

(MC) Rev. 5
Effective Date 10/7/97

INFORMATION ONLY

ANNUNCIATOR RESPONSE

AR-954

FLORIDA POWER CORPORATION

CRYSTAL RIVER UNIT 3

WDD ANNUNCIATOR RESPONSE

APPROVED BY: Interpretation Contact

Frank Dole for MAT
(SIGNATURE ON FILE)

DATE: 10/7/97

INTERPRETATION CONTACT: Supervisor, Nuclear Operations
Administrative Shift

TABLE OF CONTENTS

<u>SECTION</u>	<u>PAGE</u>
<u>1.0 PURPOSE</u>	1
<u>2.0 REFERENCES</u>	1
<u>2.1 IMPLEMENTING REFERENCES</u>	1
<u>2.2 DEVELOPMENTAL REFERENCES</u>	1
<u>3.0 PERSONNEL INDOCTRINATION</u>	1
<u>4.0 INSTRUCTIONS</u>	1
<u>5.0 FOLLOW-UP ACTIONS</u>	1
<u>ENCLOSURES</u>	
1 Annunciator Response	2

1.0 PURPOSE

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

2.0 REFERENCES

2.1 IMPLEMENTING REFERENCES

- 2.1.1 OP-415, Waste Disposal Evaporators

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-WR Panel Lampbox as indicated on Enclosure 1, Annunciator Response.

5.0 FOLLOW-UP ACTIONS

None

RADWASTE DISPOSAL ANNUNCIATOR RESPONSE	WD-WR-1-2	D-1-2
----------------------------------------	-----------	-------

NEUTRALIZER
TANK MIXER
TRIP

INDICATED CONDITION: - MIXER (WDMX-1) TRIPPED OUT ON OVERLOAD
REDUNDANT INDICATION WHICH WILL VERIFY ALARM: - MIXER RUN INDICATING LAMPS ON WD PANEL
OPERATOR ACTION FOR A VALID ALARM: - DETERMINE CAUSE OF OVERLOAD CONDITION
DISCUSSION: THE MIXER IS NO LONGER USED.
REFERENCES: DWG 208-060 WD-31
SENSING ELEMENT: SWGR 49 CONTACTS

- MIXER (WDMX-1) TRIPPED OUT ON OVERLOAD

REDUNDANT INDICATION WHICH WILL VERIFY ALARM:
- MIXER RUN INDICATING LAMPS ON WD PANEL

- MIXER RUN INDICATING LAMPS ON WD PANEL

OPERATOR ACTION FOR A VALID ALARM: - DETERMINE CAUSE OF OVERLOAD CONDITION

- DETERMINE CAUSE OF OVERLOAD CONDITION

DISCUSSION:
THE MIXER IS NO LONGER USED.

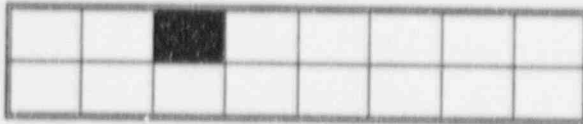
THE MIXER IS NO LONGER USED.

REFERENCES: DWG 208-060 WD-31

SENSING ELEMENT: SWGR 49 CONTACTS

SENSING ELEMENT: SWGR 49 CONTACTS

RADWASTE DISPOSAL ANNUNCIATOR RESPONSE	WD-WR-1-3	D-1-3
----------------------------------------	-----------	-------



WASTE GAS
DECAY TK 3A
PRESS HIGH

INDICATED CONDITION:
- TANK PRESSURE >83 PSIG

REDUNDANT INDICATION WHICH WILL VERIFY ALARM:
- TANK PRESSURE INDICATOR ON WD PANEL

OPERATOR ACTION FOR A VALID ALARM:
- ASSOCIATED WASTE GAS DECAY TANK IS FULL. LINEUP TO TANK WITH <80 PSIG IN IT.

DISCUSSION:
CONSIDER REDUCING PRESSURE IN WASTE GAS DECAY TANK 3A BY USING RECYCLE VALVES PER OP-412A, WASTE GAS DISPOSAL SYSTEM.

REFERENCES: DWG 208-060 WD-05

SENSING ELEMENT: WD-204-PS2

RADWASTE DISPOSAL ANNUNCIATOR RESPONSE	WD-WR-1-4	D-1-4
----------------------------------------	-----------	-------

WASTE GAS
DECAY TK 3B
PRESS HIGH

INDICATED CONDITION:
- TANK PRESSURE >83 PSIG

REDUNDANT INDICATION WHICH WILL VERIFY ALARM:
- TANK PRESSURE INDICATOR ON WD PANEL

OPERATOR ACTION FOR A VALID ALARM:
- ASSOCIATED WASTE GAS DECAY TANK IS FULL. LINEUP TO TANK WITH <80 PSIG IN IT.

DISCUSSION:
CONSIDER REDUCING PRESSURE IN WASTE GAS DECAY TANK 3B BY USING RECYCLE VALVES PER OP-412A, WASTE GAS DISPOSAL SYSTEM. CONSIDER GOING TO THE 'C' TANK AS THE 'A' TANK IS USED FOR SAMPLING.

REFERENCES: DWG 208-060 WD-05

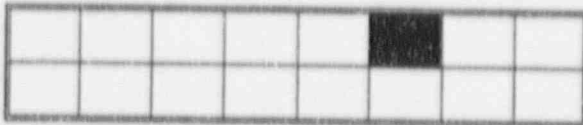
SENSING ELEMENT: WD-205-PS2

RADWASTE DISPOSAL ANNUNCIATOR RESPONSE	WD-WR-1-5	D-1-5
----------------------------------------	-----------	-------

WASTE GAS
DECAY TK 3C
PRESS HIGH

<p>INDICATED CONDITION:</p> <ul style="list-style-type: none"> - TANK PRESSURE >83 PSIG
<p>REDUNDANT INDICATION WHICH WILL VERIFY ALARM:</p> <ul style="list-style-type: none"> - TANK PRESSURE INDICATOR ON WD PANEL
<p>OPERATOR ACTION FOR A VALID ALARM:</p> <ul style="list-style-type: none"> - ASSOCIATED WASTE GAS DECAY TANK IS FULL. LINEUP TO TANK WITH <80 PSIG IN IT.
<p>DISCUSSION:</p> <p>CONSIDER REDUCING PRESSURE IN WASTE GAS DECAY TANK 3C BY USING RECYCLE VALVES PER OP-412A, WASTE GAS DISPOSAL SYSTEM. CONSIDER GOING TO THE 'B' TANK AS THE 'A' TANK IS USED FOR SAMPLING.</p>
<p>REFERENCES: DWG 208-060 WD-05</p>
<p>SENSING ELEMENT: WD-206-PS2</p>

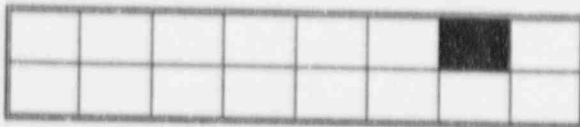
RADWASTE DISPOSAL ANNUNCIATOR RESPONSE	WD-WR-1-6	D-1-6
----------------------------------------	-----------	-------



LIQUID WASTE
DRUM FILL
LEVEL HIGH

INDICATED CONDITION: - DRUM LEVEL >2.5'
REDUNDANT INDICATION WHICH WILL VERIFY ALARM: - VALVE WDV-653 INDICATING LAMPS ON WASTE DRUM PANEL
OPERATOR ACTION FOR A VALID ALARM: - ENSURE VALVE WDV-653 CLOSES - CHECK FOR IMPROPER DRUM MIX - CHECK FOR POSSIBLE HIGH FLOW RATE - CHECK FOR POSSIBLE LEAKING DRUM INLET MANIFOLD
DISCUSSION: THIS EQUIPMENT IS NO LONGER USED.
REFERENCES: DWG 208-060 WD-127
SENSING ELEMENT: WD-142-LS

RADWASTE DISPOSAL ANNUNCIATOR RESPONSE	WD-WR-1-7	D-1-7
----------------------------------------	-----------	-------



RC EVAP
CONCENTRATOR
LEVEL HIGH

<p>INDICATED CONDITION:</p> <ul style="list-style-type: none"> - CONCENTRATOR LEVEL >20"
<p>REDUNDANT INDICATION WHICH WILL VERIFY ALARM:</p> <ul style="list-style-type: none"> - RC EVAP FEED TANK PUMP WDP-16A/B INDICATING LAMPS ON WD PANEL
<p>OPERATOR ACTION FOR A VALID ALARM:</p> <ul style="list-style-type: none"> - ENSURE PUMP (WDP-16A/B) TRIPS - SECURE RC EVAP COND COOLING WATER, STEAM SUPPLY, AND VACUUM PUMP
<p>DISCUSSION:</p> <p>ALARM COULD BE DEFEATED PER OP-415</p>
<p>REFERENCES: DWG 208-060 WD-143</p>
<p>SENSING ELEMENT: WD-174-LS</p>

RADWASTE DISPOSAL ANNUNCIATOR RESPONSE	WD-WR-1-8	D-1-8
----------------------------------------	-----------	-------

[illegible]

RC EVAP
FEED TANK
LEVEL HIGH

INDICATED CONDITION: - TANK LEVEL >92%
REDUNDANT INDICATION WHICH WILL VERIFY ALARM: - TANK LEVEL INDICATION ON WD PANEL
OPERATOR ACTION FOR A VALID ALARM: - CHECK LINEUP FOR CAUSE OF ALARM - IF LEVEL CONTINUES TO INCREASE, OPEN DRAIN VALVE
DISCUSSION: ALARM COULD BE DEFEATED PER OP-415
REFERENCES: DWG 208-060 WD-137
SENSING ELEMENT: WD-161-LS2

- TANK LEVEL >92%

REDUNDANT INDICATION WHICH WILL VERIFY ALARM:
- TANK LEVEL INDICATION ON WD PANEL

- TANK LEVEL INDICATION ON WD PANEL

OPERATOR ACTION FOR A VALID ALARM:

- CHECK LINEUP FOR CAUSE OF ALARM
- IF LEVEL CONTINUES TO INCREASE, OPEN DRAIN VALVE

- CHECK LINEUP FOR CAUSE OF ALARM
- IF LEVEL CONTINUES TO INCREASE, OPEN DRAIN VALVE

DISCUSSION:
ALARM COULD BE DEFEATED PER OP-415

ALARM COULD BE DEFEATED PER OP-415

REFERENCES: DWG 208-060 WD-137

SENSING ELEMENT: WD-161-LS2

SENSING ELEMENT: WD-161-LS2

RADWASTE DISPOSAL ANNUNCIATOR RESPONSE	WD-WR-2-1	D-2-1
----------------------------------------	-----------	-------

RC EVAP
FEED TANK
DENSITY HIGH

INDICATED CONDITION: - FEED TANK SPECIFIC GRAVITY >1.2
REDUNDANT INDICATION WHICH WILL VERIFY ALARM: - TANK DENSITY INDICATOR ON WD PANEL
OPERATOR ACTION FOR A VALID ALARM: - DETERMINE CAUSE OF HIGH DENSITY AND RESOLVE - TRANSFER WATER TO CONC. WASTE STORAGE TANK OR TO CONC. BORIC ACID STORAGE TANK.
DISCUSSION: ALARM COULD BE DEFEATED PER OP-415
REFERENCES: DWG 208-060 WD-137
SENSING ELEMENT: WD-162-PSA

- FEED TANK SPECIFIC GRAVITY >1.2

REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

- TANK DENSITY INDICATOR ON WD PANEL

OPERATOR ACTION FOR A VALID ALARM:

- DETERMINE CAUSE OF HIGH DENSITY AND RESOLVE
- TRANSFER WATER TO CONC. WASTE STORAGE TANK OR TO CONC. BORIC ACID STORAGE TANK.

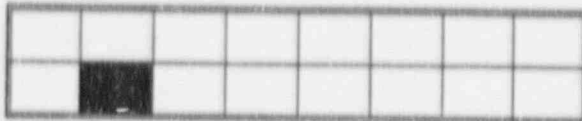
DISCUSSION:

ALARM COULD BE DEFEATED PER OP-415

REFERENCES: DWG 208-060 WD-137

SENSING ELEMENT: WD-162-PSA

RADWASTE DISPOSAL ANNUNCIATOR RESPONSE	WD-WR-2-2	D-2-2
----------------------------------------	-----------	-------



RC EVAP
DISTILLATE
RESERVOIR
LEVEL HIGH

INDICATED CONDITION:
- TANK LEVEL AT 30"

REDUNDANT INDICATION WHICH WILL VERIFY ALARM:
- RESERVOIR LEVEL INDICATOR ON WD PANEL

OPERATOR ACTION FOR A VALID ALARM:
- SECURE STEAM SUPPLY AND COOLING WATER FLOW TO EVAPORATOR

DISCUSSION:
ALARM COULD BE DEFEATED PER OP-415

REFERENCES: DWG 208-060 WD-137

SENSING ELEMENT: WD-160-LS1

RADWASTE DISPOSAL ANNUNCIATOR RESPONSE	WD-WR-2-3	D-2-3
----------------------------------------	-----------	-------

RC EVAP
DISTILLATE
CONDUCTIVITY
HIGH

INDICATED CONDITION:

- DISTILLATE CONDUCTIVITY $>2 \mu\text{MHOS}$

REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

- DISTILLATE REJECT/DISCHARGE VALVE INDICATION ON WD PANEL
- DISTILLATE CONDUCTIVITY INDICATOR ON WD PANEL

OPERATOR ACTION FOR A VALID ALARM:

- ENSURE AUTO ACTION INITIATED (SEE DISCUSSION)
- DETERMINE CAUSE OF ALARM AND RESOLVE
- CHECK FEED TANK CONCENTRATION AND FOR FOAMING IN TANK

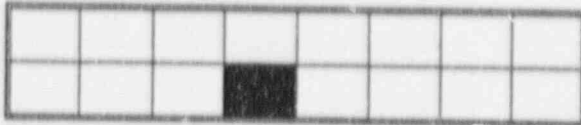
DISCUSSION:

THE AUTO ACTION WILL OPEN THE DISTILLATE REJECT VALVE (WDV-722)/(WDV-719) AND SHUT THE DISTILLATE DISCHARGE VALVE (WDV-721)/(WDV-720) IF RC DISTILLATE PUMP 3A (WDP-17A) OR 3B (WDP-17B) IS RUNNING. THE ALARM COULD BE DEFEATED PER OP-415.

REFERENCES: DWG 208-060 WD-143

SENSING ELEMENT: WD-159-CS

RADWASTE DISPOSAL ANNUNCIATOR RESPONSE	WD-WR-2-4	D-2-4
----------------------------------------	-----------	-------



RC EVAP
CONCENTRATOR
VACUUM
LOW

<p>INDICATED CONDITION:</p> <ul style="list-style-type: none"> - CONCENTRATOR VACUUM <15" HG
<p>REDUNDANT INDICATION WHICH WILL VERIFY ALARM:</p> <ul style="list-style-type: none"> - CONCENTRATOR VACUUM INDICATOR ON WD PANEL
<p>OPERATOR ACTION FOR A VALID ALARM:</p> <ul style="list-style-type: none"> - CHECK SEAL WATER, VACUUM WATER SEPARATOR, AND STEAM SUPPLY, AND FOR POSSIBLE COOLING WATER FLUCTUATIONS.
<p>DISCUSSION:</p> <p>ALARM COULD BE DEFEATED PER OP-415</p>
<p>REFERENCES: DWG 208-060 WD-143</p>
<p>SENSING ELEMENT: WD-164-PSA</p>

RADWASTE DISPOSAL ANNUNCIATOR RESPONSE	WD-WR-2-5	D-2-5
----------------------------------------	-----------	-------

RC EVAP
FEED TANK
LEVEL LOW

<p>INDICATED CONDITION: - TANK LEVEL <14"</p>
<p>REDUNDANT INDICATION WHICH WILL VERIFY ALARM: - TANK LEVEL INDICATOR ON WD PANEL</p>
<p>OPERATOR ACTION FOR A VALID ALARM: - DETERMINE REASON FOR LOW LEVEL BY CHECKING VALVE LINEUP AND RESTORE.</p>
<p>DISCUSSION: ALARM COULD BE DEFEATED PER OP-415</p>
<p>REFERENCES: DWG 208-060 WD-143</p>
<p>SENSING ELEMENT: WD-161-LS1</p>

RADWASTE DISPOSAL ANNUNCIATOR RESPONSE	WD-WR-2-6	D-2-6
----------------------------------------	-----------	-------

RC EVAP
FEED TANK
TEMP LOW

INDICATED CONDITION:

- FEED TANK TEMPERATURE <150 DEG F

REDUNDANT INDICATION WHICH WILL VERIFY ALARM:

- FEED TANK HEATER INDICATING LAMPS (WDHE-2) ON WD PANEL
- FEED TANK TEMPERATURE INDICATOR ON WD PANEL

OPERATOR ACTION FOR A VALID ALARM:

- IF RC EVAPORATOR PACKAGE IS IN OPERATION:
 - ENSURE FEED TANK LEVEL >29.2%
 - MANUALLY CONTROL HEATERS IF DESIRED
 - CHECK OUT OPERATION OF HEATER CONTROL CIRCUITRY

DISCUSSION:

ALARM COULD BE DEFEATED PER OP-415

REFERENCES: DWG 208-060 WD-50

SENSING ELEMENT: WD-163-TE

RADWASTE DISPOSAL ANNUNCIATOR RESPONSE	WD-WR-2-7	D-2-7
----------------------------------------	-----------	-------

RC EVAP
DISTILLATE
RESERVOIR
LEVEL LOW

INDICATED CONDITION:
- TANK LEVEL <10"

REDUNDANT INDICATION WHICH WILL VERIFY ALARM:
- SELECTED RC EVAP DISTILLATE PUMP INDICATING LAMPS ON WD PANEL
- RESERVOIR LEVEL INDICATOR ON WD PANEL

OPERATOR ACTION FOR A VALID ALARM:
- CHECK VALVE LINEUP, STEAM SUPPLY, AND COOLING WATER
- ENSURE AUTO ACTION INITIATED (SEE DISCUSSION)

DISCUSSION:
THE AUTO ACTION TRIPS SELECTED RC EVAP DISTILLATE PUMP (WDP-17A/17B).
ALARM COULD BE DEFEATED PER OP-415.

REFERENCES: DWG 208-060 WD-143

SENSING ELEMENT: WD-160-LS3

RADWASTE DISPOSAL ANNUNCIATOR RESPONSE	WD-WR-2-E	D-2-8
----------------------------------------	-----------	-------

BOI , ACID STOR TNK TEMP HI/LO

INDICATED CONDITION: - CONC BORIC ACID STORAGE TANK WDT-8A OR 8B TEMP >164 OR <152 DEG F
REDUNDANT INDICATION WHICH WILL VERIFY ALARM: - STORAGE TANK HEATER INDICATING LAMPS ON WD PANEL - TANK TEMPERATURE INDICATOR ON WD PANEL
OPERATOR ACTION FOR A VALID ALARM: - INVESTIGATE HEATER CONTROL CIRCUITRY FOR MALFUNCTION.
DISCUSSION: ALARM COULD BE DEFEATED PER OP-415
REFERENCES: DWG 208-060 WD-52, WD-53
SENSING ELEMENT: WD-80-TS, WD-83-TS