. 	>2455 psig	
PORV BLOCK VALVE CLOSED I-6-2	<ol style="list-style-type: none"> 1. a) RCV-11, pressurizer electromatic relief valve isolation valve in closed position. 2. a) Valve position indication. 	<ol style="list-style-type: none"> 1. a) None. 2. a) Open valve manually. 		33 BC
I-6-3				
I-6-4				
I-6-5				
I-6-6				

ANNUNCIATOR PANEL LOCATION ICS-CY1ANNUNCIATOR PANEL 1VERTICAL COLUMN 7

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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PRESSURIZER LEVEL HIGH 1-7-1	1. a) RC Pressurizer level > 275 in-H ₂ O. b) RC Pressurizer Level > 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 SCR 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. a) 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 (NDTT). 2. a) Dual Speed Recorder Rc-154-PR/TR.	1. a) None. 2. a) Increase letdown flow and terminate pressure source.	500 psig	RC-3A-PS4 Relay K1
1-7-6				

ANNUNCIATOR PANEL LOCATION ICS-CYTANNUNCIATOR PANEL IVERTICAL COLUMN 8

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	<ol style="list-style-type: none"> 1. a) RC Pressurizer level ≤ 200 in H_2O. b) RC Pressurizer level ≤ 40 in H_2O. 2. a) Pressurizer level indication. b) Pressurizer makeup control valve malfunction. c) RC pressure and temperature indication. 	<ol style="list-style-type: none"> 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_2O 40 in. H_2O	RC-1-LY4 RC-1-LS2 3RC-1-LS1
PRESSURIZER HEATER GROUP TROUBLE I-8-2	<ol style="list-style-type: none"> 1. a) Pressurizer heater groups L1 through L3 overcurrent alarm. 2. a) Indicating lamps on control switch are out. 	<ol style="list-style-type: none"> 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				