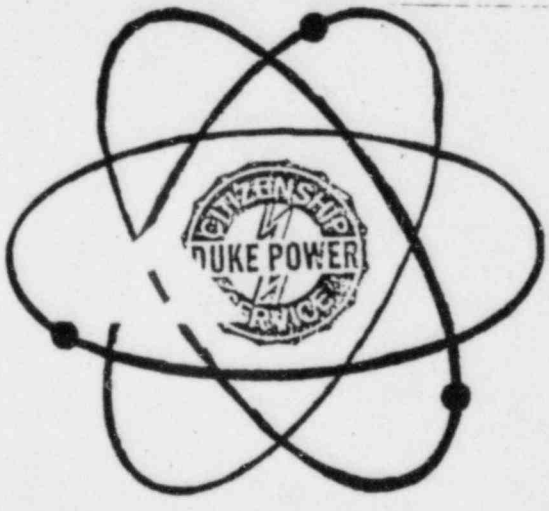
DUKE POWER COMPANY

OCONEE NUCLEAR STATION

EMERGENCY PLAN IMPLEMENTING PROCEDURES



APPROVED:

M. S. Tuckman

M. S. Tuckman, Station Manager

11/30/84

Date Approved

December 1, 1984

Effective Date

Volume B

Revision 84-4 (Major Revision)
December, 1984

8502150053 841221
PDR ADOCK 05000269
F PDR

VOLUME B

TABLE OF CONTENTS

Major Revision

Revision 84-4
December, 1984

Table of Contents (Implementing Procedures - Continued)

INFORMATION ONLY

CONTROL COPY

Form 34731 (10-81)
(Formerly SPD-1002-1)

DUKE POWER COMPANY
PROCEDURE PREPARATION
PROCESS RECORD

(1) ID No: CP/2/A/2002/04C
Change(s) - to
3 Incorporated

(2) STATION: Oconee

(3) PROCEDURE TITLE: Operating Procedure for the Post Accident Liquid Sampling (PALS) System

(4) PREPARED BY: Pat Hull DATE: 8/9/84

(5) REVIEWED BY: Bentley K. Jones DATE: 8/22/84

Cross-Disciplinary Review By: Ed Poyner 10-16-84 N/R: _____

(6) TEMPORARY APPROVAL (IF NECESSARY):

By: _____ (SRO) Date: _____

By: _____ Date: _____

(7) APPROVED BY: J D Burr Date: 10/23/84

(8) MISCELLANEOUS:

Reviewed/Approved By: _____ Date: _____

Reviewed/Approved By: _____ Date: _____

Checked Control Copy_____

Date_____

DUKE POWER COMPANY

OCONEE NUCLEAR STATION

OPERATING PROCEDURE FOR THE

POST ACCIDENT LIQUID SAMPLING (PALS) SYSTEM

1.0 Purpose

The Post Accident Liquid Sampling System (PALS) provides the capability to promptly obtain a reactor coolant system sample under a nuclear reactor accident condition. Sample acquisition during accident conditions will provide information to evaluate the extent of core damage which has occurred or is occurring through knowledge of reactor coolant chemistry and radiochemistry.

2.0 Limits and Precautions

2.1 The PALS will be used to sample the reactor coolant system under the following conditions:

2.1.1 Post Accident.

2.1.2 Inaccessibility of Primary Sampling Area due to radiation levels.

2.1.3 Request from the Station Chemist or his designee.

2.2 UNDER ACCIDENT CONDITIONS, VALVE ALIGNMENTS SHALL NOT BE MADE AND SAMPLES SHALL NOT BE TAKEN WITHOUT PRIOR AUTHORIZATION FROM THE TECHNICAL SUPPORT CENTER (TSC)! (Containment Isolation valves may be closed upon ES Actuation).

2.3 UNDER ACCIDENT CONDITIONS, DO NOT ATTEMPT ANY PHASE OF SAMPLING OR ANALYIS WITHOUT HEALTH PHYSICS APPROVAL AND COVERAGE!

2.4 Radiation exposure to an individual during all phases of sampling should be limited so as not to exceed a quarterly accumulative exposure of 3 rems whole body; 7.5 rems skin of wholebody; or 18 3/4 rems extremities respectively. All personnel will need prior authorization from TSC to knowingly exceed any exposure limit. The exposure received may require an occupational exposure penalty and/or a medical decision as to whether an individual can continue in radiation work.

2.4.1 If necessary to remedy a situation immediately hazardous to life and property, the Planned Emergency Exposure for Duke Power Personnel will not exceed 5 rems wholebody; 30 rems skin of wholebody; or 75 rems extremities.

2.4.2 If necessary to save lives or prevent loss of life and/ or extensive damage to property (voluntary basis only), the Planned Emergency Exposure for Duke Power Personnel will not exceed 25 rems wholebody; 150 rems skin of wholebody; or 375 rems extremities.

2.4.3 For Outside Services Personnel the Planned Emergency Exposure will not exceed 5 rems wholebody; 30 rems skin of wholebody; 75 rems extremities; or 15 rems other single organ.

2.5 Portable shielding, remote handling equipment, video equipment, etc., shall be used where practical during sampling, sample preparation, and sample analysis.

2.6 Chemistry personnel shall operate only those valves followed by (C) in this procedure. If ES signal requires containment isolation during use of this procedure, Operations and Chemistry Personnel should be aware of any pressure remaining in sample lines or sampling panel.

2.7 Working copy must be compared to control copy before use and sign off steps (Initials/Time) completed as procedure progresses.

3.0 Procedure

3.1 Preparation for Sampling

3.1.1 Valve Alignments

3.1.1.1 Notify Shift Supervisor that operation of the PALS is being initiated by Chemistry. Chemistry will select either Enclosure 5.5 for a RCS sample or Enclosure 5.6 for a RBNS sample, check it against the control copy, and take it to the responsible individual in Operations (designated by the Shift Supervisor) for completion. Request Operations to complete Step 3.1 of the selected enclosure. ____/____

3.1.1.2 The following valves are electrically controlled by the PALS Control Panel:

RCS Sample: 2RC-179 (C)

Reactor Building Normal Sump Sample: 2LWD-1026 (C)
2LWD-1028 (C)

Return Line to Reactor Building Emergency Sump (either sample): 2LP-121 (C)

Demin. Water: 2DW-278 (C) (RCS Sample Line Flush)
2DW-280 (C) (RBNS Sample Line Flush)

3.1.1.3 The following valves are operated manually at the Sampling Panel by Chemistry personnel. They must be verified open prior to use of the panel.

	Initials/Time
Instrument Air Supply Isolation 2IA-2423	_____/___
Panel Instrument Air Isolation (Lower right on panel)	_____/___
Valve on Nitrogen Supply Bottle (>200 psi tank pressure required; ~45 psi delivery pressure).	_____/___
Panel Nitrogen Isolation (Lower right on panel)	_____/___
Cooling Water Supply Isolation 2DW-282	_____/___
Demin Water Supply Isolation 2DW-281	_____/___
Panel Demin Water Isolation (Lower right on panel)	_____/___

3.1.1.4 The following should be verified as noted (job supervisor may N/A as appropriate).

2LWD-1029 Low Point Drain (LPI Room) closed and capped	____
2RC-177 High Point Vent (next to Sampling Panel) closed and capped	____
2LP-110 Emergency Sump Line Drain (LPI Room) Closed	____
2LP-111 Emergency Sump Line Drain Tell-tale (LPI Room) closed and capped	____
2DW-278 Remote Starter (HPI Room) "ON"	____
2LWD-1028 Remote Starter (LPI Room) "ON"	____
2DW-91 Reactor Building Normal Sump Line Flush (HPI Room) Closed	____
2RC-178 Low Point Drain (LPI Room) closed and capped	____

2DW-283 Low Point Drain (HPI Room) closed and capped ____

2LP-122 High Point Vent (next to Sampling Panel) closed and capped ____

2DW-324 Isolation Valve between U1 & U2 on header (~30 ft. upstream of 2DW-281) Open ____

2N-262 Nitrogen Isolation: Closed ____

3.1.2 Health Physics Notification

Contact Health Physics and ask for surveillance person prior to going to Control Panel. ____/____

3.1.3 Additional Requirements

Pick up glass syringes and sample carrier from Primary Lab, and take stop watch and panel keys to Control Panel. ____/____

3.1.4 Power supplies for each electrical component are listed on Enclosure 5.2.

3.2 Panel Preparation

NOTE: If any item on panel is not clearly identified, refer to Enclosures 5.3 and 5.4 (Control Panel Diagrams).

3.2.1 Turn the main selector knob on the control panel to "Reset". Place key in System Power Switch and turn clockwise. (Panel lights should come on.) Press "Reset" button.

3.2.2 Place the toggle switches for the dilution water meter and dilution gas meter to "ON".

3.2.3 Place the toggle switch for the radiation monitor to "ON" and turn the scale select to "rem/hr". If the radiation monitor is not functional, HP coverage is sufficient to operate the panel.

3.2.4 Place the thermocouple selector on TC-1.

3.2.5 Move the conductivity meter to "Measure" position.

3.2.6 Push in the pH meter standardize knob.

3.2.7 Select the system to be sampled - Reactor Coolant System or Reactor Building Normal Sump - with the system selector.

3.2.8 Open sample regulator valve at cooler outlet. ____/____

3.3 Panel Operation (Position 1) Panel Prep

3.3.1 Turn the Operation Selector switch to the PANEL PREP. position.

3.3.2 Momentarily depress the SELECTION POWER ACTIVATE pushbutton.

3.3.3 Depress the PURGE pushbutton for about 1 minute 10 seconds.

3.3.4 Depress the DRAIN pushbutton for about 1 minute 10 seconds.

3.4 Panel Operation (Position 2) Sample Recirc

3.4.1 Request Operations complete Steps 3.2 and 3.3 of the enclosure selected in 3.1.1.1.

3.4.2 Turn the Operation Selector switch to the SAMPLE RECIRC. position.

3.4.3 Record the PALS or HP radiation monitor reading_____ (background). Watch radiation monitor reading for a possible increase as sample enters the panel.

3.4.4 Momentarily depress the SELECTION POWER ACTIVATE pushbutton.

3.4.5 Observe that the SAMPLE INLET and SAMPLE OUTLET indicating lights are lit. Record the starting time_____.

3.4.6 Watch TC-1 closely. If it approaches 190°F, verify cooling water flow, then shut off sample flow by moving selector knob off position 2. If cooling water flow is verified, partially close sample regulator valve and reactivate position 2. Record the temperature when TC-1 has stabilized. _____

3.4.7 Record pressure reading _____. Since sample is being returned to atmospheric conditions, pressure will be zero or at least less than system pressure.

3.4.8 Turn the selector knob to "Sample", position 3.

3.5 Panel Operation (Position 3) Sample

3.5.1 Turn the thermocouple selector to TC-2.

3.5.2 Momentarily depress the SELECTION POWER ACTIVATE pushbutton.

3.5.3 Observe that the SAMPLE INLET and SAMPLE OUTLET indicating lights are lit.

3.5.4 Monitor the temperature gauge and when TC-2 stabilizes, record the temperature_____.

3.5.5 Record the PALS or HP radiation reading_____. Subtract the initial background reading from sample radiation reading and record_____.

3.5.6 Press the 1) TC-2 Stabilize Activate button; when pressure reading stabilizes, record_____.

3.5.7 Press the 2) Pressure Stabilize Activate button and record time sample flow stops_____.

3.5.8 Request Operations to complete Step 3.4 of the enclosure selected in 3.1.1.1.

3.6 Panel Operation (Position 4) Depressurization

3.6.1 Turn the Operation Selector switch to the DEPRESSURIZATION position.

3.6.2 Press the "Reset" button on the gas flow totalizer to zero the readout. Preset the counter on the totalizer to 99999.

3.6.3 Momentarily depress the SELECTION POWER ACTIVATE pushbutton.

3.6.4 Observe that the DI WATER and SAMPLE OUTLET indicating lights are lit.

3.6.5 Verify the pressure gauge on the instrument panel indicates -25 inches of Mercury. Wait about 60 seconds.

3.6.6 Press the START button on the N_2 Preset Counter and observe the PRESS/VAC gauge. When the gauge needle just begins to move press the STOP button on the N_2 Preset Counter. (When the start button is pressed, system pressure should go to zero).

3.6.7 Continue to make small N_2 adds, by repeating 3.6.6 until the PRESS./VAC gauge reads about 0-2 inches.

3.6.8 Flip the Preset Counter POWER toggle switch to the OFF position.

3.6.9 If "5" inches is exceeded, as read from the PRESS./VAC gauge, no gas sample can be taken, because the volume of gas in the diluted gas cylinder is only known at atmospheric pressure.

3.7 Panel Operation (Position 5) Liquid Sample

3.7.1 Turn the Operation Selector switch to the LIQUID SAMPLE position.

3.7.2 Momentarily depress the SELECTION POWER ACTIVATE pushbutton.

3.7.3 Observe that the DI WATER and SAMPLE OUTLET indicating lights are lit.

3.7.4 Depress the LIQUID SAMPLE ACTIVATE 1) Log conductivity and hold until the conductivity meter stabilizes. Record the specific conductivity_____.

3.7.5 Press both LIQUID SAMPLE ACTIVATE 1) Log conductivity and 2) Log pH buttons and hold until pH meter stabilizes. Record pH_____.

3.7.6 Press the GAS SAMPLE 1) ACTIVATE button and hold for 1 second.

3.7.7 Momentarily depress the 3) DILUTED GAS SAMPLE GRAB pushbutton.

3.8 Panel Operation (Position 6) Liquid Sample Prep

3.8.1 Turn the Operation Selector switch to the LIQUID SAMPLE PREP position.

3.8.2 Momentarily depress the SELECTION POWER ACTIVATE pushbutton.

3.8.3 Momentarily depress the ACTIVATE TO DESIRED mL VOLUME pushbutton and observe the SAMPLE ALIQUOT register advance one count (1.40 ml).

3.8.4 Press the "Reset" button on the dilution water flow totalizer and preset the meter for desired dilution (in 250 ml increments from 250-3500 mls). Press the "Start" button and let the dilution continue to completion. Record the dilution volume_____.

3.8.5 Press the Activate Mix button and hold for about 15 seconds.

3.9 Panel Operation (Position 7) Liquid Sample

3.9.1 Turn the Operation Selecto- switch to the Liquid Sample position.

3.9.2 Press the SELECTION POWER ACTIVATE button.

3.9.3 Press Activate button. Wait 45 seconds (for levels in dilution cylinder and grab sampler to equalize).

3.9.4 Momentarily depress the DILUTED SAMPLE GRAB pushbutton. Wait 10 seconds.

3.10 Panel Operation (Position 8) Flush

3.10.1 Turn the Operation Selector switch to the FLUSH position.

3.10.2 Press the SELECTION POWER ACTIVATE button.

3.10.3 Press the FLUSH ACTIVATE button and wait 4-5 minutes. (Observe that the first FLUSH light and the SAMPLE OUTLET indicating light are both lit.)

3.10.4 Press the FLUSH ACTIVATE button and monitor pH and conductivity meters until they reach equilibrium of demineralized water (approximately 10 minutes). Observe second flush light is lit.

3.10.5 Press the FLUSH ACTIVATE pushbutton and wait 3 minutes. (Observe the third FLUSH light is lit.)

3.10.6 Press the FLUSH ACTIVATE pushbutton and observe the COMPLETE light is lit.

3.11 Panel Operation (Position 9) Drain

3.11.1 Turn the Operation Selector switch to the DRAIN position.

3.11.2 Momentarily depress the SELECTION POWER ACTIVATE pushbutton. Press ACTIVATE and observe that the first DRAIN light is lit.

3.11.3 Wait for about 2 minutes and again depress the ACTIVATE pushbutton and observe the second DRAIN light is lit.

3.11.4 Wait for about 2 minutes and again depress the ACTIVATE pushbutton and observe the third DRAIN light is lit.

3.11.5 Wait for about 6 minutes and again momentarily depress the ACTIVATE pushbutton and observe the DRAIN COMPLETE light is lit.

3.12 Panel Shutdown and Decontamination

3.12.1 Turn the Sample Selector switch to the OFF position.

3.12.2 Turn the Operation Selector switch to the RESET position.

3.12.3 Momentarily depress the RESET pushbutton.

3.12.4 Turn the System Power keylock to the SUMP PUMP position for about 15 minutes (or until the pump switches itself off).

3.12.5 Turn the System Power keylock to the SAMPLE position and record the PALS or HP Radiation Monitor meter reading_____.

3.12.5.1 If the radiation monitor indicates less than 3 R/Hr over background, turn the System Power keylock to the OFF position and remove the PALS System key.

3.12.5.2 If the radiation monitor indicates greater than 3R/Hr over background, repeat 3.10 thru 3.12.5.

3.12.6 If radiation level remains greater than 3 R/hr over background after one repeat of Section 3.10 through 3.12.5, contact Station Chemist or his designee (personnel should move to a lower background area during this time, if one is available) for permission to return to Section 3.1 and take another sample using larger dilution volume. Permission given by_____.

3.12.7 Request HP to survey the Post Accident Sampling Panel and the area around the PASP prior to sample removal to ensure the 3 R/Hr over background is not exceeded.

3.13 Sampling

3.13.1 Collect 3-1.0 ml stripped gas samples at the gas grab sampler in lockable glass syringes. Place in plastic bag.

3.13.2 Collect 3-5.0 ml liquid samples at the liquid grab sampler in lockable glass syringes. Place in plastic bag.

NOTE: Flushing of remaining sample in grab sampler is desirable if radiation levels permit. Return to Position 6 and add 200 mls demin. water to Dilution Cylinder. Continue through Position 7, cycle through Position 8 and 9 completing the second and third drain steps. Go to the grab sampler and drain the liquid out (this liquid is <u>not</u> a sample-discard in PASP Sump or appropriate waste container in lab).

3.13.3 Request Operations to complete Steps 3.5 and 3.6 of the enclosure selected in 3.1.1.1.

3.13.4 Place plastic bags in sample carrier and transport to Hot Lab. Place sample carrier in operating fume hood behind a lead brick shield to await analysis.

3.14 Sample Analysis

3.14.1 Gas

3.14.1.1 Analyze one syringe of stripped gas by Chemistry Procedure CP/0/B/2004/14A, Operation of the Fisher Model 25V Gas Partitioner for the Determination of Hydrogen in Gas Samples. Calculate the results by the following method:

$$\%\ H_2 \times \frac{1000\ cc}{0.155\ Kg} \times \frac{1}{100} = cc/Kg\ H_2$$

Where: $\%\ H_2$ is determined from CP/0/B/2004/14A

1000 cc = stripped gas bomb volume

0.155 Kg = collected sample size

$\frac{1}{100}$ = conversion of percent to decimal

Report result_____cc/kg H_2

3.14.1.2 Withdraw 1 cc of air from septum stoppered glass vial and load 1 cc of stripped gas into it from second syringe. Analyze by GeLi Spectral Analysis (HP/0/B/1001/14, Procedure for Nuclear Data 6600 System Operation). Activities will be reported by MP for 1 cc of diluted gas sample. Calculate activity of dissolved gas in 1 ml of reactor coolant as follows:

$$\mu Ci \text{ in } 1 \text{ cc} \times \frac{1000}{155} = \text{Total activity from dissolved gas in 1 ml RC.}$$

GeLi Spectra Attached _____.

3.14.1.3 Reserve third stripped gas syringe for use as a backup, if needed.

3.14.1.4 Additional gas sample dilution may be necessary to bring amount of hydrogen or activity within range of analyses. If so, withdraw 1 cc of air from a septum stoppered glass vial and load 1 cc of the sample to be diluted into it. Be sure to record the additional dilution information so that isotope activities may be adjusted accordingly.

3.14.2 Liquid

3.14.2.1 Take 1 ml of liquid sample and dilute to 50 ml with Super Q water in a 60 ml poly bottle. Analyze by GeLi Spectral Analysis (HP/0/B/1001/14, Procedure for Nuclear Data 6600 System Operation). Activities will be reported by HP for 1 ml of diluted liquid sample. Calculate activity of liquid portion of reactor coolant as follows:

$$\mu ci/ml = \text{activity in diluted 1 ml} \times \frac{*\text{Total Dilution Volume}}{1.40 \text{ ml}}$$

*Step 3.8.4 + 1.4 mls.

GeLi Spectra Attached _____.

3.14.2.2 Take 5 ml of liquid sample and analyze for boron by CP/0/A/2004/02E, Post Accident Determination of Boron Concentration Using Carminic Acid. Correct results for dilution as follows:

$$\text{ppm } B_{RCS} = \text{ppm measured} \times \frac{*\text{Total Dilution Volume}}{1.40}$$

*Step 3.8.4 + 1.4 mls

Boron Concentration _____ppm.

3.14.2.3 Take 5 mls of liquid sample and analyze for chloride by CP/0/A/2004/03C, Post Accident Determination of Chloride by Specific Ion Electrode Using Beckman 4500 Meter. Correct results for dilution as in 3.14.2.2.

NOTE: Chloride analysis only to be done in an accident situation.

Chloride Concentration _____ppm.

3.14.2.4 Report results of liquid sample analyses in Primary Chemistry Data Log.

3.14.2.5 Reserve third liquid syringe for use as a backup, if needed.

3.14.2.6 Additional liquid sample dilution may be necessary to bring amount of activity within range. If so, withdraw 1 ml of sample from 60 ml poly bottle (from Section 3.14.2.1) and dilute to 50 ml with Super Q for analysis. Be sure to record the additional dilution information so that isotope activities may be adjusted accordingly.

3.14.2.7 Route completed procedure to Operational Support Center.

Accepted By: _____

3.15 Waste Disposal

3.15.1 Determine by detailed planning meeting the exact course of action to be taken. Under no condition will liquid or solid wastes be disposed of without prior specific HP directions.

3.15.2 Designate a sealable carboy as the "Post Accident Lab Waste" container. This container must be shielded and used as an interim liquid waste disposal container for all liquid analytical waste.

3.15.3 In the event an area is grossly contaminated and cannot be decontaminated, evaluate the need for shielding or protective covering to prevent the spread of airborne activity.

4.0 References

4.1 NUREG-0737, Section II.B.3

4.2 DPC System Health Physics Manual

4.3 Radiological Health Handbook, U.S. Dept. of HEW (1970).

4.4 Radiation Safety Technician Training Course, H.J. Moe, ANL-7291 Rev. 1 (1972).

4.5 Post Accident Liquid Sampling System Manual, Steam Production Department, OM-267A-28 (1981)

4.6 MNS Operating Procedure OP/0/A/6200/48

4.7 DPC Alara Manual (1980)

4.8 ONS Emergency Plan

4.9 ONS Chemistry Manual Section 5.1

5.0 Enclosures

5.1 Post Accident Authorization for Operation of PALS

5.2 U2 PALS Power Supplies

5.3 PALS Control Panel Diagram - Left

5.4 PALS Control Panel Diagram - Right

5.5 Operations Checklist for Reactor Coolant System Valve Lineups to Post Accident Liquid Sampling System

5.6 Operations Checklist for Reactor Building Normal Sump Valve Lineups to Post Accident Liquid Sampling System.

Checked Control Copy_____

Date_____

ENCLOSURE 5.1

CP/2/A/2002/04C

POST ACCIDENT AUTHORIZATION FOR OPERATION OF PALS

Technician/Time

1. Verbal/written direction for sampling the Reactor Coolant System (RCS) has been received from the Technical Support Center (TSC). _____/___
   Person Authorizing Sampling _____

2. The specific post-accident analysis requested by TSC: _____/___

   Sample to be taken: RCS ☐ RBNS ☐ _____/___

   _____Boron

   _____Chloride

   _____Isotopic Analysis for _____Iodines

   _____Cesiums

   _____Noble Gases

   _____Non-Volatile Fission Products

   _____Other (Specify) _____

3. Determine by detailed planning meeting the exact course of action and data required. _____/___

4. Evaluate the use of portable shielding, remote handling equipment, video equipment, etc., to minimize the exposure to personnel while sampling. _____/___

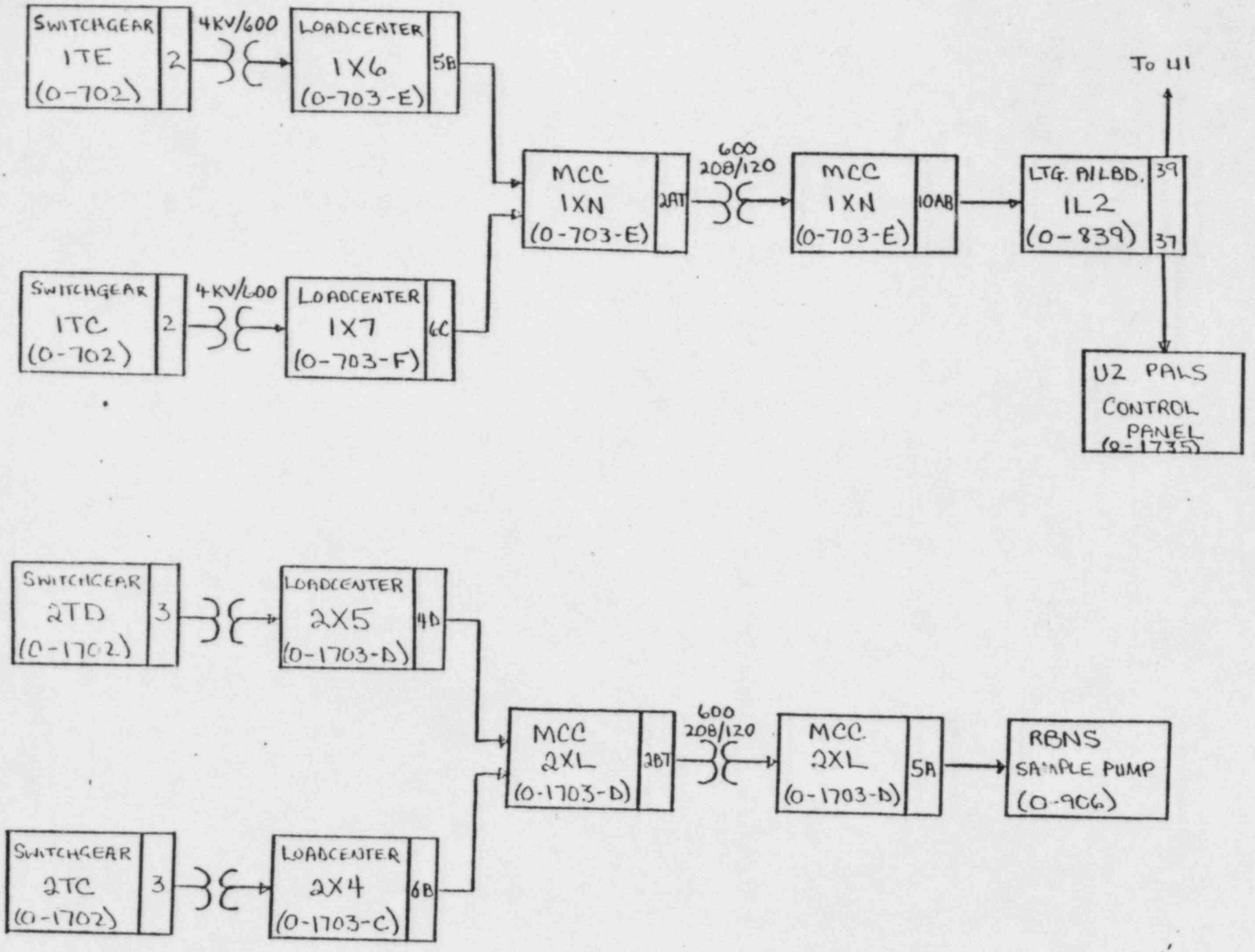
5. Have HP determine the required respiratory equipment and protective clothing to prevent or minimize internal exposure in any Planned Emergency situation. Use high range and/or extremity dosimetry if required. _____/___

6. Request HP to designate a route from PALS to the lab. _____/___

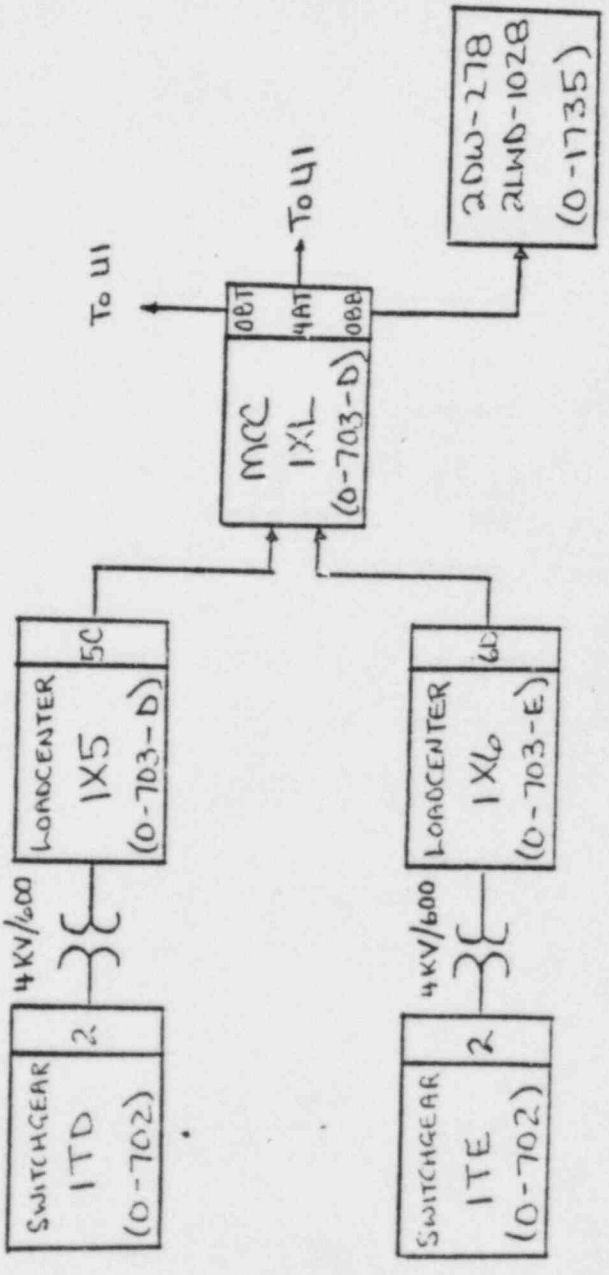
   Sample route designated: _____

   _____

7. Evaluate the use of portable shielding, remote handling equipment, video equipment, etc., to minimize the exposure to personnel in the lab for the required analyses. _____/___



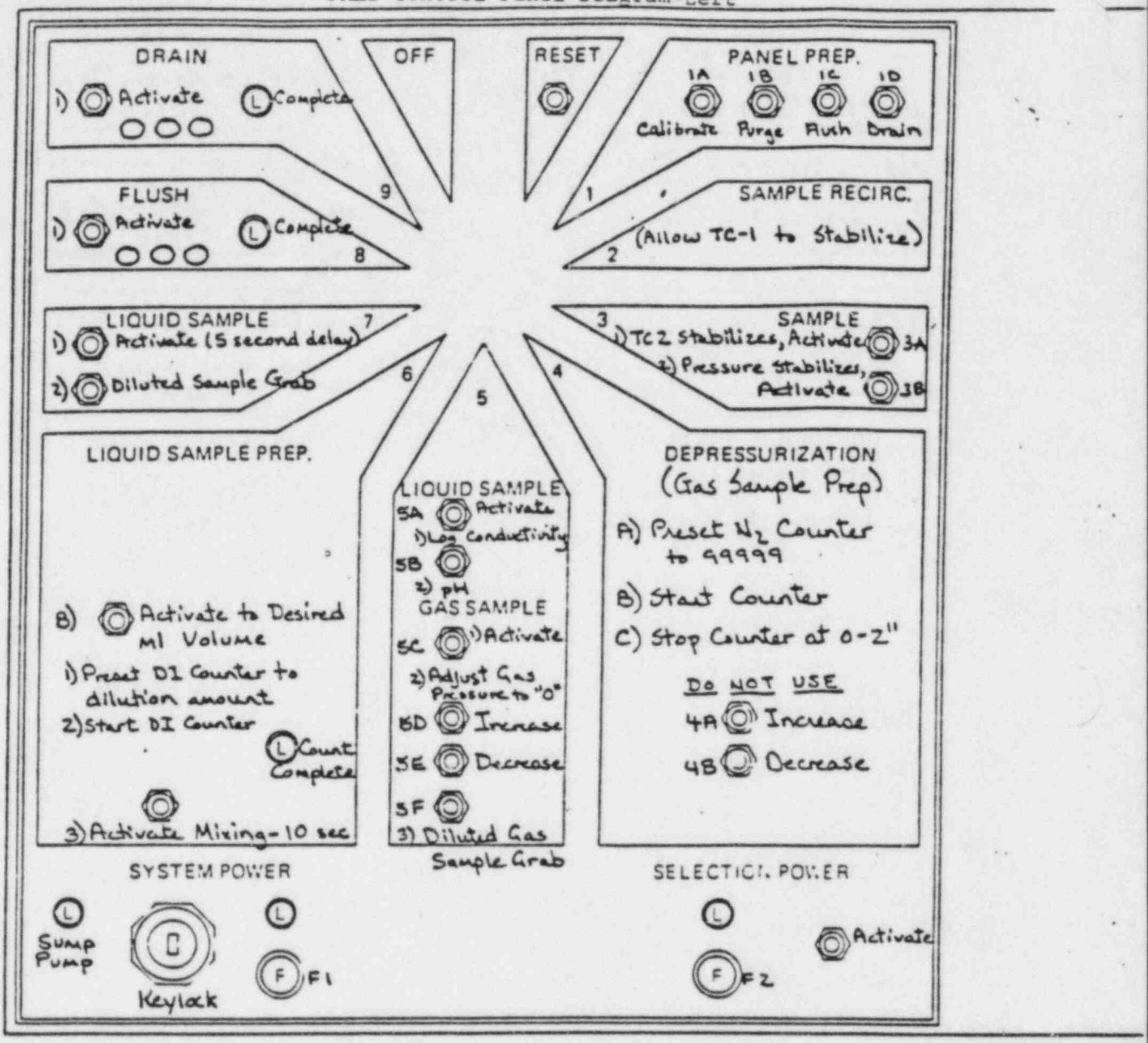
ENCLOSURE 5.2
CP/2/A/2002/04C
Unit 2 PALS Power Supplies


SWITCHGEAR
1TD
(0-702)
2
4KV/600
LOADCENTER
1X5
(0-703-D)
5C
SWITCHGEAR
1TE
(0-702)
2
4KV/600
LOADCENTER
1X6
(0-703-E)
6D
MCC
1XL
(0-703-D)
OBT
4AT
OBB
To U1
To U1
2DW-278
2LWD-1028
(0-1735)

Enclosure 5.3

CP/2/A/2002/04C

PALS Control Panel Diagram-Left

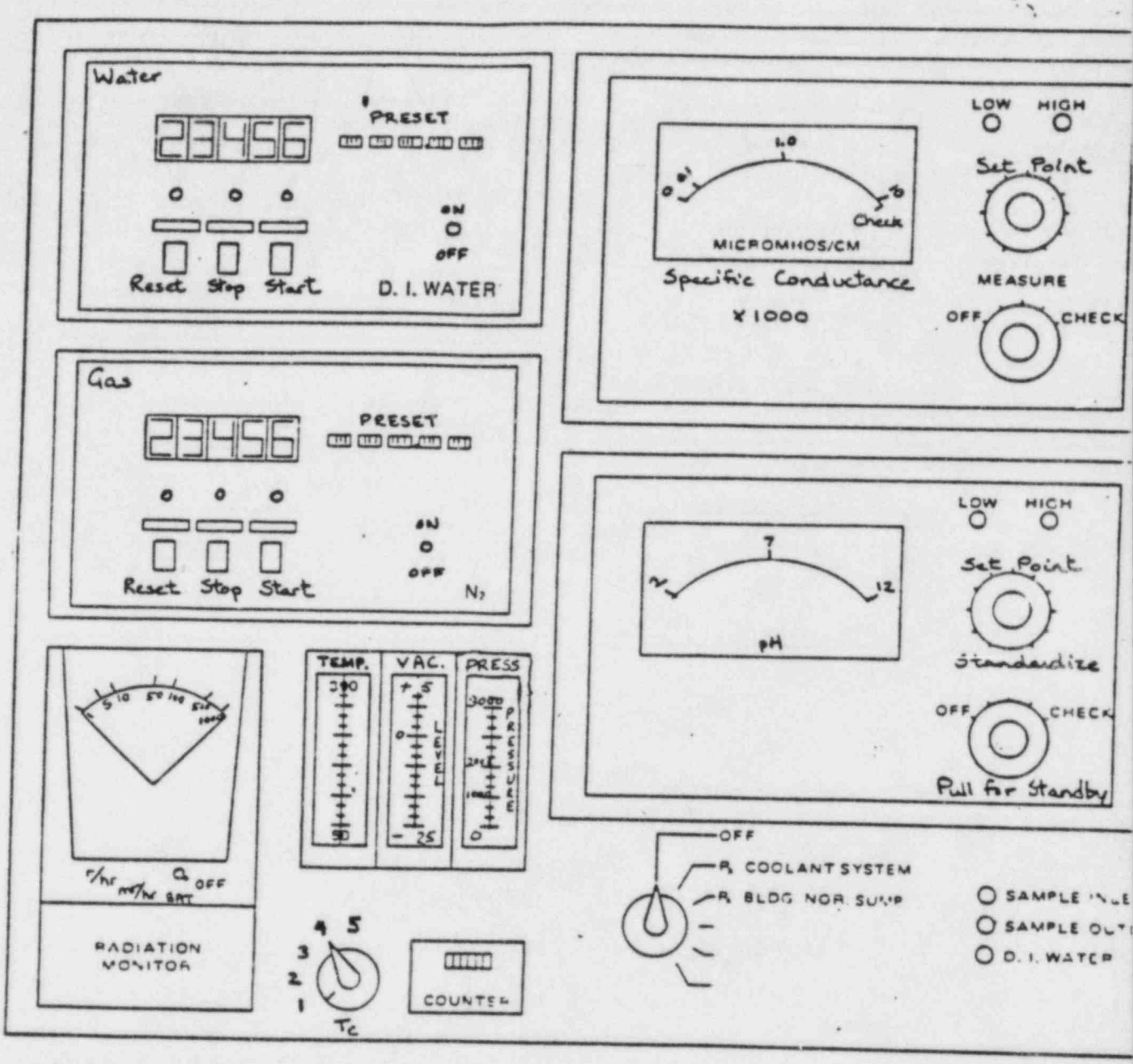


SEE DRAWING NO. L040180D FOR PANEL DETAIL

Enclosure 5.4

CP/2/A/2002/04C

PALS Control Panel Diagram-Right



Checked Control Copy_____

Date_____

CP/2/A/2002/04C

ENCLOSURE 5.5

OPERATIONS CHECKLIST FOR REACTOR COOLANT SYSTEM VALVE LINEUPS TO POST ACCIDENT LIQUID SAMPLING SYSTEM

1.0 Purpose

This enclosure gives the valve lineups needed for Chemistry Personnel to sample the Reactor Coolant System (RCS). Locations of valves are given to facilitate lineups.

2.0 Limits and Precautions

2.1 RIA-54 should be in service and monitored during the course of operation of the PALS.

2.2 Demineralized water header must be in service and have at least 60 psi pressure (per Station Directive 3.1.15).

3.0 Procedure

		Date Init./Time	Verification Date Init./Time
3.1	Ensure the following breakers are closed:		
3.1.1	1L2 Bkr. #37 Sampling/Control Panels Power Supply (located next to U2 sampling panel)	_____	
3.1.2	MCC1XL Bkr. for 2DW-278 (RCS sample line flush) and 2LWD-1028 (RBNS Sample Line)	_____	
3.1.3	Remove white tag from breaker #9 on 2KVIB (placed per OP/2/A/1102/01 Enclosure 4.1, Section 2.8), and close breaker.	_____	
	NOTE: Both 2RC-162 and 2RC-164 are powered from this breaker.		
3.1.4	Remove white tag from breaker #4 on 2KVIA (placed per OP/2/A/1102/01 Enclosure 4.1, Section 2.8) for 2RC-165, and close breaker.	_____	

ENCLOSURE 5.5

CP/2/A/2002/04C

			Date Init./Time	Verification Date Init./Time
3.2	To obtain a reactor coolant sample, the valves listed in this section should be aligned as follows:			
3.2.1	2RC-84	Inside reactor building - refer to Fill and Vent Procedure (OP/2/A/1103/02) to verify OPEN status.	_____	
3.2.2	2RC-174/2RC-176 (Test Connections) and 2RC-175 (High Point Vent)	inside reactor building - refer to Fill and Vent Procedure (OP/2/A/1103/02) to verify CLOSED Status.	_____	
3.2.3	Open 2RC-162	inside reactor building-operated from control room.	_____	_____
3.2.4	Open 2RC-163	inside reactor building-operated from control room.	_____	_____
	NOTE:	The following initial conditions must be observed.		
3.2.5	If containment integrity is required, then Steps 3.2.6 and 3.2.7 must be completed.		_____	
3.2.6	Designate a responsible person in the Control Room to immediately close the isolation valves (2RC-164 and 2RC-165) if an ES actuation occurs.		_____	
3.2.7	Record that containment isolation valves 2RC-164 and 2RC-165 are open in OP/0/A/1102/20 (Shift Turnover).		_____	

ENCLOSURE 5.5

CP/2/A/2002/04C

			Date Init./Time	Verification Date Init./Time
3.2.8	Open 2RC-164	in Unit 2 LPI Room- operated from Control Room.	_____	_____
3.2.9	Open 2RC-165	in Unit 2 LPI Room- operated from Control Room.	_____	_____

CAUTION: If ES actuation occurs, immediately close isolation valves for containment isolation.

3.3 To allow recirculation of sample, align 2LP-65, return line valve to the RB Emergency Sump:

NOTE: The following initial conditions must be observed.

3.3.1	If Containment integrity is required, then Steps 3.3.2 and 3.3.3 must be completed.	_____	
3.3.2	Station a responsible person in the vicinity of 2LP-65 to immediately close 2LP-65 if ES Actuation occurs. This person must be in constant communication with the Control Room the entire time 2LP-65 is open.	_____	
3.3.3	Record that the valve is open in OP/0/A/1102/20 (Shift Turnover).	_____	
3.3.4	Open 2LP-65 manual valve (located in Unit 2 LPI Room) to be operated by reach rod from LPI/HPI Hatch Room 118, 119 (on west wall directly behind 2LP-22).	_____	_____

ENCLOSURE 5.5

CP/2/A/2002/04C

			Date Init./Time	Verification Date Init./Time
3.4	Chemistry will inform Operations when they have obtained the RCS sample in the panel and the following valves should then be realigned as follows:			
3.4.1	CLOSE 2RC-165	in Unit 2 LPI Room-operated from Control Room.	_____	_____
3.4.2	CLOSE 2RC-164	in Unit 2 LPI Room-operated from Control Room.	_____	_____
	NOTE:	Remove the containment isolation valves (2RC-164 and 2RC-165) from OP/0/A/1102/20 (Shift Turnover).		
3.4.3	CLOSE 2RC-163	inside Reactor Building-operated from Control Room.	_____	_____
3.4.4	CLOSE 2RC-162	inside Reactor Building-operated from Control Room.	_____	_____
3.5	Chemistry will inform Operations when entire sampling sequence has been completed.			
3.5.1	CLOSE 2LP-65	Manual valve (located in LPI Room) operated by reach rod from LPI/HPI Hatch Room 118, 119 (on west wall directly behind 2LP-22).	_____	_____
	NOTE:	This will regain containment integrity. Remove the containment isolation valve per OP/0/A/1102/20 (Shift Turnover).		

ENCLOSURE 5.5

CP/2/A/2002/04C

		Date Init./Time	Verification Date Init./Time
3.5.2	Ensure the following breakers are open:		
3.5.2.1	White tag open breaker #9 on 2KVIB.	_____	_____
	NOTE: Both 2RC-162 and 2RC-164 are powered from this breaker.		
3.5.2.2	White tag open breaker #4 on 2KVIA for 2RC-165.	_____	_____
3.6	Return completed enclosure to Chemistry personnel operating PALS.	_____	

Checked Control Copy__________

Date__________________________

CP/2/A/2002/04C

ENCLOSURE 5.6

OPERATIONS CHECKLIST FOR REACTOR BUILDING

NORMAL SUMP VALVE LINEUPS TO POST ACCIDENT

SAMPLING SYSTEM

1.0 Purpose

This enclosure gives the valve lineups needed for Chemistry Personnel to sample the Reactor Building Normal Sump (RBNS). Locations of valves are given to facilitate lineups.

2.0 Limits and Precautions

2.1 RIA-54 should be in service and monitored during the course of operation of the PALS.

2.2 Demineralized water header must be in service and have at least 60 psi pressure (per Station Directive 3.1.15).

3.0 Procedure

	Date Init./Time	Verification Date Init./Time
3.1 Ensure the following breakers are closed:		
3.1.1 1L2 Bkr. #37 Sampling/Control Panels Power Supply (located next to U2 sampl[illegible] panel)	______	
3.1.2 MCC2X[illegible] RB Normal Sump Samp[illegible] [illegible]er Supply.	______	
3.1.3 MCC1XL Bkr. for 2DW-278 (RCS Sample line flush) and 2LWD-1028 (RBNS Sample Line).	______	
3.2 To obtain a reactor building normal sump sample, the following valves should be aligned as indicated:		
3.2.1 White tag open breaker on RB Normal Sump Pump 2A. White Tag No.______ (Located on MCC2XL).	______	

ENCLOSURE 5.6

CP/2/A/2002/04C

			Date Init./Time	Verification Date Init./Time
3.2.2	White tag open breaker on RB Normal Sump Pump 2B. White Tag No._____ (Located on MCC-2XN)		_____	
3.2.3	CLOSE 2LWD-30	RB Normal Sump Pump 2A Suction. Operated by reach rod on east wall of valve gallery room in LPI/HPI Hatch Room 118, 119.	_____	
3.2.4	CLOSE 2LWD-33	RB Normal Sump Pump 2B Suction. Operated by reach rod on east wall of valve gallery room in LPI/HPI Hatch Room 118, 119.	_____	
3.2.5	OPEN 2LWD-1	Reactor building normal sump line. This is an ES valve operated from the Control Room.	_____	_____
3.2.6	OPEN 2LWD-2	Reactor building normal sump line. This is an ES valve operated from the Control Room.	_____	_____

3.3 To allow recirculation of sample, align 2LP-65, return line valve to the RB Emergency Sump:

NOTE: The following initial conditions must be observed:

3.3.1 If containment Integrity is required, then Steps 3.3.2 and 3.3.3 must be completed _____

3.3.2 Station a responsible person in the vicinity of 2LP-65 to immediately close 2LP-65 if ES Actuation occurs. This person must be in constant communication with the Control Room the entire time 2LP-65 is open. _____

ENCLOSURE 5.6

CP/2/A/2002/04C

			Date Init./Time	Verification Date Init./Time
3.3.3	Record that the valve is open in OP/0/A/1102/20 (Shift Turnover).		_____	
3.3.4	OPEN 2LP-65	Manual valve (located in Unit 2 LPI Room) to be operated by reach rod from LPI/HPI Hatch Room 118, 119 (on west wall directly behind 2LP-22).	_____	_____

3.4 Chemistry will inform Operations when they have obtained the reactor building normal sump sample in the panel, and the following valves should then be realigned as follows:

3.4.1	CLOSE 2LWD-2	Reactor building normal sump line. This is an ES valve operated from the Control Room.	_____	_____
3.4.2	CLOSE 2LWD-1	Reactor building normal sump line. This is an ES valve operated from the Control Room.	_____	_____
3.4.3	OPEN 2LWD-33	RB Normal Sump Pump (2WD-2B) Suction. Operated by reach rod on east wall of valve gallery room in LPI/HPI Hatch Room 118, 119.	_____	
3.4.4	OPEN 2LWD-30	RB Normal Sump Pump (2WD-2A) Suction. Operated by reach rod on east wall of valve gallery room in LPI/HPI Hatch Room 118, 119.	_____	

ENCLOSURE 5.6

CP/2/A/2002/04C

			Date Init./Time	Verification Date Init./Time
3.4.5	Remove white tag from breaker on RB Normal Sump Pump 2B. White Tag No. _____		_____	
3.4.6	Remove tag from breaker on RB Normal Sump Pump 2A. White Tag No. _____		_____	
3.5	Chemistry will inform Operations when entire sampling sequence has been completed.			
3.5.1	CLOSE 2LP-65	Manual valve (located in LPI Room) operated by reach rod from LPI/HPI Hatch Room 118, 119 (on west wall directly behind 2LP-22).	_____	_____
	NOTE:	This will regain containment integrity. Remove the containment isolation valve from OP/0/A/1102/20 (Shift Turnover).		
3.6	Return completed enclosure to Chemistry Personnel operating PALS.		_____	

CONTROL COPY
INFORMATION ONLY

Form 34731 (10-81)
(Formerly SPD-1002-1)

DUKE POWER COMPANY
PROCEDURE PREPARATION
PROCESS RECORD

(1) ID No: CP/3/A/2002/04C
Change(s) - to
2 Incorporated

(2) STATION: Oconee

(3) PROCEDURE TITLE: Operating Procedure for the Post Accident Liquid Sampling (PALS) System

(4) PREPARED BY: Pat Hull DATE: 8/9/84

(5) REVIEWED BY: Bentley K. Jones DATE: 8/22/84

Cross-Disciplinary Review By: W Patterson N/R:

(6) TEMPORARY APPROVAL (IF NECESSARY):

By: _____ (SRO) Date: _____

By: _____ Date: _____

(7) APPROVED BY: J S Barr Date: 10/23/84

(8) MISCELLANEOUS:

Reviewed/Approved By: _____ Date: _____

Reviewed/Approved By: _____ Date: _____

DUKE POWER COMPANY

OCONEE NUCLEAR STATION

OPERATING PROCEDURE FOR THE

POST ACCIDENT LIQUID SAMPLING (PALS) SYSTEM

1.0 Purpose

The Post Accident Liquid Sampling System (PALS) provides the capability to promptly obtain a reactor coolant system sample under a nuclear reactor accident condition. Sample acquisition during accident conditions will provide information to evaluate the extent of core damage which has occurred or is occurring through knowledge of reactor coolant chemistry and radiochemistry.

2.0 Limits and Precautions

2.1 The PALS will be used to sample the reactor coolant system under the following conditions:

2.1.1 Post Accident.

2.1.2 Inaccessibility of Primary Sampling Area due to radiation levels.

2.1.3 Request from the Station Chemist or his designee.

2.2 UNDER ACCIDENT CONDITIONS, VALVE ALIGNMENTS SHALL NOT BE MADE AND SAMPLES SHALL NOT BE TAKEN WITHOUT PRIOR AUTHORIZATION FROM THE TECHNICAL SUPPORT CENTER (TSC)! (Containment Isolation valves may be closed upon ES Actuation).

2.3 UNDER ACCIDENT CONDITIONS, DO NOT ATTEMPT ANY PHASE OF SAMPLING OR ANALYSIS WITHOUT HEALTH PHYSICS APPROVAL AND COVERAGE!

2.4 Radiation exposure to an individual during all phases of sampling should be limited so as not to exceed a quarterly accumulative exposure of 3 rems whole body; 7.5 rems skin of wholebody; or 18 3/4 rems extremities respectively. All personnel will need prior authorization from TSC to knowingly exceed any exposure limit. The exposure received may require an occupational exposure penalty and/or a medical decision as to whether an individual can continue in radiation work.

2.4.1 If necessary to remedy a situation immediately hazardous to life and property, the Planned Emergency Exposure for Duke Power Personnel will not exceed 5 rems wholebody; 30 rems skin of wholebody; or 75 rems extremities.

2.4.2 If necessary to save lives or prevent loss of life and/ or extensive damage to property (voluntary basis only), the Planned Emergency Exposure for Duke Power Personnel will not exceed 25 rems wholebody; 150 rems skin of wholebody; or 375 rems extremities.

2.4.3 For Outside Services Personnel the Planned Emergency Exposure will not exceed 5 rems wholebody; 30 rems skin of wholebody; 75 rems extremities; or 15 rems other single organ.

2.5 Portable shielding, remote handling equipment, video equipment, etc., shall be used where practical during sampling, sample preparation, and sample analysis.

2.6 Chemistry personnel shall operate only those valves followed by (C) in this procedure. If ES signal requires containment isolation during use of this procedure, Operations and Chemistry personnel should be aware of any pressure remaining in sample lines or sampling panel.

2.7 Working copy must be compared to control copy before use and sign off steps (Initials/Time) completed as procedure progresses.

3.0 Procedure

3.1 Preparation for Sampling

3.1.1 Valve Alignments

3.1.1.1 Notify Shift Supervisor that operation of the PALS is being initiated by Chemistry. Chemistry will select either Enclosure 5.5 for a RCS sample or Enclosure 5.6 for a RBNS sample, check it against the Control Copy, and take it to the responsible individual in Operations (designated by the Shift Supervisor) for completion. Request Operations to complete Step 3.1 of the selected enclosure. ____/____

3.1.1.2 The following valves are electrically controlled by the PALS Control Panel:

RCS Sample: 3RC-179 (C)

Reactor Building Normal Sump Sample: 3LWD-1026 (C)
3LWD-1028 (C)

Return Line to Reactor Building Emergency Sump (either sample): 3LP-121 (C)

Demin. Water: 3DW-278 (C) (RCS Sample Line Flush)
3DW-280 (C) (RBNS Sample Line Flush)

3.1.1.3 The following valves are operated manually at the Sampling Panel by Chemistry personnel. They must be verified open prior to use of the panel.

	Initials/Time
Instrument Air Supply Isolation 3IA-2423	_____/___
Panel Instrument Air Isolation (Lower right on panel)	_____/___
Valve on Nitrogen Supply Bottle (> 200 psi tank pressure required, ~ 45 psi delivery pressure)	_____/___
Panel Nitrogen Isolation (Lower right on panel)	_____/___
Cooling Water Supply Isolation 3DW-282	_____/___
Demin Water Supply Isolation 3DW-281	_____/___
Panel Demin Water Isolation (Lower right on panel)	_____/___

3.1.1.4 The following should be verified as noted prior to periodic testing (Job Supervisor may N/A as appropriate):

3DW-283 Low Point Drain (HPI Room) Closed and Capped	____
3LWD-1029 Low Point Drain (LPI Room) Closed and Capped	____
3RC-177 High Point Vent (next to Sampling Panel) Closed and Capped	____
3LP-122 High Point Vent (next to Sampling Panel) Closed and Capped	____
3LP-110 Emergency Sump Line B Drain (LPI Room) Closed	____
3LP-111 Emergency Sump Line B Drain Tell-Tale (LPI Room) Closed and Capped	____
3DW-91 Reactor Building Flush Line (HPI Room) Closed	____
3DW-278 Remote Starter (HPI Room) "ON"	____

3LWD-1028 Remote Starter (LPI Room) "ON" ____

3N-262 Nitrogen Isolation: Closed ____

3.1.2 Health Physics Notification

Contact Health Physics and ask for surveillance person prior to going to Control Panel. _____/___

3.1.3 Additional Requirements

Pick up glass syringes and sample carrier from Primary Lab, and take stop watch and panel keys to Control Panel.

3.1.4 Power supplies for each electrical component are listed on Enclosure 5.2.

3.2 Panel Preparation

NOTE: If any item on panel is not clearly identified, refer to Enclosures 5.3 and 5.4 (Control Panel Diagrams).

3.2.1 Turn the main selector knob on the control panel to "Reset". Place key in System Power Switch and turn clockwise. (Panel lights should come on.) Press "Reset" button.

3.2.2 Place the toggle switches for the dilution water meter and dilution gas meter to "ON".

3.2.3 Place the toggle switch for the radiation monitor to "ON" and turn the scale select to "mr/hr". If the radiation monitor is not functional, HP coverage is sufficient to operate the panel.

3.2.4 Place the thermocouple selector to TC-1.

3.2.5 Move the conductivity meter to "Measure" position.

3.2.6 Push in the pH meter standardize knob.

3.2.7 Select the system to be sampled - Reactor Coolant System or Reactor Building Normal Sump - with the system selector.

3.2.8 Open sample regulator valve at cooler outlet. _____/___

3.3 Panel Operation (Position 1) Panel Prep

3.3.1 Turn the Operation Selector switch to the PANEL PREP. position.

3.3.2 Momentarily depress the SELECTION POWER ACTIVATE pushbutton.

3.3.3 Depress the PURGE pushbutton for about 1 minute 10 seconds.

3.3.4 Depress the DRAIN pushbutton for about 1 minute 10 seconds.

3.4 Panel Operation (Position 2) Sample Recirc

3.4.1 Request Operations complete Steps 3.2 and 3.3 of the enclosure selected in 3.1.1.1.

3.4.2 Turn the Operation Selector switch to the SAMPLE RECIRC. position.

3.4.3 Record the PALS or HP radiation monitor reading _____ (background). Watch radiation monitor reading for a possible increase as sample enters the panel.

3.4.4 Momentarily depress the SELECTION POWER ACTIVATE pushbutton.

3.4.5 Observe that the SAMPLE INLET and SAMPLE OUTLET indicating lights are lit. Record the starting time _____.

3.4.6 Watch TC-1 closely. If it approaches 190°F, verify cooling water flow, then shut off flow by moving selector knob off position 2. If cooling water flow is verified, partially close sample regulator valve and reactivate position 2. Record the temperature when TC-1 has stabilized. _____

3.4.7 Record pressure reading _____. Since sample is being returned to atmospheric conditions, pressure will be zero or at least less than system pressure.

3.4.8 Turn the selector knob to "Sample", position 3.

3.5 Panel Operation (Position 3) Sample

3.5.1 Turn the thermocouple selector to TC-2.

3.5.2 Momentarily depress the SELECTION POWER ACTIVATE pushbutton.

3.5.3 Observe that the SAMPLE INLET and SAMPLE OUTLET indicating lights are lit.

3.5.4 Monitor the temperature gauge and when TC-2 stabilizes, record the temperature _____.

3.5.5 Record the PALS radiation reading _____. Subtract the initial background reading from sample radiation reading and record _____.

3.5.6 Press the 1) TC-2 Stabilize Activate button; when pressure reading stabilizes, record _____.

3.5.7 Press t. : 2) Pressure Stabilize Activate button and record time sample flow stops _____.

3.5.8 Request Operations to complete Step 3.4 of the enclosure selected in 3.1.1.1.

3.6 Panel Operation (Position 4) Depressurization

3.6.1 Turn the Operation Selector switch to the DEPRESSURIZATION position.

3.6.2 Press the "Reset" button on the gas flow totalizer to zero the readout. Preset the counter on the totalizer to 99999.

3.6.3 Momentarily depress the SELECTION POWER ACTIVATE pushbutton.

3.6.4 Observe that the DI WATER and SAMPLE OUTLET indicating lights are lit.

3.6.5 Verify the pressure gauge on the instrument panel indicates -25 inches of Mercury. Wait about 60 seconds.

3.6.6 Press the START button on the N_2 Preset Counter and observe the PRESS/VAC gauge. When the gauge needle just begins to move, press the STOP button on the N_2 Preset Counter. (When the start button is pressed, system pressure should go to zero).

3.6.7 Continue to make small N_2 adds, by repeating 3.6.6 until the PRESS./VAC gauge reads about 0-2 inches.

3.6.8 Flip the Preset Counter POWER toggle switch to the OFF position.

3.6.9 If "5" inches is exceeded, as read from the PRESS./VAC gauge, no gas sample can be taken, because the volume of gas in the diluted gas cylinder is only known at atmospheric pressure.

3.7 Panel Operation (Position 5) Liquid Sample

3.7.1 Turn the Operation Selector switch to the LIQUID SAMPLE position.

3.7.2 Momentarily depress the SELECTION POWER ACTIVATE pushbutton.

3.7.3 Observe that the DI WATER and SAMPLE OUTLET indicating lights are lit.

3.7.4 Depress the LIQUID SAMPLE ACTIVATE 1) Log conductivity and hold until the conductivity meter stabilizes. Record the specific conductivity _____.

3.7.5 Press both LIQUID SAMPLE ACTIVATE 1) Log conductivity and 2) Log pH buttons and hold until pH meter stabilizes. Record pH _____.

3.7.6 Press the GAS SAMPLE 1) ACTIVATE button and hold for 1 second.

3.7.7 Momentarily depress the 3) DILUTED GAS SAMPLE GRAB pushbutton.

3.8 Panel Operation (Position 6) Liquid Sample Prep

3.8.1 Turn the Operation Selector switch to the LIQUID SAMPLE PREP position.

3.8.2 Momentarily depress the SELECTION POWER ACTIVATE pushbutton.

3.8.3 Momentarily depress the ACTIVATE TO DESIRED mL VOLUME pushbutton and observe the SAMPLE ALIQUOT register advance one count (.635 ml).

3.8.4 Press the "Reset" button on the dilution water flow totalizer and preset the meter for desired dilution (in 250 ml increments from 250-3500 mls). Press the "Start" button and let the dilution continue to completion. Record the dilution volume _____.

3.8.5 Press the Activate Mix button and hold for about 15 seconds.

3.9 Panel Operation (Position 7) Liquid Sample

3.9.1 Turn the Operation Selector switch to the Liquid Sample position.

3.9.2 Press the SELECTION POWER ACTIVATE button.

3.9.3 Press Activate button. Wait 45 seconds (for levels in dilution cylinder and grab sampler to equalize).

3.9.4 Momentarily depress the DILUTED SAMPLE GRAB pushbutton. Wait 10 seconds.

3.10 Panel Operation (Position 8) Flush

3.10.1 Turn the Operation Selector switch to the FLUSH position.

3.10.2 Press the SELECTION POWER ACTIVATE button.

3.10.3 Press the FLUSH ACTIVATE button and wait 4-5 minutes. (Observe that the first FLUSH light and the SAMPLE OUTLET indicating light are both lit.)

3.10.4 Press the FLUSH ACTIVATE button and monitor pH and conductivity meters until they reach equilibrium of demineralized water (approximately 10 minutes). Observe second flush light is lit.

3.10.5 Press the FLUSH ACTIVATE pushbutton and wait 3 minutes. (Observe the third FLUSH light is lit.)

3.10.6 Press the FLUSH ACTIVATE pushbutton and observe the COMPLETE light is lit.

3.11 Panel Operation (Position 9) Drain

3.11.1 Turn the Operation Selector switch to the DRAIN position.

3.11.2 Momentarily depress the SELECTION POWER ACTIVATE pushbutton. Press ACTIVATE and observe that the first DRAIN light is lit.

3.11.3 Wait for about 2 minutes and again depress the ACTIVATE pushbutton and observe the second DRAIN light is lit.

3.11.4 Wait for about 2 minutes and again depress the ACTIVATE pushbutton and observe the third DRAIN light is lit.

3.11.5 Wait for about 6 minutes and again momentarily depress the ACTIVATE pushbutton and observe the DRAIN COMPLETE light is lit.

3.12 Panel Shutdown and Decontamination

3.12.1 Turn the Sample Selector switch to the OFF position.

3.12.2 Turn the Operation Selector switch to the RESET position.

3.12.3 Momentarily depress the RESET pushbutton.

3.12.4 Turn the System Power keylock to the SUMP PUMP position for about 15 minutes (or until the pump switches itself off).

3.12.5 Turn the System Power keylock to the SAMPLE position and record the PALS or HP Radiation Monitor meter reading _____.

3.12.5.1 If the radiation monitor indicates less than 3 R/Hr over background, turn the System Power keylock to the OFF position and remove the PALS System key.

3.12.5.2 If the radiation monitor indicates greater than 3R/Hr over background, repeat 3.10 thru 3.12.5.

3.12.6 If radiation level remains greater than 3 R/hr over background after one repeat of Section 3.10 through 3.12.5, contact Station Chemist or his designee (personnel should move to a lower background area during this time, if one is available) for permission to return to Section 3.1 and take another sample using larger dilution volume. Permission given by _____.

3.12.7 Request HP to survey the Post Accident Sampling Panel and the area around the PASP prior to sample removal to ensure the 3 R/Hr over background is not exceeded.

3.13 Sampling

3.13.1 Collect 3-1.0 ml stripped gas samples at the gas grab sampler in lockable glass syringes. Place in plastic bag.

3.13.2 Collect 3-5.0 ml liquid samples at the liquid grab sampler in lockable glass syringes. Place in plastic bag.

Flushing of remaining sample in grab sampler is desirable if radiation levels permit. Return to Position 6 and add 200 mls demin. water to Dilution Cylinder. Continue through Position 7, cycle through Position 8 and 9 completing the second and third drain steps. Go to the grab sampler and drain the liquid out (this liquid is <u>not</u> a sample-discard in PASP Sump or appropriate waste container in lab).

3.13.3 Request Operations to complete Steps 3.5 and 3.6 of the enclosure selected in 3.1.1.1.

3.13.4 Place plastic bags in sample carrier and transport to Hot Lab. Place sample carrier in operating fume hood behind a lead brick shield to await analysis.

3.14 Sample Analysis

3.14.1 Gas

3.14.1.1 Analyze one syringe of stripped gas by Chemistry Procedure CP/0/B/2004/14A, Operation of the

Fisher Model 25V Gas Partitioner for the Determination of Hydrogen in Gas Samples. Calculate the results by the following method:

$$\%\ H_2 \times \frac{1000\ cc}{0.155\ Kg} \times \frac{1}{100} = cc/Kg\ H_2$$

Where: % H_2 is determined from CP/0/B/2004/14A

1000 cc = stripped gas bomb volume

0.155 Kg = collected sample size

$\frac{1}{100}$ = conversion of percent to decimal

Report result _____ cc/Kg H_2

3.14.1.2 Withdraw 1 cc of · from septum stoppered glass vial and load 1 cc stripped gas into it from second syringe. Analyze by GeLi Spectral Analysis (HP/0/B/1001/14, Procedure for Nuclear Data 6600 System Operation). Activities will be reported by HP for 1 cc of diluted gas sample. Calculate activity of dissolved gas in 1 ml of reactor coolant as follows:

$\mu Ci \text{ in } 1 \text{ cc} \times \frac{1000}{155}$ = Total activity from dissolved gas in 1 ml RC.

Ge Li Spectra Attached _____.

3.14.1.3 Reserve third stripped gas syringe for use as a backup, if needed.

3.14.1.4 Additional gas sample dilution may be necessary to bring amount of hydrogen or activity within range of analyses. If so, withdraw 1 cc of air from a septum stoppered glass vial and load 1 cc of the sample to be diluted into it. Be sure to record the additional dilution information so that isotope activities may be adjusted accordingly.

3.14.2 Liquid

3.14.2.1 Take 1 ml of liquid sample and dilute to 50 ml with Super Q water in a 60 ml poly bottle. Analyze by GeLi Spectral Analysis (HP/0/B/1001/14, Procedure for Nuclear Data 6600 System Operation). Activities will be reported by HP for 1 ml of diluted liquid sample. Calculate activity of liquid portion of reactor coolant as follows:

$\mu ci/ml = \text{activity in diluted 1 ml} \times \frac{*\text{Total Dilution Volume}}{.635 \text{ ml}}$

*Step 3.8.4 + .635 mls

·GeLi Spectra Attached _____.

3.14.2.2 Take 5 ml of liquid sample and analyze for boron by CP/0/A/2004/02E, Post Accident Determination of Boron Concentration Using Carminic Acid. Correct results for dilution as follows:

$$\text{ppm } B_{RCS} = \text{ppm measured} \times \frac{\text{*Total Dilution Volume}}{.635}$$

*Step 3.8.4 + .635 mls

Boron Concentration _____ppm.

3.14.2.3 Take 5 mls of liquid sample and analyze for chloride by CP/0/A/2004/03C, Post Accident Determination of Chloride by Specific Ion Electrode Using Beckman 4500 Meter. Correct results for dilution as in 3.14.2.2.

Chloride concentration _____ppm.

3.14.2.4 Report results of liquid sample analyses in Primary Chemistry Data Log.

3.14.2.5 Reserve third liquid syringe for use as a backup, if needed.

3.14.2.6 Additional liquid sample dilution may be necessary to bring amount of activity within range. If so, withdraw 1 ml of sample from 60 ml poly bottle (from Section 3.14.2.1) and dilute to 50 ml with Super Q for analysis. Be sure to record the additional dilution information so that isotope activities may be adjusted accordingly.

3.14.2.7 Route completed procedure to Operational Support Center. Accepted by: _____

3.15 Waste Disposal

3.15.1 Determine by detailed planning meeting the exact course of action to be taken. Under no condition will liquid or solid wastes be disposed of without prior specific HP directions.

3.15.2 Designate a sealable carboy as the "Post Accident Lab Waste" container. This container must be shielded and used as an interim liquid waste disposal container for all liquid analytical waste.

3.15.3 In the event an area is grossly contaminated and cannot be decontaminated, evaluate the need for shielding or protective covering to prevent the spread of airborne activity.

4.0 References

4.1 NUREG-0737, Section II.B.3

4.2 DPC System Health Physics Manual

4.3 Radiological Health Handbook, U.S. Dept. of HEW (1970).

4.4 Radiation Safety Technician Training Course, H.J. Moe, ANL-7291 Rev. 1 (1972).

4.5 Post Accident Liquid Sampling System Manual, Steam Production Department, OM-267A-28 (1981)

4.6 MNS Operating Procedure OP/0/A/6200/48

4.7 DPC Alara Manual (1980)

4.8 ONS Emergency Plan

4.9 ONS Chemistry Manual Section 5.1

5.0 Enclosures

5.1 Post Accident Authorization for Operation of PALS

5.2 U3 PALS Power Supplies

5.3 PALS Control Panel Diagram - Left

5.4 PALS Control Panel Diagram - Right

5.5 Operations Checklist for Reactor Coolant System Valve Lineups to Post Accident Liquid Sampling System

5.6 Operations Checklist for Reactor Building Normal Sump Valve Lineups to Post Accident Liquid Sampling System

ENCLOSURE 5.1

CP/3/A/2002/04C

POST ACCIDENT AUTHORIZATION FOR OPERATION OF PALS

Technician/Time

1. Verbal/written direction for sampling the Reactor Coolant System (RCS) has been received from the Technical Support Center (TSC). _____/___
   Person Authorizing Sampling _____

2. The specific post-accident analysis requested by TSC: _____/___

   Sample to be taken: RCS ☐ RBNS ☐ _____/___

   _____Boron

   _____Chloride

   _____Isotopic Analysis for _____Iodines

   _____Cesiums

   _____Noble Gases

   _____Non-Volatile Fission Products

   _____Other (Specify) _____

3. Determine by detailed planning meeting the exact course of action and data required. _____/___

4. Evaluate the use of portable shielding, remote handling equipment, video equipment, etc., to minimize the exposure to personnel while sampling. _____/___

5. Have HP determine the required respiratory equipment and protective clothing to prevent or minimize internal exposure in any Planned Emergency situation. Use high range and/or extremity dosimetry if required. _____/___

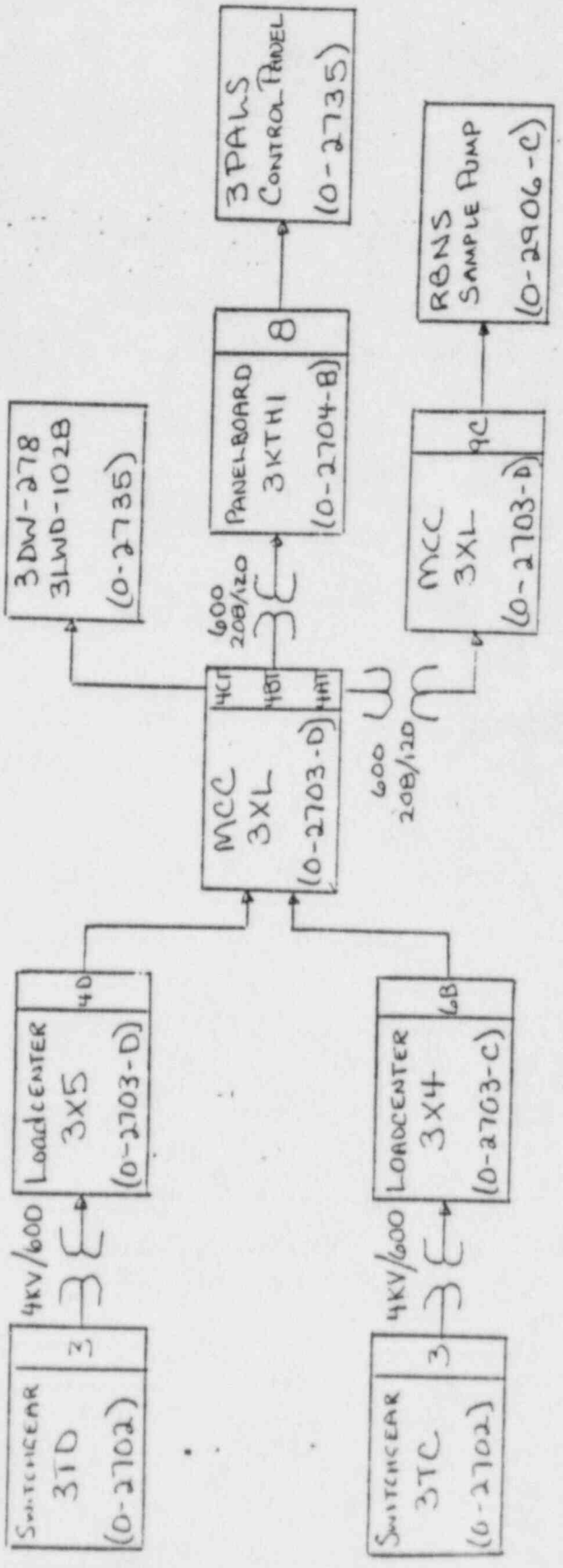
6. Request HP to designate a route from PALS to the lab. _____/___

   Sample route designated: _____

   _____

7. Evaluate the use of portable shielding, remote handling equipment, video equipment, etc., to minimize the exposure to personnel in the lab for the required analyses. _____/___

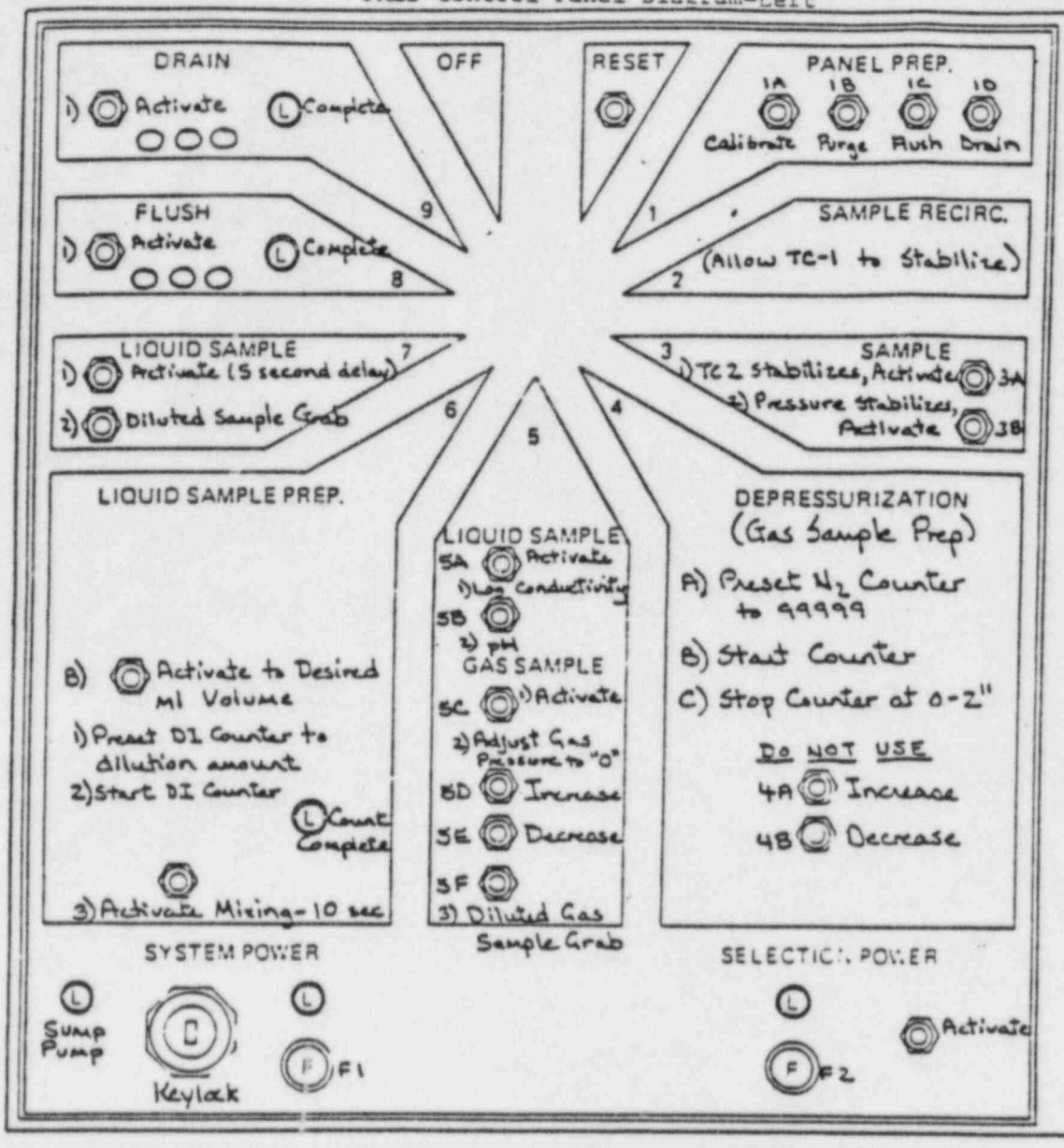
ENCLOSURE 5.2
CP/3/A/2002/04C
Unit 3 PALS Power Supplies



Enclosure 5.3

CP/3/A/2002/04C

PALS Control Panel Diagram-Left

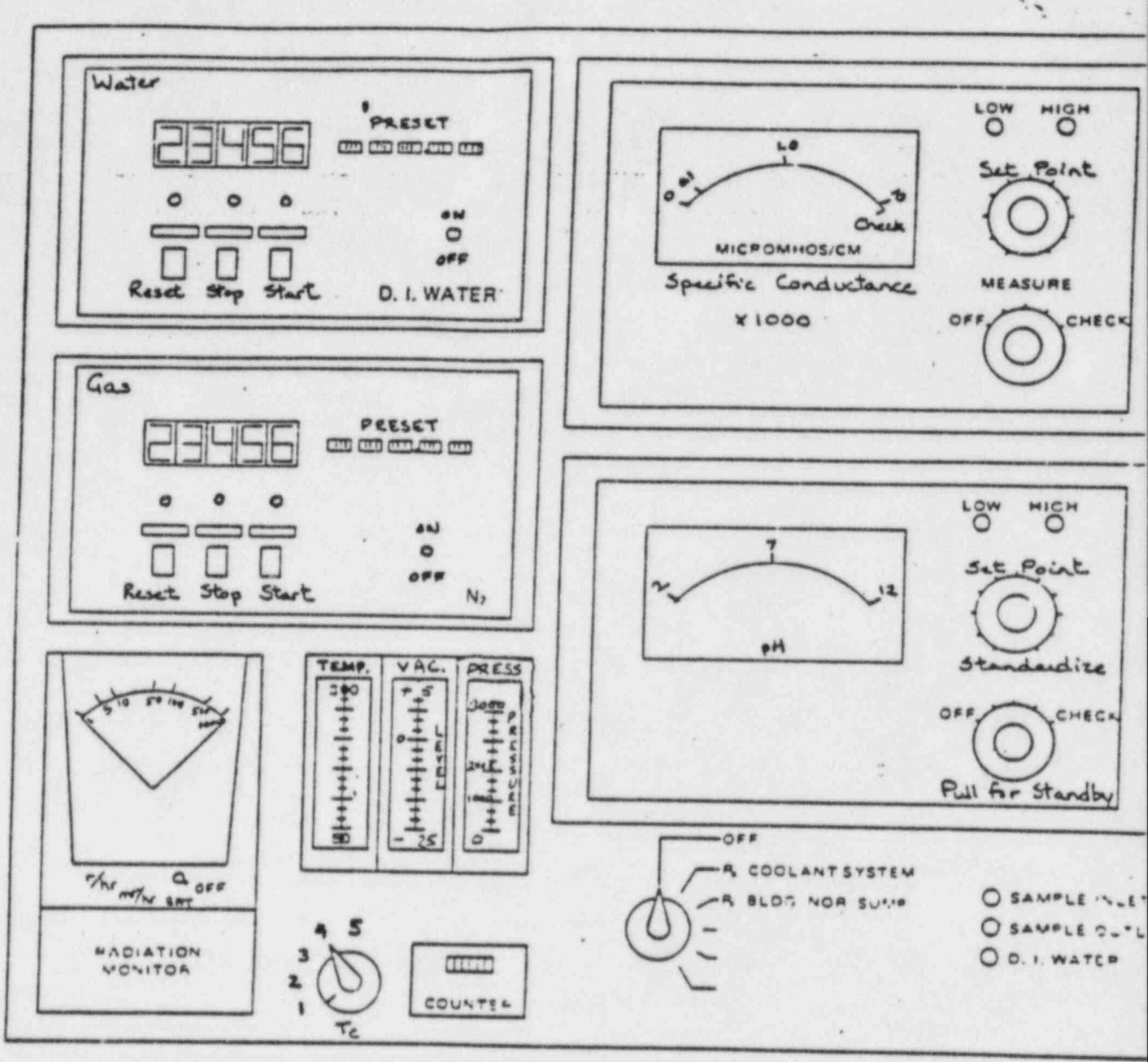


SEE DRAWING NO. L040180D FOR PANEL DETAIL

Enclosure 5.4

CP/3/A/2002/04C

PALS Control Panel Diagram-Right



Checked Control Copy_____

Date_____

CP/3/A/2002/04C

ENCLOSURE 5.5

OPERATIONS CHECKLIST FOR REACTOR COOLANT SYSTEM VALVE LINEUPS TO POST ACCIDENT LIQUID SAMPLING SYSTEM

1.0 Purpose

This enclosure gives the valve lineups needed for Chemistry personnel to sample the Reactor Coolant System (RCS). Location of valves are given to facilitate lineup.

2.0 Limits and Precautions

2.1 3RIA-54 should be in service and monitored during the course of operation of the PALS.

2.2 Demineralized water header must be in service and have at least 60 psi pressure (per Sta. Dir. 3.1.15).

3.0 Procedure

		Date Init./Time	Verification Date Init./Time
3.1	Ensure the following breakers are closed:		
3.1.1	3KTH1 Bkr. #8 Sampling/Control Panels Power Supply (located next to U3 sampling panel)	____/____	
3.1.2	MCC3XL Bkr. for 3DW-278 (RCS sample line flush) and 3LWD-1028 (RBNS Sample Line)	____/____	
3.1.3	Ensure breakers located on KVIB,C (#8) are closed (Power supply to 3RC-162, 3RC-163).	____/____	
3.2	To obtain a reactor coolant sample, the valves listed in this section should be aligned as follows:		
3.2.1	3RC-84 Inside reactor building - refer to Fill and Vent Procedure (OP/3/A/1103/02) to verify OPEN status.	____/____	

ENCLOSURE 5.5

CP/3/A/2002/04C

			Date Init./Time	Verification Date Init./Time
3.2.2	3RC-174/3RC-176(Test Connections) and 3RC-175 (High Point Vent) Inside reactor building - refer to Fill and Vent Procedure (OP/3/A/1103/02) to verify CLOSED status.		____/____	
3.2.3	OPEN 3RC-162	Inside reactor building-operated from control room.	____/____	____/____
3.2.4	OPEN 3RC-163	Inside reactor building-operated from control room.	____/____	____/____

NOTE: The following initial conditions must be observed.

3.2.5	If containment integrity is required, then Steps 3.2.6 and 3.2.7 must be completed.		_____	_____
3.2.6	Station a responsible person in the vicinity of 3RC-164 and 3RC-165 to immediately close them if ES actuation occurs. This person must be in constant communication with the Control Room the entire time 3RC-164 and 3RC-165 are open.		_____	
3.2.7	Record that containment isolation valves 3RC-164 and 3RC-165 are open in OP/0/A/1102/20 (Shift Turnover).		_____	
3.2.8	OPEN 3RC-164	Manual Valve (located in U3 LPI Room) to be operated by reach rod from U3 LPI/HPI Hatch Room 158, 159 (on west wall next to spiral staircase).	____/____	____/____

ENCLOSURE 5.5

CP/3/A/2002/04C

			Date Init./Time	Verification Date Init./Time
3.2.9	OPEN 3RC-165	Manual Valve (located in U3 LPI Room) to be operated by reach rod from U3 LPI/HPI Hatch Room 158, 159 (on west wall next to spiral staircase).	____/____	____/____

CAUTION: If ES actuation occurs, immediately close isolation valves for containment isolation.

3.3 To allow recirculation of sample, align 3LP-65, return line valve to the RB Emergency Sump:

NOTE: The following initial conditions must be observed.

3.3.1 If containment integrity is required, then Steps 3.3.2 and 3.3.3 must be completed. _____ _____

3.3.2 Station a responsible person in the vicinity of 3LP-65 to immediately close 3LP-65 if ES Actuation occurs. This person must be in constant communication with the Control Room the entire time 3LP-65 is open. _____

3.3.3 Record that the valve is open in OP/0/A/1102/20 (Shift Turnover). _____

3.3.4	OPEN 3LP-65	Manual valve (located in Unit 3 LPI Room) to be operated by reach rod from LPI/HPI Hatch Room 158, 159 (on west wall directly behind 3LP-22).	____/____	____/____

3.4 Chemistry will inform Operations when they have obtained the RCS sample in the panel and the following valves should then be realigned as follows:

ENCLOSURE 5.5

CP/3/A/2002/04C

			Date Init./Time	Verification Date Init./Time
3.4.1	CLOSE 3RC-165	Manual Valve (located in U3 LPI Room) to be operated by reach rod from LPI/HPI Hatch Room 158, 159 (on west wall next to spiral staircase).	____/____	____/____
3.4.2	CLOSE 3RC-164	Manual Valve (located in U3 LPI Room) to be operated by reach rod from LPI/HPI Hatch Room 158, 159 (on west wall next to spiral staircase).	____/____	____/____
		NOTE: Remove the containment isolation valves (3RC-164 and 3RC-165) from OP/0/A/1102/20 (Shift Turnover).		
3.4.3	CLOSE 3RC-163	Inside Reactor Building-operated from Control Room.	____/____	____/____
3.4.4	CLOSE 3RC-162	Inside Reactor Building-operated from Control Room.	____/____	____/____

3.5 Chemistry will inform Operations when entire sampling sequence has been completed.

3.5.1	CLOSE 3LP-65	Manual valve (located in LPI Room) operated by reach rod from LPI/HPI Hatch Room 158, 159 (on west wall directly behind 3LP-22).	____/____	____/____
3.5.2		This will regain containment integrity. Remove the containment isolation valve from OP/0/A/1102/20 (Shift Turnover).	____/____	

ENCLOSURE 5.5

CP/3/A/2002/04C

	Date Init./Time	Verification Date Init./Time
3.6 Return completed enclosure to Chemistry personnel operating PALS.	____/____	

Checked Control Copy_____

Date_____

CP/3/A/2002/04C

ENCLOSURE 5.6

OPERATIONS CHECKLIST FOR REACTOR BUILDING NORMAL SUMP VALVE LINEUPS TO POST ACCIDENT SAMPLING SYSTEM

1.0 Purpose

This enclosure gives the valve lineups needed for Chemistry personnel to sample the Reactor Building Normal Sump (RBNS). Locations of valves are given to facilitate lineups.

2.0 Limits and Precautions

2.1 3RIA-54 should be in service and monitored during the course of operation of the PALS.

2.2 Demineralized water header must be in service and have at least 60 psi pressure (per Sta. Dir. 3.1.15).

3.0 Procedure

	Date Init./Time	Verification Date Init./Time
3.1 Ensure the following breakers are closed:		
3.1.1 3KTH1 Bkr. #8 Sampling/Control Panels Power Supply (located next to U3 Sampling Panel)	____/____	
3.1.2 MCC3XL Bkr. #9C RB Normal Sump Sample Pump Power Supply.	____/____	
3.1.3 MCC3XL Bkr. for 3DW-278 (RCS Sample Line Flush) and 3LWD-1028 (RBNS Sample Line).	____/____	
3.2 To obtain a reactor building normal sump sample, the following valves should be aligned as indicated:		
3.2.1 White tag open breaker on RB Normal Sump Pump 3A White Tag No._____ (Located on MCC3XL).	____/____	

ENCLOSURE 5.6

CP/3/A/2002/04C

			Date Init./Time	Verification Date Init./Time
3.2.2	White tag open breaker on RB Normal Sump Pump 3B White Tag No._____ (Located on MCC-3XN)		____/____	
3.2.3	CLOSE 3LWD-30	RB Normal Sump Pump (3A) Suction. Operated by reach rod on east wall of valve gallery at bottom of spiral staircase.	____/____	
3.2.4	CLOSE 3LWD-33	RB Normal Sump Pump (3B) Suction. Operated by reach rod on east wall of valve gallery directly at bottom of spiral staircase.	____/____	
3.2.5	OPEN 3LWD-1	Reactor building normal sump line. This is an ES valve operated from the Control Room.	____/____	____/____
3.2.6	OPEN 3LWD-2	Reactor building normal sump line. This is an ES valve operated from the Control Room.	____/____	____/____

3.3 To allow recirculation of sample, align 3LP-65, return line valve to the RB Emergency Sump:

NOTE: The following initial conditions must be observed:

3.3.1	If containment Integrity is required, then Steps 3.3.2 and 3.3.3 must be completed.	_____	_____
3.3.2	Station a responsible person in the vicinity of 3LP-65 to immediately close 3LP-65 if ES Actuation occurs. This person must be in constant communication with the Control Room the entire time 3LP-65 is open.	_____	

ENCLOSURE 5.6

CP/3/A/2002/04C

			Date Init./Time	Verification Date Init./Time
3.3.3	Record that the valve is open in OP/0/A/1102/20 (Shift Turnover).		_____	
3.3.4	OPEN 3LP-65	Manual valve (located in Unit 3 LPI Room) to be operated by reach rod from LPI/ HPI Hatch Room 158, 159 (on west wall directly behind 3LP-22).	____/____	____/____

3.4 Chemistry will inform Operations when they have obtained the reactor building normal sump sample in the panel, and the following valves should then be realigned as follows:

3.4.1	CLOSE 3LWD-2	Reactor building normal sump line. This is an ES valve operated from the Control Room.	____/____	____/____
3.4.2	CLOSE 3LWD-1	Reactor building normal sump line. This is an ES valve operated from the Control Room.	____/____	____/____
3.4.3	OPEN 3LWD-33	RB Normal Sump Pump (3B)Suction. Operated by reach rod on east wall of valve gallery directly at bottom of spiral staircase.	____/____	
3.4.4	OPEN 3LWD-30	RB Normal Sump Pump (3A) Suction. Operated by reach rod on east wall of valve gallery directly at bottom of spiral staircase.	____/____	
3.4.5	Remove white tag from breaker on RB Normal Sump Pump 3B. White Tag No. _____		____/____	

ENCLOSURE 5.6

CP/3/A/2002/04C

		Date Init./Time	Verification Date Init./Time
3.4.6	Remove white tag from breaker on RB Normal Sump Pump 3A. White Tag No. _____	____/____	
3.5	Chemistry will inform Operations when entire sampling sequence has been completed.		
3.5.1	CLOSE 3LP-65 Manual valve (located in LPI Room) operated by reach rod from LPI/HPI Hatch Room 158, 159 (on west wall directly behind 3LP-22).	____/____	____/____
	NOTE: This will regain containment integrity. Remove the containment isolation valve from OP/0/A/1102/20 (Shift Turnover).		
3.6	Return completed enclosure to Chemistry Personnel operating PALS.	____/____	

INFORMATION ONLY

Oconee Nuclear Station
Maintenance Directive V.D
Approval: Joe M. Davis
Original Date: 4-24-84
Revised Date: 10/24/84

DUKE POWER COMPANY

OCONEE NUCLEAR STATION

EMERGENCY PREPAREDNESS PLAN ACTIVATION

1.0 Purpose

The purpose of this directive is to provide instructions on how to activate the Maintenance Response Organization in case of a site emergency.

2.0 Responsibility

Responsibilities of Maintenance Group personnel are described in the body of this directive.

3.0 Implementation

This directive explains the duties of various Maintenance Group personnel whenever the Emergency Plan is activated.

3.1 Normal Working Hours (0800 - 1630)

3.1.1 Superintendent of Maintenance will:

a. Be contacted by Station Manager and advised of the emergency situation.

b. Contact the following personnel:

1) Planning and Scheduling Engineer or Maintenance Services Engineer (backup)

2) I&E Engineer

3) Mechanical Maintenance Engineer

4) Transmission Oconee Support Engineer (See Attachment #4)

c. Report to the Technical Support Center (T.S.C.) with a copy of the "Safety Related Systems, Structures and Components" Manual.

d. Determine if the Operational Support Center (O.S.C.) has been established and reports information to the Station Manager.

e. Determine additional manpower needs once the situation has been evaluated and contacts the appropriate personnel (e.g., T.S.C. communicator, etc.) (See Attachment #2).

3.1.2 Planning and Scheduling Engineer when contacted will:

a) Report to the Operational Support Center.

b) Receive turnover from the I&E Supervisor on shift.

c) Report O.S.C. status to the Operations Shift Supervisor and Superintendent of Maintenance.

d) Maintain control of the O.S.C. and respond with craft support to requests of the Operations Shift Supervisor and/or T.S.C. (see Attachment #3).

e) Contact O.S.C. Communicator and have him/her report to the O.S.C. (Maintenance Duty Engineer).

3.1.3 I&E Engineer when contacted will:

a) Report to the O.S.C. if requested.

b) Keep the Superintendent of Maintenance up-to-date as to the activities of the I&E Section.

3.1.4 Mechanical Maintenance Engineer when contacted will:

a) Report to the O.S.C. if requested.

b) Keep the Supt. of Maintenance up-to-date as to the activities of the Mech. Maint. Section.

3.1.5 Transmission Department Oconee Support Engineer when contacted will:

a) Report to OSC if requested.

b) When directed to report to OSC, contact appropriate personnel in substation maintenance and have them report to OSC. (See Attachment #4)

c) Keep the Superintendent of Maintenance up-to-date as to the activities of the Transmission Department.

3.1.6 Maintenance Shift (12 hour) Personnel

a. I&E Shift Crew Supervisor - Reports with crew to the OSC (Unit 3 I&E Shop) at Site Assembly Alarm. I&E Shift Supervisor reports accountability to appropriate I&E

Coordinator. I&E Supervisor contacts Operations Shift Supervisor to make him aware when the OSC is established. (I&E, MM, Chemistry, HP) determine from the Operations Shift Supervisor the emergency situation and respond as directed by the Operations Shift Supervisor. Serves as OSC Coordinator until relieved. Sets up communication equipment.

b. Mechanical Maintenance Shift Crew Supervisor - Reports with crew to the OSC (Unit 3 I&E Shop) at the Site Assembly Alarm. Mechanical Maintenance Supervisor reports accountability to appropriate MM Coordinator. Follows instructions for response from the OSC Coordinator.

c. Materials Shift Personnel - Reports to Supply Issue Window at Site Assembly Alarm. Stands by Phone 1256 for further instructions. Reports accountability to Materials Supervisor.

3.1.7 Maintenance Duty Engineer When Contacted by OSC Coordinator Will:

a. Report to O.S.C. as O.S.C. Communicator

b. Check out communication equipment in the O.S.C. to verify it is installed properly and operational.

3.2 Backshift, Holiday, Weekends

3.2.1 Superintendent of Maintenance:

a. Receives information concerning emergency through contact with Station Manager (alternate).

b. Reports to the Technical Support Center with a copy of the Safety-Related Systems & Components Manual.

c. Determines if the Operational Support Center has been established and reports information to Station Manager.

d. Determines additional manpower needs once the emergency situation has been evaluated. (e.g., Maintenance TSC Communicator).

3.2.2 Maintenance Group Duty Engineer will be contacted by Globe Security to activate the Maintenance Emergency Response Organization. The Duty Engineer will:

a) Contact Planning and Scheduling Engineer and advise him to report to the O.S.C.

b) Contact the I&E Engineer and advise him to report to the O.S.C.

c) Contact the Mech. Maint. Engineer and advise him to report to the O.S.C.

d) Contact the T.S.C. Maintenance Communicator and advise him/her to report to the T.S.C.

e) Contact Transmission Department Oconee Support Engineer and advise him to report to the O.S.C.

f) Report to the O.S.C. to serve as O.S.C. Maintenance Communicator.

Attachment #1 shows the primary and alternates for the above (a through d) positions and their home phone numbers. If alternates are used for positions described in a thru c, the duty engineer will advise the person contacted which position he will be filling.

3.2.3 The Maintenance Services Engineer, I&E Engineer, Mech. Maint. Engineer, and Transmission Department Oconee Support Engineer's duties are the same as described in Section 3.1 for normal duty hours.

3.2.4 Maintenance Shift Personnel

a. I&E Shift Crew Supervisor - Reports with crew to the OSC (Unit 3 I&E Shop) at Site Assembly Alarm. I&E Shift Supervisor reports accountability to Security Shift Lieutenant. I&E Shift Supervisor contacts Operations Shift Supervisor to make him aware when the OSC is established (I&E, MM, Chemistry, HP). Determine from the Operations Shift Supervisor the emergency situation and respond as directed by Operations Shift Supervisor. Serve as OSC Coordinator until relieved.

b. MM Shift Crew Supervisor - Reports with crew to the OSC (Unit 3 I&E Shop) at Site Assembly Alarm. Reports accountability to Security Shift Lieutenant. Follows instructions for response from the OSC Coordinator.

c. Materials Shift Personnel - Reports to Supply Issue Window at Site Assembly Alarm. Calls Mechanical Maintenance Shift Supervisor at Extension 1113 and reports accountability. (Keep calling until phone is answered). Stands by Phone 1256 for further instructions.

4.0 Attachments

Attachment #1 Maintenance Duty Engineer Contact List (Not included in outside distribution--Confidential information)

Attachment #2 Technical Support Center Checklist

Attachment #3 OSC Coordinator Checklist

Attachment #4 Transmission Department and Substation Division Contact List (Not included in outside distribtuion-Confidential Infor

Attachment #5a TSC Diagram (Not distributed-Confidential Information)

Attachment #5b OSC Diagram (Not distributed-Confidential Information)

ATTACHMENT 2

TECHNICAL SUPPORT CENTER CHECKLIST

1. Superintendent of Maintenance in TSC with phone operable

2. Maintenance TSC Communicator available (See Attachment #1)

3. OSC Coordinator in place in the OSC with maintenance crews available

4. Manpower needs being evaluated

   (i.e., Number of Maintenance people on site
   Site Assembly still taking place or have they been returned to work?
   If still at Site Assembly, what are the activity levels at the Assembly areas?
   Evacuation process (which crews are released first with information when they are to return, etc.)?

5. Determine alternate methods of communication should problems occur with telephones.

ATTACHMENT 3

OSC COORDINATOR CHECKLIST

Planning and Scheduling Engineer shall determine:

1. Phones are operable in the OSC
2. Intra-station system operable
3. Emergency Response radios available for all groups (I&E, MM, Chemistry, HP, Safety)
4. Supervisors in place for each section represented
5. OSC Communicator is available (Maintenance Duty Engineer)
6. Establish Liaison with Operations
7. Appropriate information update process

STATION SERVICES PROCEDURE # ____
ORIGINAL DATE 10/07/83
APPROVAL J T McIntosh
REVISED DATE 10/12/84

INFORMATION ONLY

DUKE POWER COMPANY

OCONEE NUCLEAR STATION

STATION SERVICES EMERGENCY PLAN

1.0 Purpose

To describe responsibilities of the Station Services Group during a Station Emergency to include:

Accountability of all site people and the Establishment of the TSC

2.0 Procedure

2.1 Administrative Duty Personnel Emergency Response Notifications

When notified of Emergency Condition:

2.1.1 Notify Superintendent of Station Services

A) John McIntosh or

B) Don Austin

2.1.2 Notify one person to make remaining calls:

A) Mike Roach or

B) Buea DeNard or

C) Penny Goebel or

D) Joan Sanders

2.1.3 Remaining Calls:

A) Station Services (TSC) Communication:
(Option of Superintendent or Designee)

a) Bill Stengel or

b) Stan Scott

B) Training and Safety Coordinator:

a) Jerry Itin or

b) Dixie Kelly

C) Station Services Clerical Support

a) Teresa Stewart

b) Dreama Bridges

D) Administrative Coordinator:

a) Mike Roach or

b) Buea DeNard

E) Contract Services Coordinator:

a) Tom McQuarrie

b) Scott Bryant

F) Switchboard Relief if necessary - Duty Person or Superintendent would identify whether this is necessary at this point.

a) Penny Goebel or

b) Joan Sanders

2.2 Accountability of all Station Services site personnel shall be made within 20 minutes to Dreama Bridges, Adm. Coordinator Clerk, Ext. 1796. This total will then be called in to the Station Services Superintendent, in the TSC. Station Services Superintendent will report total Station Services personnel accounted for to Security Shift Lieutenant.

2.3 Establishment of TSC.

_____2.3.1 Upon arrival to site, check with switchboard operator to determine if a representative has been notified from each group identified as the emergency response organization (reference Enclosure 1). If a group cannot be notified, assist the switchboard operator with alternative contacts and verify the Shift Supervisor is aware of response group(s) not notified.

_____2.3.2 Prior to entering protected area:

_____Pick up Emergency Response Notebook, and Administrative Policy Manual from John McIntosh's office (in blue cabinet) and take to TSC.

_____Verify that Security has dispatched officer(s) to TSC and OSC to control access, and all phones have been switched. If this has not been accomplished, request Security support.

_____2.3.3 Upon entering protected area:

_____Locate roll-around cart in I&E office on Turbine floor (or elsewhere) and take to TSC cabinet in Control Room to provide storage and distribution capability.

_____2.3.4 Upon arrival at TSC, unlock TSC storage cabinet at back of 1 & 2 Control Room. (Key located in Emergency Plan Manual.)

_____Remove copier and telecopier and set up in Computer Room (Unit 1 & 2) or verify they are already in use.

_____Verify that portable radio with ear set has been delivered to TSC by Safety Dept. for monitoring purposes.

_____Remove materials and supplies from storage cabinet and place on roll-around cart for use in TSC.

_____Set up TSC logbook and record names of people in TSC (may request Security assistance). Ensure people properly use sign in and sign out log.

_____Place Pickens and Oconee Emergency Plan on roll around cart or verify they are in use elsewhere.

_____Place General Arrangement Drawings and Site Drawing on table (for list of drawing and table locations, see PT/0/B/2000/04).

_____Place Fire Plan on roll around cart or verify it is in use elsewhere.

_____Place paper, pads, pencils, pens, and notebooks on roll-around cart or verify their availability elsewhere.

_____Place Crisis Telephone Directory on roll-around cart or verify its use elsewhere.

_____Place Data Displays (stored in TSC cabinet) for information updates in TSC and OSC or verify their set-up (and verify they will be updated by Integrated Scheduling, in the TSC only).

_____2.3.5 Verify existence of the following or remind others of the requirement.

_____Verify the radio has been set up by the Environmental Section.

_____Verify the TSC cart is available (located in SS office) and normally put into use by Coleman Jennings, Offsite Communicator) with the following materials:

_____Emergency Plan and Implementing Procedure

_____Crisis Management Plan

_____Message Forms

_____Authentication Procedures

_____Verify availability of Technical Specification (normally in SS Office).

_____Verify availability of FSAR (normally in SS Office).

_____Verify availability of Station Directives (normally in Control Room or SS Office).

_____Verify availability of Plant Operations Drawings (in Control Room).

_____Verify availability of Safety related structures, systems and components, description (provided by Joe Davis).

_____Verify availability of various I&E Drawings (located in Shop).

_____Verify availability of Emergency Procedures (provided by Norman Pope)

_____Verify the VAX system is on line and operable.

_____Model A System (HP)

_____Verify the OSC is established and operational.

_____Personnel in place.

_____Supplies/first aid kits available.

_____Survey instruments available.

_____Dosimetry available.

_____Intercom Systems operable.

_____Radios operable and available.

Reviewed by R L Sweigart
Approved by J N Pope
Date 11/1/84
Revision # Original

OCONEE NUCLEAR STATION

OPERATIONS MANAGEMENT PROCEDURE 1-7

INFORMATION ONLY

EMERGENCY RESPONSE ORGANIZATION

1.0 Purpose

The purpose of this OMP is to:

1) Identify the Emergency Response participants and their responsibilities.

2.0 References

NUREG 0654
Emergency Plan

3.0 Responsibilities

3.1 The Superintendent of Operations shall:

A) Participate as a member of the Technical Support Center

B) Oversee Operations activities

C) Monitor the emergency situation

D) Make recommendations for stabilization and recovery of the emergency situation

E) Relieve the Shift Supervisor as Emergency Coordinator in the event the Station Manager is unavailable.

3.2 The Duty Engineer shall:

A) Participate as a member of the Operational Support Center

B) Act as Superintendent of Operations should he be unavailable

C) Relieve the Shift Supervisor as Emergency Coordinator in the event that none of the following can be contacted: Station Manager, Superintendent of Operations, Superintendent of Technical Services or Superintendent of Maintenance.

3.3 The Shift Supervisor shall:

A) Serve as Emergency Coordinator until relieved by the Station Manager or his designee.

B) Oversee Control Room activities on the affected unit.

C) Respond to the emergency situation in accordance with Emergency Procedures, the Emergency Plan and Emergency Plan Implementing Procedures.

DUKE POWER COMPANY

OCONEE NUCLEAR STATION

EMERGENCY PLAN IMPLEMENTING PROCEDURES

APPROVED:

M. S. Tuckman

M. S. Tuckman, Station Manager

12/30/84

Date Approved

December 1, 1984

Effective Date

Volume C
Revision 84-4 (Major Revision)
December, 1984

VOLUME C

TABLE OF CONTENTS

Confidential
Not For Publication

EMERGENCY TELEPHONE NUMBERS

This enclosure provides a listing of telephone numbers for various personnel and agencies that may have a part in dealing with an emergency situation or providing other assistance as needed at Oconee Nuclear Station.

EMERGENCY TELEPHONE NUMBERS

This directory provides a listing of telephone numbers for various personnel and agencies that may have a part in dealing with an emergency situation or providing other assistance as needed at Oconee Nuclear Station.

TABLE OF CONTENTS

DUKE POWER COMPANY

OCONEE NUCLEAR STATION

NUMBER CODE FOR IDENTIFYING PERSONNEL/ACTIVITIES TO BE NOTIFIED

CODE

1. NUCLEAR REGULATORY COMMISSION by Red Phone within one hour.

2. UNIT COORDINATOR/OPERATIONS DUTY ENGINEER who will notify:

   A. Superintendent of Operations

      J. N. Pope, Office . . . . . .

      Home . . . . . .

   B. Station Manager/Emergency Coordinator (or alternate as listed in number 8)

      M. S. Tuckman, Office . . . . . .

      Home . . . . . .

   C. Nuclear Production Duty Engineer who will notify:

      1. Corporate Communications

      2. Crisis Management Organization

3. SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL
(Warning Point State of South Carolina)

Bureau of Radiological Health (0800-1700). . . . . .
Answering Service after hours, weekends, holidays. . . . . .

*State Emergency Operations Center, Columbia, S.C. . .

*Forward Emergency Operations Center, Clemson, S. C. . .

Alternate Number . . . . .

*NOTE: These numbers are to be used once the State has established their Emergency Operations.

4. COUNTY EMERGENCY PREPAREDNESS AGENCIES

Oconee County Emergency Preparedness . . . . . .
Alternate Number - 24 hour, Pager
Alternate Number - 24 hour, Pager

Pickens County Emergency Preparedness. . . . . .
Alternate Number - (0830-1700)
Alternate Number - 24 hour, Pager

5. COUNTY SHERIFF'S DEPARTMENTS

Oconee County (24 hours) . . . . . .
Alternate Number . . . . . .

Pickens County (24 hours) . . . . . .
Alternate Number . . . . . .
Alternate Number . . . . . .
Alternate Number . . . . . .

6. MEDICAL ASSISTANCE

Oconee Memorial Hospital Ambulance Service . . . . . .

Oconee Memorial Hospital Switchboard/Supervisor or Nursing . .

Additional Medical assistance may be provided through the following institutions:

Pickens County Ambulance Service . . . . . .

Cannon Memorial Hospital/Supervisor of Nursing . . . . . .

Easley Baptist Hospital/Supervisor of Nursing . . . . . .

7. FIRE ASSISTANCE

Oconee County Rural Fire Protection Association . . . . . .

Woods or Forest Fire (Oconee County, Oakway Tower) . . . . . .

Woods or Forest Fire (Pickens County, Woodall Mt. Tower) . . .

8. EMERGENCY COORDINATOR AND ALTERNATES (TSC Activation)

(If the first person cannot be reached, go to the next person down the list until one person is contacted)

Station Manager

M. S. Tuckman, Office . . . . . .

Home . . . . . .

Superintendent of Technical Services

T. S. Barr, Office . . . . . .
Home . . . . . .

Superintendent of Maintenance

J. M. Davis, Office . . . . . .
Home . . . . . .

Superintendent of Operations

J. N. Pope, Office . . . . . .
Home . . . . . .

Operations Duty Engineer . . . . . .

9. WATER DEPARTMENTS

Should releases of radioactive effluent into Lake Keowee or Lake Hartwell potentially effect municipal water intakes or exceed technical specifications. Contact the appropriate authorities as indicated below:

Lake Keowee

Seneca, H. J. Balding, Office . . . . . .
Home . . . . . .

Lake Hartwell

City of Clemson

Mayor of Clemson, Office . . . . . .
Home . . . . . .

(If the mayor cannot be reached, call one of the following)

Clemson Administrator's Office . . . . . .
Home . . . . . .

Clemson Filter Plant (0700-1700) . . . . . .

Clemson University

President's Office . . . . . .

Home . . . . . .

Security - Police (24 hours) . . . . . .
(If the President cannot be reached, call)
Clemson University Physical Plant (0800-1630) . . . .

Anderson Water Works (24 Hr. Number) . . . . . .

AGENCIES THAT MAY RESPOND TO AN EMERGENCY AT THE OCONEE NUCLEAR STATION

10. LAW ENFORCEMENT (24-hour numbers)

S. C. Highway Patrol (Greenville, S.C.) . . . . . .

S. C. Enforcement Division (Columbia, S.C.) . . . . . .

FBI (Columbia, S.C.) . . . . . .

11. BOMB DISPOSAL

Explosives Ordinance Disposal Detachment Control (24-hour)
(Fort Jackson, Columbia, S.C.)

12. RADIATION AND CONTAMINATION (Department of Energy)

RLACTS, Department of Energy (Oak Ridge, Tennessee) . .
(24 hr. number - after 1700 ask for Beeper number) . .

DOE Emergency Radiological Monitoring Team (Aiken, S.C.) .

13. INGESTION PATHWAY

Warning Point - State of North Carolina . . . .(24 hour).
(N.C. Highway Patrol) (Primary Contact)

N.C. Division of Emergency Management . (0800-1700) .
(Alternate Contact)

Warning Point - State of Georgia . . . . . .(24 hour).
(Georgia Emergency Preparedness Agency) (Primary Contact)

Georgia Department of Natural Resources . . (24 hour)
(Alternate Contact)

14. NUCLEAR REGULATORY COMMISSION

NRC Operations Center (via Bethesda Central Office) . . .

NRC Operations Center (via Silver Spring Central Office) .

US NRC, Region II . . . . . .

US NRC, Region II (Operations Center). . . . . .

US NRC, Oconee Resident Inspectors . . . . . .

Jack Bryant (Home)

Kent Sasser (Home)

Larry King (Home)

15. BUS TRANSPORTATION

Anderson Retail Office (24 hour number) . . . . . .
(Contact John Holland, Jerry Whitfield)

16. NATIONAL WEATHER SERVICE - METEOROLOGICAL BACK-UP SOURCE

Greenville-Spartanburg Weather Service . . . . (24 hour) .

17. FEDERAL AERONAUTICS AGENCY

PRIVATE AIRCRAFT

Flight Standards District Office . . . .(0800-1700). . . .

Flight Service Station (After hours, weekends, holidays) .

MILITARY AIRCRAFT

Air Station Mgr. (Shaw AF Base) . . . . . .

OCONEE NUCLEAR STATION

CRISIS COMMUNICATIONS DIRECTORY

The crisis directory is intended for use should the Oconee Emergency Plan require implementation. Both station and corporate level telephone numbers are provided. The station's emergency organization will operate from the Technical Support Center near the Units 1 and 2 Control Room. The corporate emergency organization will operate from the Crisis Management Center located in the Visitors Center and Oconee Training Center.

EMERGENCY FACILITY LOCATIONS

Technical Support Center - Control Rooms 1 and 2

Operational Support Center - Control Room 3

Crisis Management Center - Oconee Training Center

Alternate Location: Liberty Retail Office

Crisis News Center - Keowee-Toxaway Visitors Center

Alternate Location: Liberty Retail Office

OCONEE NUCLEAR STATION

TELEPHONE DIRECTORY

Seneca Lines
(803)

Easley Lines
(803)

Anderson Line
(803)

Six Mile Line
(803)

Dial Code
(Micro-Wave)

(Charlotte General Office)

(Catawba)

(McGuire)

Attendant (To access Bell Line)

Seneca

Easley

Anderson

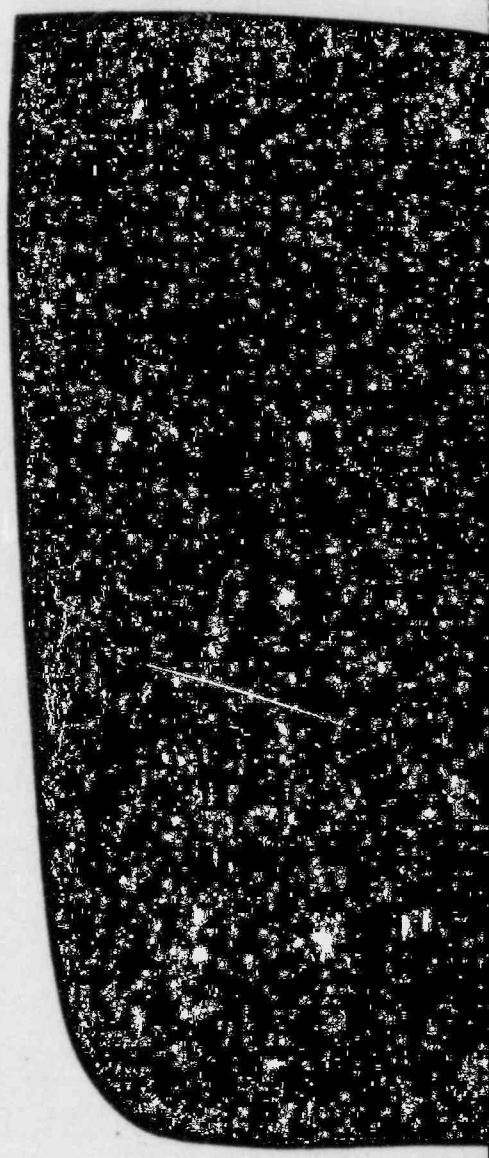
Six Mile

OCONEE NUCLEAR STATION

CRISIS PHONE DIRECTORY

TECHNICAL SUPPORT CENTER

POSITION/NAME	Telephone Number: Outside Line	Telephone Number: Station Number
EMERGENCY COORDINATION		
Emergency Coordinator		
Offsite Communicator		
Superintendent of Operations		
Superintendent of Technical Services		
Data Transmissions Coordinator		
Data Release (Unit 1 & 2)		
(Unit 3)		
Chemistry		
Compliance		
Station Health Physicist		
Superintendent of Integrated Scheduling		
Superintendent of Station Services		
Clerical Support		
NRC Resident Inspector		
OFFSITE DOSE ASSESSMENT		
Dose Assessment Coordinator		
Data Line (HP) Model A		
Field Monitoring Coordinator		
Emergency Count Room		



	Telephone Number	
	Outside Line	Station Number

CONTROL ROOM

Unit 1 . . . . . .

Unit 2 . . . . . .

Unit 3 . . . . . .

Shift Supervisor (Unit 1 & 2) . . . . . .

(Unit 3) . . . . . .

OPERATIONAL SUPPORT CENTER

(Support group consists of Health Physics, Chemistry, Maintenance, Safety Operations group)

Operational Support Center Coordinator . . . .

Mechanical Maintenance Engineer . . . . . .

Mechanical Maintenance Supervisor . . . .

I & E Engineer . . . . . .

I & E Supervisor . . . . . .

Health Physics Support . . . . . .

Dose Control . . . . . .

S & C Coordinator . . . . . .

Support Function Coordinator. . . . . .

Chemistry Support . . . . . .

Medical Support . . . . . .

OSC Communicator . . . . . .

Operations Liason . . . . . .

Unit #3 Operations Offices . . . . . .

Nuclear Equipment Operators (Unit 1 & 2 Emergencies)
Nuclear Equipment Operators (Unit 3 Emergencies)

OCONEE NUCLEAR STATION
CRISIS PHONE DIRECTORY
CRISIS MANAGEMENT CENTER

POSITION/NAME	PRIVATE LINE	ONS SWITCHBOARD
RECOVERY MANAGER		
State of S.C. (FEOC Line) (Duke Line)		
SCHEDULING/PLANNING		
TECHNICAL SERVICES SUPPORT		
S.C. Bureau of Radiological Health (Duke Line) (FEOC Line)		
OFFSITE RADIOLOGICAL COORDINATOR		
NUCLEAR ENGINEERING SERVICES		
DESIGN AND CONSTRUCTION SUPPORT.		
ADMINISTRATION AND LOGISTICS		
DATA COORDINATION		
TELECOPIER		
. . . . .		
. . . . .		
ADVISORY SUPPORT		
NUCLEAR REGULATORY COMMISSION		
BABCOCK & WILCOX (NSSS SUPPLIER)		

OCONEE NUCLEAR STATION
CRISIS PHONE DIRECTORY
GENERAL OFFICE SUPPORT CENTER

CORPORATE HEADQUARTERS
(Contact with the Governor)

A. C. Thies

W. H. Owen

WACHOVIA CENTER

RECOVERY MANAGER (Room 1010) (Speaker Phone)
(Dedicated line to State Director)

NRC

SCHEDULING/PLANNING (Room 1010)

TECHNICAL SERVICES SUPPORT (Room 2390)

OFFSITE RADIOLOGICAL COORDINATOR (Room 1222)

NUCLEAR ENGINEERING SERVICES STAFF (Room 1704)

ADMINISTRATION AND LOGISTICS (Room 0925)

NUCLEAR REGULATORY COMMISSION (Room 1488)

ELECTRIC CENTER

DESIGN AND CONSTRUCTION SUPPORT (Room 32, 3rd Floor)

CHARLOTTE SUPPLY BUILDING

CRISIS NEWS GROUP - DUKE (3rd Floor)

S.C. PUBLIC INFORMATION OFFICERS (Room 215)

NRC NEWS STAFF (Room 215)

FEMA PUBLIC INFORMATION OFFICES (Room 215)

*Dedicated line to State Center

OCONEE NUCLEAR STATION

CRISIS PHONE DIRECTORY

BACKUP CRISIS MANAGEMENT CENTER

LIBERTY RETAIL OFFICE, LIBERTY, S.C.

AREA CODE - 803
Telephone Number

RECOVERY MANAGER

SCHEDULING/PLANNING

PUBLIC INFORMATION OFFICERS*

State of South Carolina
Oconee County
Pickens County

DESIGN AND CONSTRUCTION

NUCLEAR ENGINEERING SERVICES

OFFSITE RADIOLOGICAL COORDINATOR

ADMINISTRATION AND LOGISTICS

TECHNICAL SERVICES SUPPORT

GOVERNMENT AGENCIES*

NRC
State of South Carolina
Oconee County
Pickens County

*NOTE: Call any one of the numbers listed to reach the desired representative.

OCONEE NUCLEAR STATION

CRISIS PHONE DIRECTORY

CRISIS NEWS CENTER

KEOWEE-TOXAWAY VISITORS' CENTER

Position/Name	Telephone Number: Private Line	Telephone Number: ONS Switchboard
CRISIS NEWS DIRECTOR Mary Cartwright		
COMMERCIAL NEWS MEDIA (Active Numbers) For drill purposes only		
COMMERCIAL NEWS MEDIA (Inactive Numbers) Activated only during an actual emergency		
NRC/STATE/COUNTY PUBLIC INFORMATION OFFICERS (PIO'S)		
NRC		
Oconee County		
Pickens County		
State of S.C. (FECO Line)		
(Duke Line)		

*Note: NRC, Oconee County or Pickens County may be reached on any one of these phones.

OCONEE NUCLEAR STATION EMERGENCY RADIO

The call letters [redacted] identify the Emergency Radio frequency. The following is a listing of radio locations, unit call letters, and identifiers. Use identifiers to begin a transmission and the call letters to close out the radio transmission. (For example: Oconee Nuclear Station Control Room to Pickens County Law Enforcement Center. Close out with [redacted] off.)

ONS Base Station Remotes

	Location	Unit Call Letters	Identifier
1.	Unit 1&2 Control Room	[redacted]	Oconee Control Room
2.	Crisis Management Center		Oconee CMC
3.	Technical Support Center		Oconee TSC

Coded Squelch Radios

	Location	Encode	Unit Call Letters	Identifier
4.	Pickens LEC	[redacted]		Pickens LEC
	Pickens EOC			Pickens EOC
	Pickens EPD			Pickens EPD
5.	Oconee LEC			Oconee LEC
6.	State FEOC - (Clemson)			State FEOC

ALL ABOVE RADIOS MAY BE ACTIVATED BY ENCODING NO. [redacted]

Field Monitoring Teams

	Location	Unit Call Letters	Identifier
8.	Field Monitor Coordinator	[redacted]	Leader
9.	Field Monitor Team		Alpha
10.	Field Monitor Team		Bravo
11.	Field Monitor Team		Charlie
12.	Field Monitor Team		Delta
13.	Field Monitor Team		Echo
14.	Field Monitor Team		Foxtrot

TO COMMUNICATE BETWEEN BASE STATION REMOTES (1, 2, 3), THE INTERCOM MUST BE USED! The following procedure must be used:

1. Push INTERCOM button and hold
2. Push MIKE button and hold
3. Send message (example, CMC to TSC)
4. Release both buttons to receive a response.

EMERGENCY OPERATION CENTER

Pickens County

Primary Number

EXECUTIVE GROUP*

Emergency Preparedness
County Administrator
County Council
Legal Officer

OPERATIONS GROUP*

Law Enforcement
Rescue Squad
EMS

Fire Service
Medical Service
Health Service
Dept. of Public Works

ASSESSMENT*

Transportation
Emergency Welfare Service
Shelter Service
Red Cross

Public Information
RADEF

Mental Health
Damage Assessment
Supply and Procurement

ALTERNATE NUMBER (to any group)

PUBLIC INFORMATION OFFICER

CRISIS NEWS CENTER-ONS*

State of South Carolina
Oconee County
Pickens County
NRC

CRISIS NEWS CENTER LIBERTY RETAIL OFFICE*

State of South Carolina
Oconee County
Pickens County
NRC

*Call any one of the listed numbers to reach group desired.

EMERGENCY OPERATION CENTER

Oconee County

Primary Number (24-hour) . . . . . [redacted]

OPERATIONS*

- Fire Protection . . . . . [redacted]
- Police . . . . . [redacted]
- Public Roads . . . . . [redacted]
- Emergency Medical Services . . . . . [redacted]
- Rescue Squads . . . . . [redacted]

ASSESSMENT*

- Emergency Welfare Services . . . . . [redacted]
- Radiological Defense . . . . . [redacted]
- Damage Assessment . . . . . [redacted]

EXECUTIVE GROUP*

- Supervisor/Chairman County Council . . . . . [redacted]
- EOC Director . . . . . [redacted]
- Financial Officer . . . . . [redacted]
- FNF Representative . . . . . [redacted]

PUBLIC INFORMATION OFFICER

CRISIS NEWS CENTER-ONS

- State of South Carolina
- Oconee County
- Pickens County
- NRC

CRISIS NEWS CENTER LIBERTY RETAIL OFFICE

- State of South Carolina
- Oconee County
- Pickens County
- NRC

*Call any one of the listed numbers to reach group desired.

CONTROL COPY

INFORMATION ONLY

Form SPD-1002-1

DUKE POWER COMPANY
PROCEDURE PREPARATION
PROCESS RECORD

(1) ID No: RP/O/B/1000/01
Change(s) 0 to
0 Incorporated

(2) STATION: OCONEE

(3) PROCEDURE TITLE: CLASSIFICATION OF EMERGENCY

(4) PREPARED BY: Coleman C. Fanning DATE: 11/9/84

(5) REVIEWED BY: Donald L Davidson DATE: 11/9/84

Cross-Disciplinary Review By: R L Sweigart N/R:

(6) TEMPORARY APPROVAL (IF NECESSARY):

By: (SRO) Date:

By: Date:

(7) APPROVED BY: J A Bass Date: 11/29/84

(8) MISCELLANEOUS:

Reviewed/~~Approved~~ By: E.T Bost Date: 11/29/84

Reviewed/Approved By: Date:

DUKE POWER COMPANY
OCONEE NUCLEAR STATION
CLASSIFICATION OF EMERGENCY

1.0 Symptoms

1.1 Notification of Unusual Event

1.1.1 Events are in progress or have occurred which indicate a potential degradation of the level of safety of the plant.

1.1.2 No releases of radioactive material requiring offsite response or monitoring are expected unless further degradation of safety occurs.

1.2 Alert

1.2.1 Events are in progress or have occurred which involve an actual or potential substantial degradation of the level of safety of the plant.

1.2.2 Any releases are expected to be limited to small fractions of the EPA Protection Action Guideline exposure levels.

1.3 Site Area Emergency

1.3.1 Events are in process or have occurred which involve actual or likely major failures of plant functions needed for protection of the public.

1.3.2 Any releases are not expected to exceed EPA Protective Action Guideline exposure levels except near the site boundary.

1.4 General Emergency

1.4.1 Events are in process or have occurred which involve actual or imminent substantial core degradation or melting with potential for loss of containment integrity.

1.4.2 Releases can be reasonably expected to exceed EPA Protective Action Guideline exposure levels offsite for more than the immediate site area.

2.0 Immediate Actions

2.1 Compare actual plant conditions to the Emergency Action Level(s) listed in Enclosure 4.1 then declare the appropriate Emergency Class as indicated.

2.2 Initiate the Emergency Response Procedure (RP) applicable to the Emergency Class as follows:

Notification of Unusual Event	RP/0/B/1000/02
Alert	RP/0/B/1000/03
Site Area Emergency	RP/0/B/1000/04
General Emergency	RP/0/B/1000/05

3.0 Subsequent Actions

3.1 To escalate, de-escalate or close out the Emergency, consult the procedure indicated by the action level.

4.0 Enclosures

4.1 Emergency Action Level(s) for Emergency Classes

RP/0/B/1000/01

ENCLOSURE 4.1.1
PRIMARY COOLANT LEAK

UNUSUAL EVENT

1. EXCEEDING EITHER PRIMARY TO SECONDARY LEAK RATE TS OR PRIMARY LEAK RATE TS. ONE OF THE FOLLOWING

- Unidentified leakage exceeds 1 GPM
- Total primary Coolant leakage rate (identified) exceeds 10 GPM
- Any leakage exists through RCS strength boundary (except S/G tubes)
- OTSG tube leakage (Unit 1-.3 GPM Unit 2&3 - 1 GPM)

2. FAILURE OF A PRESSURIZER PORV TO CLOSE FOLLOWING REDUCTION OF APPLICABLE PRESSURE. ONE OR MORE OF THE FOLLOWING:

- Acoustical monitor indication
- PZR level increasing with decreasing RCS pressure
- QT temp and pressure alarms

INITIAL NOTIFICATION REQUIREMENTS: SEE EMERGENCY TELEPHONE DIRECTORY.

Notify 1,2,3,4

ALERT

1. PRIMARY COOLANT LEAK RATE GREATER THAN 50 GPM

- Mismatch between total makeup and total letdown (letdown plus controlled leakage greater than 50 gpm with PZR not increasing.)

2. RAPID GROSS FAILURE OF ONE OTSG TUBE WITH LOSS OF OFF-SITE POWER.

*NOTE: Leak greater than 10 GPM but less 200 GPM

- RIA 16, 17, 40 HIGH alarm; AND
- LDST level decreasing; AND
- Undervoltage - underfrequency on MFB 1 and MFB 2, AND
- RCS leak rate calculation

3. RAPID FAILURE OF STEAM GENERATOR TUBES.

*NOTE: Leak greater than 50 GPM but less 200 GPM

- RIA 16, 17, 40 HIGH alarm AND
- Rapidly decreasing PZR level AND
- Rapid depressurization of RCS

Notify 1,2,3,4

SITE AREA EMERGENCY

1. KNOWN LOCA GREATER THAN MAKEUP PUMP CAPACITY.

PRIMARY LEAK

- HIGH RB pressure, HIGH RB sump, RIA 4 HIGH alarm, OR
- Decrease in RCS pressure AND
- Loss of subcooling margin.
- Full HPI and PZR level decreasing

P/S LEAK

- Rx Trip on LOW RCS PRESSURE AND
- RCS PRESSURE decreasing uncontrollably with T_{avg} constant AND
- RIA 16/17 and 40 HIGH alarm AND
- No significant increase in RB pressure and sump level

2. RAPID FAILURE OF STEAM GENERATOR TUBE LEAK (GREATER THAN 200 GPM)

- SAE #1 EAL's for P/S leak AND
- Undervoltage - Underfrequency alarms in the 230 KV switchyard.

Notify 1,2,3,4

GENERAL EMERGENCY

1. SMALL AND LARGE LOCAS WITH FAILURE OF ECCS - LEADS TO CORE MELT.

- LOCA EALs-SAE #1 or SAE #2

AND

- HPI system failure AND
- LPI system failure

2. SMALL LOCA AND INITIALLY SUCCESSFUL ECCS WITH FAILURE OF RB HEAT REMOVAL SYSTEMS OVER SEVERAL HOURS LEADS TO CORE MELT AND FAILURE OF CONTAINMENT.

- LOCA EALs in SAE #1 AND
- RB temperature rising AND
- RB spray system fails to function

Notify 1,2,3,4

ENCLOSURE 4.1.1
PRIMARY COOLANT LEAK

UNUSUAL EVENT	ALERT	SITE AREA EMERGENCY	GENERAL EMERGENCY
	4. Steam line break with greater than 10 but less than 50 GPM P/S leak rate. STEAM LINE BREAK INSIDE RB • Unexpected increase in Rx power AND • Rapid decrease in T_{avg}, PZR level, RCS Pressure, Steam pressure AND • Increased RB pressure and temperature STEAM LINE BREAK OUTSIDE RB • Unexpected increase in Rx power AND • Rapid decrease in T_{avg}, PZR level, RCS pressure, Steam pressure AND • Increased PR pressure and temperature if steam line break inside PR.	3. Steam line break with greater than 50 GPM P/S leakage and indication of fuel damage. • Rx trip on Low RCS pressure AND • RCS pressure and T_{avg} decreasing uncontrollably AND • RIA 16/17 and 40 HIGH alarm AND • Chemistry sample analysis indicates fuel damage - I-131 concentration between 70 µCi/ml to 350 µCi/ml.	

INITIAL NOTIFICATION REQUIREMENTS: CONSULT EMERGENCY TELEPHONE DIRECTORY

Notify 1,2,3,4 Notify 1,2,3,4

RP/0/B/1000/01

ENCLOSURE 4.1.2
FUEL DAMAGE

UNUSUAL EVENT

1. FUEL DAMAGE INDICATION

High activity sample results

- Total activity of RCS due to half lives longer than 30 min exceeds 224 / E μCi/ml when the Rx is critical
- I-131 concentration in the secondary side of the steam generator exceeds 1.4 μCi/ml

Total failed fuel exceeds 1%

- I-131 concentration in the RCS is between 70 μCi/ml and 350 μCi/ml

2. ABNORMAL COOLANT TEMPERATURE AND/OR PRESSURE OR ABNORMAL FUEL TEMPERATURE OUTSIDE TS LIMITS

- Exceeding interim brittle fracture curve WITHOUT RC pumps on

OR

- Exceeding NDT limit WITH RC pumps on

OR

- Shift Supervisor's Judgement.

ALERT

1. SEVERE LOSS OF FUEL CLADDING:

*NOTE: Mechanical clad failure or flow-induced failure.

- RCS sample - 350 μCi/ml to 1770 μCi/ml - I-131 concentration.
- RCS sample shows an increase of 70 μCi/ml in a 30 minute period of time.

OR

- 5% to 25% total fuel failures (greater than 350 μCi/ml I-131)

SITE AREA EMERGENCY

1. DEGRADED CORE WITH POSSIBLE LOSS OF COOLABLE GEOMETRY

Flow induced -

- RCS sample indicates GAP activity

OR

- > 25% total failed fuel with I-131 between 1770 uCi/ml to 7000 uCi/ml.

Fuel Over-temperature-

- Incore thermocouple readings greater than 700°F AND
- Excess H_2O in RB or RCS sample AND
- RCS sample results indicate I-131 concentration is between 1300 μCi/ml to 13,000 μCi/ml

Fuel melt conditions

- Incore thermocouple readings are above 2300°F AND
- RCS sample results indicate I-131 concentration is between 1180 to 11,800 μCi/ml.

GENERAL EMERGENCY

1. LOSS OF 2 OF 3 FISSION PRODUCT PRODUCT BARRIERS WITH A POTENTIAL FOR LOSS OF 3RD BARRIER:

Any one of the following are indications of the specific barrier lost:

CLADDING FAILURE

- RCS sample results indicate GAP activity OR
- I-131 concentration 1180 uCi/ml to 13000 uCi/ml depending on failure mechanism.

LOSS OF CONTAINMENT

- RB penetrations are not valved off or closed.
- Steamline break upstream from MSSV and MSSV malfunction.
- Steamline break or stop valve failure with S/G tube leak.

LOSS OF PRIMARY COOLANT

- HIGH RB pressure
- HIGH RB sump level
- Loss of subcooling margin
- RIA 16/17 or 40 HIGH alarm
- RB pressure increases and approaches 59 psig and loss of RB spray or cooling units
- RCS pressure decreasing uncontrollably with T_{avg} constant.

INITIAL NOTIFICATION REQUIREMENTS: CONSULT EMERGENCY TELEPHONE DIRECTORY

Notify 1,2,3,4 | Notify 1,2,3,4 | Notify 1,2,3,4 | Notify 1,2,3,4

RP/0/B/1000/01

ENCLOSURE 4.1.3
STEAM SYSTEM FAILURE

UNUSUAL EVENT	ALERT	SITE AREA EMERGENCY	GENERAL EMERGENCY
1. FAILURE OF A MAIN STEAM RELIEF VALVE TO CLOSE FOLLOWING REDUCTION OF APPLICABLE PRESSURE. • Visual observation 2. RAPID DEPRESSURIZATION OF SECONDARY SIDE. • Rapid pressure decrease below relief valve and/or bypass valve setpoints OR • Excessive FDW flow to one or both OTSG WITH • Rapidly increasing level OR • Rapidly decreasing level OR • Observation of steam line break, open relief or other uncontrollable steam loss.	1. Steamline break with greater than 10 but less than 50 GPM P/S leak rate. STEAMLINE BREAK INSIDE RB • Unexpected increase in Rx power AND • Rapid decrease in T_{ave}, PZR level, RCS Pressure, Steam pressure AND • Increased RB pressure and temperature STEAM LINE BREAK OUTSIDE RB • Unexpected increase in Rx power AND • Rapid decrease in T_{ave}, PZR level, RCS pressure, Steam pressure AND • Increased PR pressure and if steam line break inside PR.	1. Steamline break with greater than 50 gpm P/S leakage and indication of fuel damage. • Rx trip on LOW RCS pressure or HIGH power AND • RCS pressure and T_{ave} decreasing uncontrollably AND • RIA 16/17 and 40 HIGH alarm AND • RCS sample results indicate fuel damage - I-131 concentration between 70 µCi/ml to 350 µCi/ml	

INITIAL NOTIFICATION REQUIREMENTS: CONSULT EMERGENCY TELEPHONE DIRECTORY

Notify 1,2,3,4 Notify 1,2,3,4 Notify 1,2,3,4

RP/0/B/1000/01

ENCLOSURE 4.1.4
HIGH RADIATION/RADIOLOGICAL EFFLUENTS

UNUSUAL EVENT

1. RADIOLOGICAL EFFLUENT TS LIMITS EXCEEDED

*NOTE: TS for ONS gaseous release Shared 3-Unit System

GASEOUS EFFLUENT

- RIA-45 in valid alarm mode for more than 1 hour AND
- RIA-46 in valid alarm mode

AND

- Release rate calculations using vent sample analysis and flow rate data are in excess of TS limits per HP/0/B/1009/15.

LIQUID EFFLUENT

- RIA-33/34 alarm setpoint established in discharge permit exceeded AND
- Flow not terminated AND
- Samples at restricted area boundary exceed limits of TS 3.9.

ALERT

1. HIGH RADIATION LEVEL OR HIGH AIRBORNE CONTAMINATION:

- Step increase by a factor of 1000 times normal setpoint of RIA-32, 40, 35, 31, 41, 51, 53.

2. RADIOLOGICAL EFFLUENTS EXCEEDING 10 TIMES TS

GASEOUS EFFLUENTS

- RIA-46 in valid alarm mode verified by RIA-45

AND

- 10 x Release rate calculations using vent sample analysis and flow rate data are in excess of limits established by HP/0/B/1009/15.

LIQUID EFFLUENTS

- 10 x RIA-33/34 alarm setpoint established in discharge permit AND
- Isolation valve fails to close and flow is not terminated.

AND

- Samples at restricted area boundary exceed 10 x limits of TS 3.9.

SITE AREA EMERGENCY

1. ACCIDENTAL RELEASE OF GASES AT THE SITE BOUNDARY UNDER METEOROLOGICAL CONDITIONS EXISTING AT THE TIME OF RELEASE.

- RIA 45/46 in valid alarm mode

AND

- Gaseous effluent sample results shows I-131 equivalent concentration and noble gases (Xe-133, etc) being released results in 50 mR/hr WB for 30 minutes.

OR

- 500 mR/Hr WB for 2 minutes

2. RADIATION LEVEL IN CONTAINMENT WITH LEAK RATE APPROPRIATE FOR EXISTING RB PRESSURE.

- RIA 57 or 58 HIGH alarm AND
- Dose rate inside RB coupled with RB leak rate results in calculated dose rate at site boundary greater than 50 mR/Hr WB for 2 minutes or 500 mR/Hr WB for 2 minutes.

OR

- Radiation Monitoring teams measure I-131 equivalent greater than:

250 mR/Hr (9×10^{-8}) µCi/ml for 30 min.

OR

2500 mR/Hr (9×10^{-7}) µCi/ml for 2 min. at the site boundary.

GENERAL EMERGENCY

1. ACCIDENTAL RELEASE UNDER ACTUAL METEROLOGICAL CONDITIONS AT SITE BOUNDARY:

- RIA 45/46 in valid alarm mode

AND

- Sample results with calculated Offsite Dose projection gives 1 R/Hr WB

OR

- 5 R/hr thyroid

2. RADIATION LEVEL IN RB WITH LEAK RATE APPROPRIATE FOR EXISTING RB PRESSURE.

- RIA 57 or 58 ALERT Alarm
- Dose Projection equals 1 R/Hr WB

OR

- 5 R/Hr thyroid

AND

- Radiation Monitoring teams verify readings offsite past the Site Boundary.

INITIAL NOTIFICATION REQUIREMENTS: CONSULT EMERGENCY TELEPHONE DIRECTORY

UNUSUAL EVENT	ALERT	SITE AREA EMERGENCY	GENERAL EMERGENCY
Notify 1,2,3,4 and 9 (Liquid release only)	Notify 1,2,3,4	Notify 1,2,3,4	Notify 1,2,3,4

ENCLOSURE 4.1.5
LOSS OF SHUTDOWN FUNCTIONS

UNUSUAL EVENT	ALERT	SITE AREA EMERGENCY	GENERAL EMERGENCY
	1. COMPLETE LOSS OF ALL FUNCTIONS NEEDED FOR PLANT COLD SHUTDOWN: • LPI system not functional AND • Inability to sustain either natural or forced circulation. 2. FAILURE OF THE RPS TO INITIATE AND COMPLETE A SCRAM WHICH BRINGS THE RX SUBCRITICAL • Rx remains critical after trip AND • Rods remain out.	1. COMPLETE LOSS OF ANY FUNCTION NEEDED FOR PLANT HOT SHUTDOWN • Inadequate HPI flow OR • Condenser not available and Turbine By-pass valves not operable OR • No FDW flow and no EFDW flow 2. TRANSIENT REQUIRING OPERATION OF SD SYSTEMS WITH FAILURE TO SCRAM. ASSUMPTION: Continued power generation and no core damage immediately evident. • 2 or more RPS channels trip AND • Control rods do not drop into core AND • RCS sample results indicates I-131 concentration less than 70 μCi/ml.	1. TRANSIENT REQUIRING RX TRIP WITH FAILURE TO SCRAM. ADDITIONAL FAILURE OF CORE COOLING AND ECCS WOULD LEAD TO CORE MELT: • RCS pressure greater than safety valve setpoint OR • Rapidly increasing RB pressure AND • Rx remains critical 2. TRANSIENT INITIATED BY LOSS OF FDW AND CONDENSATE SYSTEMS FOLLOWED BY FAILURE OF EFDW FOR EXTENDED PERIOD. CORE MELT POSSIBLE IN SEVERAL HOURS. • Loss of main condenser AND • No EFDW AND • No HPI OR • Loss of main condenser AND • No EFDW AND • Successful HPI AND • 30 minutes has elapsed with • No LPI AND/OR • No EFDW
INITIAL NOTIFICATION REQUIREMENTS: CONSULT EMERGENCY TELEPHONE DIRECTORY			
Notify 1,2,3,4	Notify 1,2,3,4	Notify 1,2,3,4	Notify 1,2,3,4

ENCLOSURE 4.1.6
LOSS OF POWER

UNUSUAL EVENT

1. LOSS OF OFFSITE POWER OR LOSS OF ONSITE AC POWER CAPABILITY

- Switchyard isolation OR
- Underfrequency-undervoltage on MFB #1 or #2 AND
- Keowee emergency start with transfer of auxiliaries to STBY buses.

INITIAL NOTIFICATION REQUIREMENTS: CONSULT EMERGENCY TELEPHONE DIRECTORY.

Notify 1,2,3,4

ALERT

1. LOSS OF OFFSITE POWER AND LOSS OF ALL ONSITE AC POWER

*NOTE: Alert declared as soon as power outage occurs.

- Load rejection and Rx trip AND
- ST isolation on undervoltage underfrequency AND
- Loss of voltage on MFB 1 & 2 AND
- Keowee emergency start with transfer of auxiliaries to STBY buses.

2. LOSS OF ALL ONSITE DC POWER

*NOTE: Alert declared as soon as a loss of DC power occurs.

- Low voltage on all DC buses OR
- DC buses unavailable to be closed.

3. RAPID GROSS FAILURE OF ONE OTSG TUBE WITH LOSS OF OFF-SITE POWER.

*NOTE: Leak greater than 10 GPM but less 200 GPM.

- RIA 16, 17, 40 HIGH alarm; AND
- LDST level decreasing; AND
- Undervoltage - underfrequency on MFB 1 and MFB 2, AND
- RCS leak rate calculation

Notify 1,2,3,4

SITE AREA EMERGENCY

1. LOSS OF OFFSITE POWER AND LOSS OF ONSITE AC POWER FOR MORE THAN 15 MINUTES

- Undervoltage on MFB 1 & 2 AND
- Keowee Hydro fails to start either manual or automatic

2. LOSS OF ALL VITAL ONSITE DC POWER FOR MORE THAN 15 MINUTES.

- DC bus undervoltage alarms (all buses) AND
- DC alarm on EPSL.

3. RAPID FAILURE OF STEAM GENERATOR TUBE LEAK (GREATER THAN 200 GPM) WITH LOSS OF OFFSITE POWER.

- Rx trip on LOW RCS PRESSURE AND
- RCS PRESSURE decreasing uncontrollably with T_{avg} constant AND
- RIA 16/17 and 40 HIGH alarm AND
- No significant increase in RB pressure and sump level AND
- Undervoltage-underfrequency alarms in the 230 KV switchyard.

Notify 1,2,3,4

GENERAL EMERGENCY

1. FAILURE OF OFFSITE AND ONSITE POWER ALONG WITH TOTAL LOSS OF EFDW MAKE-UP CAPABILITY FOR SEVERAL HOURS.

- Undervoltage on MFB 1 & 2 alarms for greater than 2 hours AND
- Keowee Hydro fails to start (either manual or automatic) AND
- EFDW pumps fail to start.

2. SMALL AND LARGE LOCAS WITH FAILURE OF ECCS - LEADS LEADS TO CORE MELT.

- LOCA EALs-SAE #1 or SAE #2

AND

- HPI system failure AND
- LPI system failure

Notify 1,2,3,4

ENCLOSURE 4.1.7
FIRES AND SECURITY ACTIONS

UNUSUAL EVENT	ALERT	SITE AREA EMERGENCY	GENERAL EMERGENCY
1. FIRE WITHIN THE PLANT LASTING MORE THAN 10 MINUTES. *NOTE: Within the plant means: Aux Bldg, TB, RB, Keowee Hydro • Efforts to extinguish a fire within the plant lasts longer than 10 minutes.	1. FIRE POTENTIALLY AFFECTING SAFETY SYSTEMS. • Fire alarm in vital areas and visual observation of fires affecting safety related systems AND • Shift Supervisor's Judgement	1. FIRE COMPROMISING THE FUNCTIONS OF SAFETY SYSTEMS. • Observation of a fire causing the loss of redundant safety systems trains or functions.	1. ANY MAJOR INTERNAL OR EXTERNAL EVENTS WHICH COULD CAUSE MASSIVE COMMON DAMAGE TO PLANT. • Visual observation of fires AND • Shift Supervisor's Judgement
2. SECURITY THREAT OR ATTEMPTED ENTRY OR ATTEMPTED SABOTAGE. • Shift Supervisor is made aware that the Safeguards Contingency Plan has been initiated.	2. ONGOING SECURITY COMPROMISE • Security Safeguards Contingency event • Adversaries commandeer an area of the plant but not control over the SD capability or of any vital area in the ONS Safeguards Contingency Plan.	2. IMMINENT LOSS OF PHYSICAL CONTROL OF THE PLANT • Physical attack resulting in imminent occupancy of the CR, Aux SD panels, or other vital areas in the ONS Safeguards Contingency Plan.	2. LOSS OF PHYSICAL CONTROL OF THE PLANT • Physical attack resulting in unauthorized personnel occupying the CR or any other vital area in the ONS Safeguards Contingency Plan.

INITIAL NOTIFICATION REQUIREMENTS: CONSULT EMERGENCY TELEPHONE DIRECTORY

Notify 1,2,3,4	Notify 1,2,3,4	Notify 1,2,3,4	Notify 1,2,3,4

ENCLOSURE 4.1.8
LOSS OF ALARMS AND/OR COMMUNICATION

UNUSUAL EVENT	ALERT	SITE AREA EMERGENCY	GENERAL EMERGENCY
1. INDICATIONS OR ALARMS ON PROCESS OR EFFLUENT PARAMETERS NOT FUNCTIONAL IN CR REQUIRING SD. • Loss of radiation monitoring system per TS 3.1.6.8 • Loss of sub-cooling margin per TS 3.1.12 2. OTHER SIGNIFICANT LOSS OF ASSESSMENT OR COMMUNICATION CAPABILITY WHICH DOES NOT REQUIRE SD. • Loss of all ONS communications capability to offsite agencies	1. MOST OR ALL ALARMS (ANNUNCIATORS) LOST IN THE CR • Visual observation by the CR Operator.	1. MOST OR ALL ALARMS (ANNUNCIATORS) LOST AND PLANT TRANSIENT INITIATED OR IN PROGRESS. • All alarms lost for 15 minutes AND • Shift Supervisor's judgement that a transient has occurred or is in progress.	

INITIAL NOTIFICATION REQUIREMENTS: CONSULT EMERGENCY TELEPHONE DIRECTORY

Notify 1,2,3,4 | Notify 1,2,3,4 | Notify 1,2,3,4

ENCLOSURE 4.1.9
SPENT FUEL DAMAGE

UNUSUAL EVENT	ALERT	SITE AREA EMERGENCY	GENERAL EMERGENCY
	1. FUEL DAMAGE ACCIDENT WITH RELEASE OF RADIOACTIVITY TO: • Containment - RIA-4 HIGH ALARM • Spent Fuel Pool - RIA-41, ALERT ALARM	1. MAJOR DAMAGE TO SPENT FUEL: *NOTE: DAMAGE MECHANISM IS: • Large object damages fuel OR • Water loss below fuel level IN • Containment - RIA 2,3,4,49 HIGH Alarm with gaseous sample results indicating offsite dose comparable to SAE #2 EALS (Enc. 4.1.4) OR • Fuel-Handling Building RIA-6 HIGH Alarm in Spent Fuel Pool OR RIA-41 HIGH Alarm with gaseous sample results indicating offsite dose comparable to SAE #1 EALS, (Enc. 4.1.4)	

INITIAL NOTIFICATION REQUIREMENTS: CONSULT EMERGENCY TELEPHONE DIRECTORY

Notify 1,2,3,4

Notify 1,2,3,4

ENCLOSURE 4.1.10
NATURAL DISASTERS AND OTHER HAZARDS

UNUSUAL EVENT

1. EARTHQUAKE FELT IN PLANT OR DETECTED
2. LAKE LEVEL (Krowee)
   - Low < 775 ft.
3. ANY TORNADO WITHIN THE SITE BOUNDARY.
4. WINDS GREATER THAN 73 MPH
5. AIRCRAFT CRASH ONSITE OR UNUSUAL AIRCRAFT ACTIVITY OVER SITE.
6. EXPLOSION WITHIN THE SITE BOUNDARY.
7. TOXIC OR FLAMMABLE GAS RELEASE WITHIN THE SITE BOUNDARY.
8. TURBINE ROTATING COMPONENT FAILURE CAUSING RAPID PLANT SD.

ALERT

1. DBE less than .05g
2. TORNADO STRIKING FACILITY
3. WINDS APPROACHING 95 MPH
4. AIRCRAFT CRASH ON FACILITY
5. MISSILE IMPACT ON FACILITY
6. EXPLOSION DAMAGE TO FACILITY AFFECTING PLANT OPERATION
7. UNCONTROLLED ENTRY OF TOXIC OR FLAMMABLE GAS INTO FACILITY AFFECTING SAFE OPERATION OF PLANT
8. TURBINE ROTATING COMPONENT FAILURE CAUSING PENETRATION OF TURBINE CASING.

SITE AREA EMERGENCY

PLANT NOT IN COLD SHUTDOWN:

1. MHE $\geq$ .10g (Class I structure founded on bedrock)

   MHE $\geq$ .15g (Structures founded on overburden)
2. WINDS GREATER THAN 95 MPH
3. AIRCRAFT CRASH CAUSING DAMAGE OR FIRE IN RB OR CR, AUX. BLDG., FUEL-HANDLING BLDG., TB, INTAKE STRUCTURES, OR SWITCHYARD.
4. DAMAGE FROM MISSILE OR EXPLOSION CAUSING INABILITY TO ESTABLISH:
   - HPI injection
   - FDW flow or EDFW flow

   OR
   - Condenser not available and Turbine by-pass valves not operable.
5. ENTRY OF CONTROLLED TOXIC OR FLAMMABLE GASES INTO CR, CABLE SPREADING ROOMS, RB, SWITCHGEAR ROOM, AUX. SD PANELS AFFECTING SAFE OPERATION OF PLANT.

GENERAL EMERGENCY

1. ANY MAJOR INTERNAL OR EXTERNAL EVENTS (i.e., FIRES, EARTHQUAKES SUBSTANTIALLY BEYOND DESIGN LEVELS) WHICH COULD CAUSE MASSIVE COMMON DAMAGE TO PLANT SYSTEMS.

INITIAL NOTIFICATION REQUIREMENTS: CONSULT EMERGENCY TELEPHONE DIRECTORY

Notify 1,2,3,4 | Notify 1,2,3,4 | Notify 1,2,3,4 | Notify 1,2,3,4

RP/0/B/1000/01

ENCLOSURE 4.1.11
OTHER ABNORMAL PLANT CONDITIONS

UNUSUAL EVENT	ALERT	SITE AREA EMERGENCY	GENERAL EMERGENCY
1. ECCS INITIATED: • 1 or more ES channels actuated WITH • Flow indicated in A or B injection header (LPI or HPI) on valid RCS Low pressure OR • RB High pressure signal.	1. OTHER PLANT CONDITIONS THAT WARRANT PRECAUTIONARY ACTIVATION OF THE TSC AND PLACING THE CHC AND OTHER KEY PERSONNEL ON STANDBY.	1. OTHER PLANT CONDITIONS EXIST THAT WARRANT ACTIVATION OF THE TSC AND CHC. • Offsite monitoring initiated AND • Siren System activated by counties.	1. OTHER PLANT CONDITIONS EXIST FROM WHATEVER SOURCE THAT MAKE RELEASE OF LARGE AMOUNTS OF RADIOACTIVITY IN A SHORT TIME PERIOD POSSIBLE • Any core melt situation
2. LOSS OF CONTAINMENT INTEGRITY REQUIRING SD BY TS. • Penetration(s) fail leak test as specified in TS 4.4.1. OR • Limits as established in TS 3.6 exceeded.	2. EVACUATION OF CR ANTICIPATED OR REQUIRED WITH CONTROL OF SD SYSTEMS ESTABLISHED FROM LOCAL STATIONS. • Evacuations of Control Room 1 & 2 would require relocating the TSC to the Oconee Training Center.	2. EVACUATION OF CONTROL ROOM AND CONTROL OF SD SYSTEMS NOT ESTABLISHED FROM LOCAL STATIONS IN 15 MINUTES • As determined by the Emergency Coordinator	
3. LOSS OF ES FEATURE OR FIRE PROTECTION SYSTEM FUNCTION REQUIRING SD BY TS. EX: Malfunction, Personnel Error, Procedural Inadequacy. • ES System found inoperable (TS 3.3) OR • Fire suppression water system found inoperable (include Keowee Hydro) TS 3.17			

INITIAL NOTIFICATION REQUIREMENTS: CONSULT EMERGENCY TELEPHONE DIRECTORY

Notify 1,2,3,4 | Notify 1,2,3,4 | Notify 1,2,3,4 | Notify 1,2,3,4

ENCLOSURE 4.1.11
OTHER ABNORMAL PLANT CONDITIONS

UNUSUAL EVENT	ALERT	SITE AREA EMERGENCY	GENERAL EMERGENCY
4. ABNORMAL COOLANT TEMPERATURE AND/OR PRESSURE OR ABNORMAL FUEL TEMPERATURES OUTSIDE TS LIMITS • Exceeding interim brittle fracture curve WITHOUT RC Pumps on OR • Exceeding NDT limit WITH RC pumps on			
5. OTHER PLANT CONDITIONS EXIST THAT WARRANT INCREASED AWARENESS ON THE PART OF STATE/LOCAL AUTHORITIES.			
6. OTHER PLANT CONDITIONS EXIST THAT REQUIRE PLANT SD AND INVOLVES OTHER THAN NORMAL CONTROLLED SD.			
*7. TRANSPORTATION OF AN EXTERNALLY CONTAMINATED INJURED INDIVIDUAL FROM SITE TO OFFSITE HOSPITAL • Contamination greater than 150 cpm as determined by Health Physics			
*8. TRANSPORTAION OF AN INTERNALLY CONTAMINATED INDIVIDUAL REQUIRING MEDICAL ASSESSMENT/TREATMENT AT AN OFFSITE HOSPITAL.			
*9. TRANSPORTATION OF AN IRRADIATED INDIVIDUAL REQUIRING MEDICAL ASSESSMENT/TREATMENT AT AN OFFSITE HOSPITAL.			

INITIAL NOTIFICATION REQUIREMENTS: CONSULT EMERGENCY TELEPHONE DIRECTORY

Notify 1,2,3,4

*6 (All of the above and 6 for contaminated/injured patients)

CONTROL COPY

INFORMATION ONLY

Form SPD-1002-1

DUKE POWER COMPANY
PROCEDURE PREPARATION
PROCESS RECORD

(1) ID No: RP/O/B/1000/02
Change(s) 0 to
0 Incorporated

(2) STATION: OCONEE

(3) PROCEDURE TITLE: NOTIFICATION OF UNUSUAL EVENTS

(4) PREPARED BY: Donald L Davidson DATE: 11/8/84

(5) REVIEWED BY: Coleman C. Jennings DATE: 11/8/84

Cross-Disciplinary Review By: RL Sweigart N/R: _____

(6) TEMPORARY APPROVAL (IF NECESSARY):

By: _____ (SRO) Date: _____

By: _____ Date: _____

(7) APPROVED BY: JS Bass Date: 11/29/84

(8) MISCELLANEOUS:

Reviewed/~~Approved~~ By: RL Sweigart Date: 11/29/84

Reviewed/Approved By: _____ Date: _____

DUKE POWER COMPANY

OCONEE NUCLEAR STATION

NOTIFICATION OF UNUSUAL EVENTS

1.0 SYMPTOMS

1.1 Conditions exist where events are in progress or have occurred which indicate a potential degradation of the level of safety of the plant.

2.0 IMMEDIATE ACTIONS

2.1 Actions are not required to be followed in any particular sequence.

2.2 The Shift Supervisor/Emergency Coordinator shall:

Date
Initial/Time

_____ 2.2.1 Appoint On-Shift Communicator(s).

_____ 2.2.2 Appoint person to maintain logs.

_____ 2.2.3 Augment support as needed.

2.3 The On-Shift Communicator(s) shall:

NOTE: WARNING MESSAGE FORMS ARE IN THE IMPLEMENTING PROCEDURES CART. EMERGENCY COORDINATOR MUST APPROVE CONTENTS OF WARNING MESSAGE PRIOR TO RELEASE OFFSITE.

_____ 2.3.1 Complete Part I (Initial Notification) of the Warning Message form. Have available the authentication procedure.

2.3.1.1 Use Part I & II of the Warning Message form as applicable. Mark all spaces "N/A" when information is not applicable. Mark "Later" when information is not currently available.

_____ 2.3.2 Notify the Counties/State of South Carolina within 15 minutes of the declaration of emergency. Use the Emergency Telephone Directory.

_____ 2.3.3 Notify the NRC within 1 hour of the declaration of emergency. Open line to the NRC may be required.

_____ 2.3.4 Contact the Unit Operating/Duty Engineer. Operations Engineer shall use information from Enclosure 4.1 to complete his notification requirements.

Date
Initial/Time

3.0 SUBSEQUENT ACTIONS

_____3.1 If the UNUSUAL EVENT situation lasts longer than 1 hour, update Counties/State of South Carolina agencies each hour.

OR

If there is any significant change in the situation

OR

As agreed upon with individual agencies until the emergency is closed out.

_____3.2 Assess the emergency situation:

Remain in an UNUSUAL EVENT

OR

Escalate to a more severe class

OR

Terminate the emergency.

3.3 Close out the UNUSUAL EVENT.

_____3.3.1 On-shift communicator(s) will give a verbal summary closing out the emergency to the Counties/State of South Carolina agencies and the NRC.

_____3.3.2 Shift Supervisor shall complete the UNUSUAL EVENT procedure and forward the procedure with all copies of the Warning Message form to the ONS Emergency Preparedness Coordinator.

_____3.3.3 The Emergency Preparedness Coordinator shall be responsible for the Completed Procedure Process Record of Emergency Plan implementing procedures initiated by the Control Room.

_____3.3.4 The Emergency Preparedness Coordinator shall prepare a written summary for the Station Manager's signature. This summary will be forwarded to the offsite authorities (County and State) within 24 hours of the time closeout was determined by the Emergency Coordinator.

4.0 ENCLOSURES

4.1 Emergency Information

RP/0/B/1000/02
Enclosure 4.1

DUKE POWER COMPANY
OCONEE NUCLEAR STATION
EMERGENCY INFORMATION

Date/Time _____

1. This is _____ at Oconee Nuclear Station.
(Name and Title)

2. This ____ is ____ is not a drill. An ____ Unusual Event
____ Alert
____ Site Area Emergency
____ General Emergency
was declared by the Emergency Coordinator at _____ on Unit #____.
(Time)

3. Initiating condition: (Give as close to the emergency plan description as possible together with station parameters used to determine emergency status). _____

4. Corrective measures being taken: _____

5. There ____ have ____ have not been any injuries to plant personnel.

6. Release of radioactivity: ____ is taking place
____ is not taking place

7. Notifications made: NRC __Yes __No State __Yes __No Counties __Yes __No

8. Crisis Management Team response required:

____Unusual Event - Notify Corp. Communications and Company Management.

____Alert - Bring Crisis Management Team to stand-by.

____Site Area Emergency - Activate the Crisis Management Team.

____General Emergency - Activate the Crisis Management Team.

9. I can be reached at _____ for follow-up information.
(Telephone Number)

10. Additional Comments: _____

11. Superintendent of Operations _____ Date_____ Time_____

Station Manager _____ Date_____ Time_____

N.P. Duty Engineer _____ Date_____ Time_____
Beeper [redacted]

INFORMATION ONLY

CONTROL COPY

Form SPD-1002-1

DUKE POWER COMPANY
PROCEDURE PREPARATION
PROCESS RECORD

(1) ID No: RP/O/B/1000/03
Change(s) 0 to
0 Incorporated

(2) STATION: OCONEE

(3) PROCEDURE TITLE: ALERT

(4) PREPARED BY: Donald L Dowdrow DATE: 11/8/84

(5) REVIEWED BY: Coleman E Jennings DATE: 11/8/84

Cross-Disciplinary Review By: R L Swingart N/R:

(6) TEMPORARY APPROVAL (IF NECESSARY):

By: _____ (SRO) Date: _____

By: _____ Date: _____

(7) APPROVED BY: J S Barr Date: 11/29/84

(8) MISCELLANEOUS:

Reviewed/~~Approved~~ By: B T Boyd Date: 11/29/84

Reviewed/Approved By: _____ Date: _____

DUKE POWER COMPANY

OCONEE NUCLEAR STATION

ALERT

1.0 SYMPTOMS

1.1 Events are in process or have occurred which involve an actual or potential substantial degradation of the level of safety of the plant.

2.0 IMMEDIATE ACTIONS

2.1 Actions are not required to be followed in any particular sequence.

2.2 The Shift Supervisor/Emergency Coordinator shall:

Date
Initial/Time

_____ 2.2.1 Appoint On-Shift Communicator(s).

_____ 2.2.2 Appoint person to maintain logs.

_____ 2.2.3 Initiate a Site Assembly in accordance with RP/0/B/1000/09 to set up the Technical Support Center.

_____ 2.2.4 Dispatch onsite monitoring teams to assess radiation and contamination.

2.3 The On-Shift Communicator(s) shall:

NOTE: WARNING MESSAGE FORMS ARE IN THE IMPLEMENTING PROCEDURES CART. EMERGENCY COORDINATOR MUST APPROV CONTENTS OF WARNING MESSAGE PRIOR TO INFORMATION BEIN RELEASED OFFSITE.

_____ 2.3.1 Complete Part I (Initial Notification) of the Warning Message form. Have available the authentication procedure.

2.3.1.1 Use Part I & II of the Warning Message form as applicable. Mark all spaces "N/A" when information is "Not applicable." Mark "Later" when information is not currently available.

_____ 2.3.2 Notify the Counties/State of South Carolina within 15 minutes of the declaration of emergency. Use the Emergency Telephone Directory.

Date
Initial/Time

_____ 2.3.3 Notify the NRC within 1 hour of the declaration of the emergency. Open line to the NRC may be required.

_____ 2.3.4 Contact the Unit Operating/Duty Engineer. Information from Enclosure 4.1 shall be used by the Operations Engineer to complete his notification requirements.

2.3.5 Contact Security Shift Lieutenant. (Enclosure 4.2 provides response actions of Security.)

_____ 2.3.5.1 Code Red (0800-1630 Weekdays Monday through Friday)

_____ 2.3.5.2 Code Blue (After hours, holidays, weekends)

3.0 SUBSEQUENT ACTIONS

NOTE: CONTROL ROOM OR TECHNICAL SUPPORT CENTER

_____ 3.1 If the ALERT lasts longer than 1 hour, update Counties/State of South Carolina agencies each hour

OR

If there is any significant change in the situation

OR

As agreed upon with individual agencies until the emergency is closed out.

_____ 3.2 Technical Support Center Operational. (See Enclosure 4.3)

_____ 3.3 Crisis Management Center Operational.

_____ 3.4 Assess the emergency situation:

Remain in an ALERT

OR

Escalate to a more severe class

OR

Reduce the emergency classification

OR

Terminate the emergency.

Date
Initial/Time

3.5 The Offsite Communicator(s) in the Technical Support Center will give a verbal summary to reduce or close out the emergency to the Counties/ State of South Carolina agencies and the NRC.

_____ 3.5.1 The Emergency Preparedness Coordinator shall prepare a written summary for the Station Manager's signature. This summary will be forwarded to the offsite authorities within 8 hours of the de-escalation or closeout by the Emergency Coordinator.

_____ 3.6 The Emergency Preparedness Coordinator shall be responsible for completing all Completed Procedure Process Records of Emergency Plan implementing procedures initiated by the Control Room and/or Technical Support Center during the emergency.

4.0 ENCLOSURES

4.1 Emergency Information

4.2 Globe Security Response

4.3 Technical Support Center Turnover Sheet

RP/0/B/1000/03
Enclosure 4.1

DUKE POWER COMPANY
OCONEE NUCLEAR STATION
EMERGENCY INFORMATION

Date/Time _____

1. This is _____ at Oconee Nuclear Station.
(Name and Title)

2. This ____ is ____ is not a drill. An ____ Unusual Event
____ Alert
____ Site Area Emergency
____ General Emergency
was declared by the Emergency Coordinator at _____ on Unit #____.
(Time)

3. Initiating condition: (Give as close to the emergency plan description as possible together with station parameters used to determine emergency status). _____

4. Corrective measures being taken: _____

5. There ____ have ____ have not been any injuries to plant personnel.

6. Release of radioactivity: ____ is taking place
____ is not taking place

7. Notifications made: NRC __Yes __No State __Yes __No Counties __Yes __No

8. Crisis Management Team response required:

____Unusual Event - Notify Corp. Communications and Company Management.

____Alert - Bring Crisis Management Team to stand-by.

____Site Area Emergency - Activate the Crisis Management Team.

____General Emergency - Activate the Crisis Management Team.

9. I can be reached at _____ for follow-up information.
(Telephone Number)

10. Additional Comments: _____

11. Superintendent of Operations _____ Date_____ Time_____

Station Manager _____ Date_____ Time_____

N.P. Duty Engineer _____ Date_____ Time_____
Beeper [redacted]

DUKE POWER COMPANY

OCONEE NUCLEAR STATION

GLOBE SECURITY RESPONSE

Date/Time _____

_____ AT _____
On-Shift Communicator Telephone Number

TO: _____ AT 1309
Security Shift Lieutenant Telephone Number

Give the following information:

1. This is _____ is not _____ a drill. The Technical Support Center is being activated for an emergency relating to Unit # _____.

2. Provide Code Red Response: (0800 - 1630 Weekdays Monday through Friday)

   - Access and Control to all three Control Rooms.
   - Station Personnel Accountability
   - Patrol station for Site Assembly and secure the gates.
   - Switch telephones to TSC and OSC.
   - Implement Globe Procedure 81-0100-0-06
   - Provide Manpower for MERT Team

   Provide Code Blue Response: (After hours, weekends, holidays)

   - Recall Duty Personnel per Duty Roster
   - Switch telephones to TSC and OCS
   - Unlock doors to TSC and OSC
   - Patrol station for Site Assembly and secure the gates
   - Access and Control to all three Control Rooms
   - Station Personnel Accountability
   - Implement Globe Procedure 81-0100-0-06
   - Provide Manpower for MERT Team

DUKE POWER COMPANY

OCONEE NUCLEAR STATION

TECHNICAL SUPPORT CENTER TURNOVER SHEET

1. Personnel arriving in the Technical Support Center shall relieve Operations personnel of peripheral duties ordinarily assigned to their section. These persons will be provided direction from the Emergency Coordinator/Shift Supervisor until he is relieved of accident management responsibilities by the Station Manager/ alternate once the Technical Support Center is operational.

Date Initial/Time	FACE TO FACE WRITTEN TURNOVER IS REQUIRED	NAME
_____	Station Manager	_____
_____	Health Physics Dose Assessment	_____
_____	Performance	_____
_____	Compliance	_____

2. Technical Support Center

   _____ Operational

3. Station Manager shall assume the following accident management responsibilities:

   - Provide for continuous staffing of the Technical Support Center and Operational Support Center
   - Maintain station accountability and dose control
   - Implement approval process for release of information
   - Provide update of emergency status to plant personnel
   - Provide protective action recommendations to County/State authorities
   - Make available news release to TSC and OSC
   - Maintain contact with Crisis Management Center
   - Direct and initiate measures to control and mitigate the emergency

INFORMATION ONLY

CONTROLLED COPY

Form SPD-1002-1

DUKE POWER COMPANY
PROCEDURE PREPARATION
PROCESS RECORD

(1) ID No: RP/O/B/1000/04
Change(s) 0 to
0 Incorporated

(2) STATION: OCONEE

(3) PROCEDURE TITLE: SITE AREA EMERGENCY

(4) PREPARED BY: Donald L Dodson DATE: 11/8/84

(5) REVIEWED BY: Coleman C. Jennings DATE: 11/9/84

Cross-Disciplinary Review By: R L Swright N/R:

(6) TEMPORARY APPROVAL (IF NECESSARY):

By: (SRO) Date:

By: Date:

(7) APPROVED BY: J S Bass Date: 11/29/84

(8) MISCELLANEOUS:

Reviewed/~~Approved~~ By: Date: 11/29/84

Reviewed/Approved By: Date:

DUKE POWER COMPANY

OCONEE NUCLEAR STATION

SITE AREA EMERGENCY

1.0 SYMPTOMS

1.1 Events are in process or have occurred which involve an actual or likely major failure of plant functions needed for protection of the public.

2.0 IMMEDIATE ACTIONS

2.1 Actions are not required to be followed in any particular sequence.

2.2 The Shift Supervisor/Emergency Coordinator shall:

NOTE: PROTECTIVE ACTION RECOMMENDATIONS ARE THE SOLE RESPONSIBILITY OF THE EMERGENCY COORDINATOR AND MAY NOT BE DELEGATED.

Date Initial/Time		
_____	2.2.1	Recommend within 15 minutes of declaration of SITE AREA EMERGENCY to Counties/State of South Carolina that the Alerting Sirens be sounded and that the EBS be activated to inform the public of a potential for later protective actions.
_____	2.2.2	Appoint On-shift communicator(s).
_____	2.2.3	Appoint person to maintain logs.
_____	2.2.4	Initiate a Site Assembly in accordance with RP/0/B/1000/09 to set up the Technical Support Center.
_____	2.2.5	Dispatch onsite monitoring teams to assess radiation and contamination.

2.3 The On-Shift Communicator(s) shall:

NOTE: WARNING MESSAGE FORMS ARE IN THE IMPLEMENTING PROCEDURES CART. EMERGENCY COORDINATOR MUST APPROVE CONTENTS OF WARNING MESSAGES PRIOR TO INFORMATION BEING RELEASED OFFSITE.

Date
Initial/Time

_____ 2.3.1 Complete Part I (Initial Notification) of the Warning Message form. Have available the authentication procedure. Emergency Coordinator must make the initial notification since protective recommendations are required.

2.3.1.1 Use Part I & II of the Warning Message form as applicable. Mark all spaces "N/A" when information is not applicable. Mark "Later" when information is not currently available.

_____ 2.3.2 Notify the NRC within 1 hour of the declaration of the emergency. Open line to the NRC may be required.

_____ 2.3.3 Contact unit Operating/Duty Engineer. Information from Enclosure 4.1 shall be used by the Operations Engineer to complete his notification requirements.

2.3.4 Contact Security Shift Lieutenant to respond. (Enclosure 4.2 provides response actions of Security.)

_____ 2.3.4.1 Code Red (0800-1630 Weekdays Monday through Friday)

_____ 2.3.4.2 Code Blue (After hours, weekends, holidays)

3.0 SUBSEQUENT ACTIONS

NOTE: CONTROL ROOM OR TECHNICAL SUPPORT CENTER

_____ 3.1 Update Counties/State of South Carolina agencies each half hour

OR

If there is any significant change in the situation

OR

As agreed upon with individual agencies until the emergency is closed out.

_____ 3.2 Follow-up Protective Action Recommendations to offsite authorities. Use RP/0/B/1000/06 for determination of protective action recommendations.

3.2.1 Offsite dose calculations will be made by Operations or the Health Physics Center depending on which group is available. This information will be used by the Emergency Coordinator to make recommendations to the Counties/ State of South Carolina.

Date
Initial/Time

_____3.3 Consider evacuation of non-essential personnel per RP/0/B/1000/10.

_____3.4 Technical Support Center Operational. (See Enclosure 4.3.)

_____3.5 Crisis Management Center Operational.

_____3.6 Assess the emergency situation:

Remain in a SITE AREA EMERGENCY

OR

Escalate to a more severe class

OR

Reduce the emergency classification

OR

Terminate the emergency classification.

_____3.7 The Recovery Manager at the Crisis Management Center shall recommend close out or reduction of the emergency classification by phone or by briefing to offsite authorities at the Crisis Management Center. The Recovery Manager shall provide a written summary to offsite authorities within 8 hours of the class reduction or closeout.

_____3.8 The Emergency Preparedness Coordinator shall be responsible for completing all Completed Procedure Process Records of Emergency Plan implementing procedures initiated by the Control Room and/or Technical Support Center.

4.0 ENCLOSURES

4.1 Emergency Information

4.2 Globe Security Response

4.3 Technical Support Center Turnover Sheet

RP/0/B/1000/04
Enclosure 4.1

DUKE POWER COMPANY
OCONEE NUCLEAR STATION
EMERGENCY INFORMATION

1. This is _____ at Oconee Nuclear Station.
(Name and Title)

2. This ____ is ____ is not a drill. An ____ Unusual Event
____ Alert
____ Site Area Emergency
____ General Emergency
was declared by the Emergency Coordinator at _____ on Unit #____.
(Time)

3. Initiating condition: (Give as close to the emergency plan description as possible together with station parameters used to determine emergency status). _____

4. Corrective measures being taken: _____

5. There ____ have ____ have not been any injuries to plant personnel.

6. Release of radioactivity: ____ is taking place
____ is not taking place

7. Notifications made: NRC ___Yes ___No State ___Yes ___No Counties ___Yes ___No

8. Crisis Management Team response required:
____Unusual Event - Notify Corp. Communications and Company Management.
____Alert - Bring Crisis Management Team to stand-by.
____Site Area Emergency - Activate the Crisis Management Team.
____General Emergency - Activate the Crisis Management Team.

9. I can be reached at _____ for follow-up information.
(Telephone Number)

10. Additional Comments: _____

11. Superintendent of Operations_____ Date_____ Time_____

Station Manager_____ Date_____ Time_____

N.P. Duty Engineer _____ Date_____ Time_____
Beeper

DUKE POWER COMPANY

OCONEE NUCLEAR STATION

GLOBE SECURITY RESPONSE

Date/Time _____

_____ AT _____
On-Shift Communicator Telephone Number

TO: _____ AT _____
Security Shift Lieutenant Telephone Number

Give the following information:

1. This is _____ is not _____ a drill. The Technical Support Center is being activated for an emergency relating to Unit # _____.

2. Provide Code Red Response: (0800 - 1630 Weekdays Monday through Friday)

   - Access and Control to all three Control Rooms.
   - Station Personnel Accountability
   - Patrol station for Site Assembly and secure the gates.
   - Switch telephones to TSC and OSC.
   - Implement Globe Procedure 81-0100-0-06
   - Provide Manpower for MERT Team

   Provide Code Blue Response: (After hours, weekends, holidays)

   - Recall Duty Personnel per Duty Roster
   - Switch telephones to TSC and OCS
   - Unlock doors to TSC and OSC
   - Patrol station for Site Assembly and secure the gates
   - Access and Control to all three Control Rooms
   - Station Personnel Accountability
   - Implement Globe Procedure 81-0100-0-06
   - Provide Manpower for MERT Team

DUKE POWER COMPANY

OCONEE NUCLEAR STATION

TECHNICAL SUPPORT CENTER TURNOVER SHEET

1. Personnel arriving in the Technical Support Center shall relieve Operations personnel of peripheral duties ordinarily assigned to their section. These persons will be provided direction from the Emergency Coordinator/Shift Supervisor until he is relieved of accident management responsibilities by the Station Manager/ alternate once the Technical Support Center is operational.

Date Initial/Time	FACE TO FACE WRITTEN TURNOVER IS REQUIRED	NAME
_____	Station Manager	_____
_____	Health Physics Dose Assessment	_____
_____	Performance	_____
_____	Compliance	_____

2. Technical Support Center

_____Operational

3. Station Manager shall assume the following accident management responsibilities:

   - Provide for continuous staffing of the Technical Support Center and Operational Support Center
   - Maintain station accountability and dose control
   - Implement approval process for release of information
   - Provide update of emergency status to plant personnel
   - Provide protective action recommendations to County/State authorities
   - Make available news release to TSC and OSC
   - Maintain contact with Crisis Management Center
   - Direct and initiate measures to control and mitigate the emergency

INFORMATION ONLY

CONTROL COPY

Form SPD-1002-1

DUKE POWER COMPANY
PROCEDURE PREPARATION
PROCESS RECORD

(1) ID No: RP/O/B/1000/05
Change(s) 0 to
0 Incorporated

(2) STATION: OCONEE

(3) PROCEDURE TITLE: GENERAL EMERGENCY

(4) PREPARED BY: Coleman B Jennings DATE: 11/8/84

(5) REVIEWED BY: Donald L Davidson DATE: 11/8/84

Cross-Disciplinary Review By: R L Sweigart N/R:

(6) TEMPORARY APPROVAL (IF NECESSARY):

By: (SRO) Date:

By: Date:

(7) APPROVED BY: J S Bar Date: 11/29/84

(8) MISCELLANEOUS:

Reviewed/~~Approved~~ By: R T Bond Date: 11/29/84

Reviewed/Approved By: Date:

DUKE POWER COMPANY

OCONEE NUCLEAR STATION

GENERAL EMERGENCY

1.0 SYMPTOMS

1.1 Events are in process or have occurred which involve an actual or imminent substantial core degradation or melting with potential for loss of containment integrity.

2.0 IMMEDIATE ACTIONS

2.1 Actions are not required to be followed in any particular sequence.

2.2 The Shift Supervisor/Emergency Coordinator shall:

NOTE: PROTECTIVE ACTION RECOMMENDATIONS ARE THE SOLE RESPONSIBILITY OF THE EMERGENCY COORDINATOR AND MAY NOT BE DELEGATED.

Date
Initial/Time

_____2.2.1 Time of day - 1000 to 1559

- Within 15 minutes of a declaration of a GENERAL EMERGENCY, recommend to County/State authorities that all residents in the 2 mile radius and 5 mile downwind in a 90° sector go indoors, close all windows and doors, turn off ventilation equipment and monitor EBS for information.

NOTE: IDENTIFY the areas in the 90° Sector

_____2.2.2 Time of day - 1600 to 1000

- Within 15 minutes of a declaration of a GENERAL EMERGENCY, recommend to County/State authorities that all residents out to 5 miles should go indoors, close all windows and doors, turn off ventilation equipment and monitor EBS for information.

_____2.2.3 Appoint on-shift communicator(s).

_____2.2.4 Appoint person to maintain logs.

_____2.2.5 Initiate a Site Assembly in accordance with RP/0/B/1000/09 to set up Technical Support Center.

Date
Initial/Time

_____2.2.6 Dispatch onsite monitoring teams to assess radiation and contamination.

2.3 The On-Shift Communicator(s) shall:

NOTE: WARNING MESSAGE FORMS ARE IN THE IMPLEMENTING PROCEDURES CART. EMERGENCY COORDINATOR MUST APPROVE CONTENTS OF ALL WARNING MESSAGES. PRIOR TO RELEASE OFFSITE.

_____2.3.1 Complete Part I (Initial Notification) of the warning Message form. Have available the authentication procedure. Emergency Coordinator must make the initial notification since protective recommendations are required.

2.3.1.1 Use Part I and II of the Warning Message form as applicable. Mark all spaces "N/A" when information is not applicable and mark "later" when information is not currently available.

_____2.3.2 Notify the NRC within 1 hour of the declaration of the emergency. Open line to the NRC may be required.

_____2.3.3 Contact Unit Operating/Duty Engineer. Information from Enclosure 4.1 shall be used by the Operations Engineer to complete his notification requirements.

2.3 4 Contact Security Shift Lieutenant to respond. (See Enclosure 4.2).

_____2.3.4.1 Code Red - (0800-1630 Weekdays Monday through Friday.)

_____2.3.4.2 Code Blue - (After hours, weekends, holidays.)

3.0 SUBSEQUENT ACTIONS

NOTE: CONTROL ROOM OR TECHNICAL SUPPORT CENTER

_____3.1 Update County/State agencies <u>each half hour</u>

<u>OR</u>

If there is any significant change in the situation

<u>OR</u>

As agreed upon with individual agencies until the emergency is closed out.

Date
Initial/Time

_____3.2 Follow-up Protective Action Recommendations to offsite agencies. Use RP/0/B/1000/06 for determination of protective action recommendations required.

3.2.1 Offsite dose calculations will be made by Operations or Health Physics Center personnel depending on which group is available. This information will be used by the Emergency Coordinator to make recommendations to the Counties/State of South Carolina.

_____3.3 Evacuate non-essential personnel per RP/0/B/1000/10.

_____3.4 Dispatch Offsite Monitoring Teams to monitor radiation and contamination.

_____3.5 Technical Support Center Operational. (See Enclosure 4.3).

_____3.6 Crisis Management Center Operational.

_____3.7 Assess the emergency condition:

Remain in the GENERAL EMERGENCY

OR

Reduce the emergency classification

OR

Terminate the emergency classification.

_____3.8 The Recovery Manager at the Crisis Management Center shall close out or recommend reduction of the emergency classification by phone or by briefing to offsite authorities at the Crisis Management Center. The Recovery Management shall provide a written summary to offsite authorities within 8 hours of the class reduction or closeout.

_____3.9 The Emergency Preparedness Coordinator shall be responsible for completing all Completed Procedure Process Records of Emergency Plan implementing procedures initiated by the Control Room and/or Technical Support Center during the emergency.

4.0 ENCLOSURES

4.1 Emergency Information

4.2 Globe Security Response

4.3 Technical Support Center Turnover Sheet

RP/0/B/1000/05
Enclosure 4.1

DUKE POWER COMPANY
OCONEE NUCLEAR STATION
EMERGENCY INFORMATION

1. This is _____ at Oconee Nuclear Station.
(Name and Title)

2. This ____ is ____ is not a drill. An ____ Unusual Event
____ Alert
____ Site Area Emergency
____ General Emergency
was declared by the Emergency Coordinator at _____ on Unit #____.
(Time)

3. Initiating condition: (Give as close to the emergency plan description as possible together with station parameters used to determine emergency status). _____

4. Corrective measures being taken: _____

5. There ____ have ____ have not been any injuries to plant personnel.

6. Release of radioactivity: ____ is taking place
____ is not taking place

7. Notifications made: NRC ___Yes ___No State ___Yes ___No Counties ___Yes ___No

8. Crisis Management Team response required:

____Unusual Event - Notify Corp. Communications and Company Management.

____Alert - Bring Crisis Management Team to stand-by.

____Site Area Emergency - Activate the Crisis Management Team.

____General Emergency - Activate the Crisis Management Team.

9. I can be reached at _____ for follow-up information.
(Telephone Number)

10. Additional Comments: _____

11. Superintendent of Operations_____ Date_____ Time_____

Station Manager_____ Date_____ Time_____

N.P. Duty Engineer _____ Date_____ Time_____
Beeper

DUKE POWER COMPANY

OCONEE NUCLEAR STATION

GLOBE SECURITY RESPONSE

DATE/TIME _____

_____ AT _____
On-Shift Communicator Telephone Number

TO: _____ AT [redacted]
Security Shift Lieutenant Telephone Number

Give the following information:

1. This is _____ is not _____ a drill. The Technical Support Center is being activated for an emergency relating to Unit # _____.

2. Provide Code Red Response: (0800 - 1630 Weekdays Monday through Friday)

   - Access and Control to all three Control Rooms.
   - Station Personnel Accountability
   - Patrol station for Site Assembly and secure the gates.
   - Switch telephones to TSC and OSC.
   - Implement Globe Procedure 81-0100-0-06
   - Provide Manpower for MERT Team

   Provide Code Blue Response: (After hours, weekends, holidays)

   - Recall Duty Personnel per Duty Roster
   - Switch telephones to TSC and OCS
   - Unlock doors to TSC and OSC
   - Patrol station for Site Assembly and secure the gates
   - Access and Control to all three Control Rooms
   - Station Personnel Accountability
   - Implement Globe Procedure 81-0100-0-06
   - Provide Manpower for MERT Team

DUKE POWER COMPANY

OCONEE NUCLEAR STATION

TECHNICAL SUPPORT CENTER TURNOVER SHEET

1. Personnel arriving in the Technical Support Center shall relieve Operations personnel of peripheral duties ordinarily assigned to their section. These persons will be provided direction from the Emergency Coordinator/Shift Supervisor until he is relieved of accident management responsibilities by the Station Manager/ alternate once the Technical Support Center is operational.

Date Inital/Time	FACE TO FACE WRITTEN TURNOVER IS REQUIRED	NAME
_____	Station Manager	_____
_____	Health Physics Dose Assessment	_____
_____	Performance	_____
_____	Compliance	_____

2. Technical Support Center

   _____Operational

3. Station Manager shall assume the following accident management responsibilities:

   - Provide for continuous staffing of the Technical Support Center and Operational Support Center
   - Maintain station accountability and dose control
   - Implement approval process for release of information
   - Provide update of emergency status to plant personnel
   - Provide protective action recommendations to County/State authorities
   - Make available news release to TSC and OSC
   - Maintain contact with Crisis Management Center
   - Direct and initiate measures to control and mitigate the emergency

INFORMATION ONLY

CONTROL COPY

Form SPD-1002-1

DUKE POWER COMPANY
PROCEDURE PREPARATION
PROCESS RECORD

(1) ID No: RP/O/B/1000/06
Change(s) 0 to
0 Incorporated

(2) STATION: OCONEE

(3) PROCEDURE TITLE: PROTECTIVE ACTION RECOMMENDATIONS

(4) PREPARED BY: Edlena G. Jennings DATE: 11/8/84

(5) REVIEWED BY: Donald L Davidson DATE: 11/8/84

Cross-Disciplinary Review By: R L Sweigart N/R:

(6) TEMPORARY APPROVAL (IF NECESSARY):

By: (SRO) Date:

By: Date:

(7) APPROVED BY: J A Bass Date: 11/29/84

(8) MISCELLANEOUS:

Reviewed/~~Approved~~ By: R L Bryant Date: 11/29/84

Reviewed/Approved By: Date:

DUKE POWER COMPANY

OCONEE NUCLEAR STATION

PROTECTIVE ACTION RECOMMENDATIONS

1.0 SYMPTOMS

1.1 Radioactive releases (or potential for release) that produce projected doses in excess of the limits in Enclosure 4.2 requires protective action recommendations.

2.0 IMMEDIATE ACTIONS

2.1 Refer to Enclosure 4.1 to determine the protective action recommendations.

2.2 Request actual dose projections and re-evaluate recommendations to counties and state using offsite monitoring measurements (if available), current meteorology, and core/reactor coolant system/containment status.

3.0 SUBSEQUENT ACTIONS

NOTE: COUNTY AND/OR STATE EMERGENCY OPERATIONS CENTER FACILITIES MAY OR MAY NOT BE ESTABLISHED AND THE GENERAL OFFICE EMERGENCY RESPONSE ORGANIZATION HAS NOT BEEN ACTIVATED.

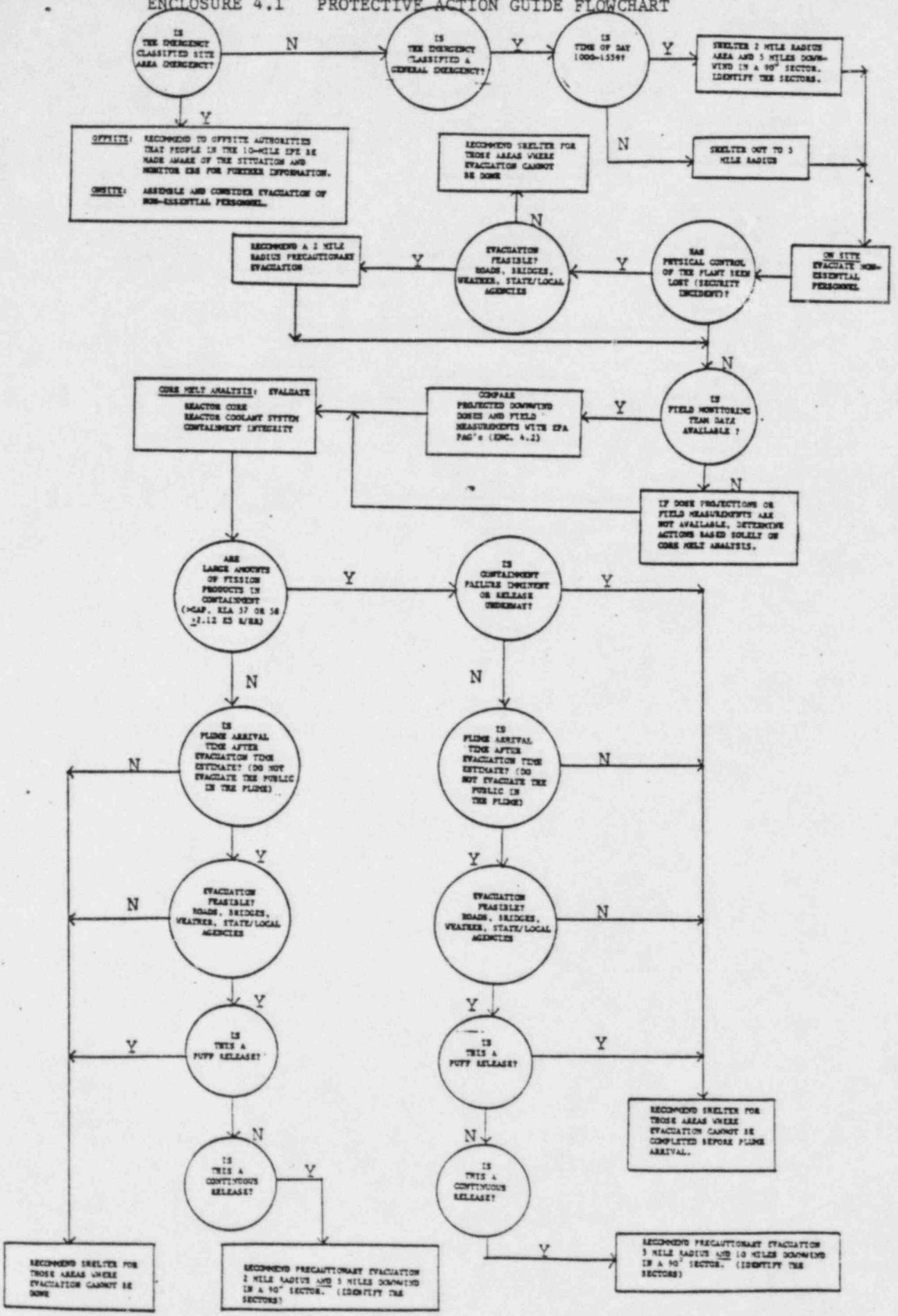
3.1 Contact Oconee County and Pickens County Emergency Preparedness agencies to update them on the revised recommendations. Notify the State of South Carolina warning point of the recommended action.

4.0 ENCLOSURES

4.1 Protective Action Guide Flowchart

4.2 Protective Action Guide

ENCLOSURE 4.1 PROTECTIVE ACTION GUIDE FLOWCHART



DUKE POWER COMPANY
OCONEE NUCLEAR STATION
PROTECTIVE ACTION GUIDES

Projected Dose (Rem) to the Population	Recommended Actions (a)	Comments
Whole Body <1 Thyroid <5	No protective action required. State may issue an advisory to seek shelter and await further instructions or to voluntarily evacuate. Monitor environmental radiation levels.	Previously recommended protective actions may be reconsidered or terminated.
Whole Body 1 to <5 Thyroid 5 to <25	Seek shelter and wait further instructions. Consider evacuation particularly for children and pregnant women. Monitor environmental radiation levels. Control access.	
Whole Body 5 and above Thyroid 25 and above	Conduct mandatory evacuation of populations in the predetermined area. Monitor environmental radiation levels and adjust area for mandatory evacuation based on these levels. Control access.	Seeking shelter would be an alternative if evacuation were not immediately possible.
Projected Dose (Rem) to Emergency Team Workers	- VOLUNTARY BASIS - (PLANNED EMERGENCY EXPOSURE BEYOND 10 CFR 20 LIMITS)	
Whole Body 5-25* Skin of whole body 30-125* Thyroid 125* Extremities 75	Control exposure of emergency team members to these levels except for lifesaving missions. (Appropriate controls for emergency workers, include time limitations, respirators, and stable iodine.)	Respirators and stable iodine should be used where effective for emergency team workers.
Whole body 25-75* Thyroid 150* Skin of whole body 150* Extremities 375	Control exposure of emergency team members performing lifesaving missions to this level. (Control of time of exposure will be most effective.)	

(a) These actions are recommended for planning purposes. Protective action decisions at the time of the incident must take existing conditions into consideration.

*NOTE: Dose up to this limit must be authorized by the Emergency Coordinator.

CONTROL COPY INFORMATION ONLY

Form SPD-1002-1

DUKE POWER COMPANY
PROCEDURE PREPARATION
PROCESS RECORD

(1) ID No: RP/O/B/1000/09
Change(s) 0 to
0 Incorporated

(2) STATION: OCONEE

(3) PROCEDURE TITLE: PROCEDURE FOR SITE ASSEMBLY

(4) PREPARED BY: Helena B Jennings DATE: 11/8/84

(5) REVIEWED BY: Donald L Henderson DATE: 11/8/84

Cross-Disciplinary Review By: R L Sweigart N/R:

(6) TEMPORARY APPROVAL (IF NECESSARY):

By: (SRO) Date:

By: Date:

(7) APPROVED BY: J D Barr Date: 11/29/84

(8) MISCELLANEOUS:

Reviewed/Approved By: H S Alexander Date: 11/21/84

Reviewed/~~Approved~~ By: R T Bond Date: 11/26/84

DUKE POWER COMPANY

OCONEE NUCLEAR STATION

PROCEDURE FOR SITE ASSEMBLY

1.0 SYMPTOMS

1.1 A test of response time and procedures employed in completing an accounting of onsite personnel.

1.2 A station incident occurs and:

1.2.1 The Technical Support Center is required to be established.

1.2.2 Portions of the protected area may require evacuation or a station evacuation may be required.

2.0 IMMEDIATE ACTIONS

2.1 Action Plan for Shift Supervisor (Enclosure 4.1)

2.2 Action Plan for Security Shift Lieutenant (Enclosure 4.2)

2.3 Personnel Assembly Signal (warble sound) is made over the Public Address System from Control Room 1&2.

2.4 Announcement is made over the Public Address System. (See Enclosure 4.3)

2.5 The alarm and announcements shall be continued for a duration long enough to ensure all onsite personnel are aware of the Site Assembly and are responding. (At least 6 alarms and announcements over a 15 min. period).

3.0 SUBSEQUENT ACTIONS

3.1 Action Plan for Onsite Personnel (Enclosure 4.4)

3.2 When personnel accountability has been completed following a Site Assembly, one of the following will occur.

3.2.1 If the requirement for an assembly no longer exists, a request to return to normal duties will be given by the Emergency Coordinator.

3.2.2 Plant conditions may require evacuation of the station. Consult procedure RP/0/B/1000/10.

4.0 ENCLOSURES

4.1 Action Plan Emergency Coordinator

4.2 Action Plan for Security Shift Lieutenant

4.3 Public Address Announcement

4.4 Action Plan for Onsite Personnel

4.5 Site Assembly Locations

DUKE POWER COMPANY

OCONEE NUCLEAR STATION

ACTION PLAN FOR EMERGENCY COORDINATOR (SHIFT SUPERVISOR AND/OR STATION MANAGER)

_____4.1.1 Alert Security Shift Lieutenant that a Site Assembly will be initiated.

_____4.1.2 Direct necessary actions to account for any missing personnel.

4.1.2.1 MERT Team will be utilized for this purpose.

_____4.1.3 Examine the radiation/contamination levels established in RP/0/B/1000/10 to determine the classes of personnel that may need to be evacuated.

_____4.1.4 If the requirements for an assembly no longer exist, return the station to normal duties.

DUKE POWER COMPANY

OCONEE NUCLEAR STATION

ACTION PLAN FOR SECURITY SHIFT LIEUTENANT

____4.2.1 Contact Visitors Center, Keowee Hydro and Technical Training Center to make them aware of Site Assembly.

____4.2.2 Initiate a patrol of the general station areas within station boundaries, both inside and outside of the restricted area, to assure that personnel in remote and noise restrictive areas are aware of the Site Assembly requirement.

____4.2.3 Restrict traffic in and out of the station gates during Site Assembly.

NOTE: SHOULD SITE ASSEMBLY BE INITIATED DURING HIGH TRAFFIC INGRESS AND EGRESS, TRAFFIC FLOW WILL NOT BE RESTRICTED.

____4.2.4. Receive Accountability reports from all groups. Use Enclosure 4.5 as an aid.

____4.2.5 Report total accountability to the Emergency Coordinator within 30 minutes of the time the assembly was initiated. Report the name(s) of any missing person(s).

____4.2.6 Coordinate a search and rescue effort if directed by the Emergency Coordinator

4.2.6.1 Utilize the MERT Team for this purpose.

____4.2.7 Contact Visitors Centor, Keowee Hydro and Technical Training Center to make them aware of Site Assembly completion.

____4.2.8 Coordinate evacuation if so instructed by Emergency Coordinator.

DUKE POWER COMPANY

OCONEE NUCLEAR STATION

ANNOUNCEMENT

"THIS IS A SITE ASSEMBLY. THIS IS A SITE ASSEMBLY."
ALL VISITORS ARE TO REPORT TO THE RECEPTIONIST LOBBY.
ALL PERMANENTLY BADGED PERSONNEL SHALL REPORT TO THE AREA DESIGNATED ON THE BACK OF YOUR SECURITY BADGE.
ALL OTHER PERSONNEL NOT PRESENTLY WEARING SECURITY BADGES SHALL REPORT TO YOUR SUPERVISOR.

NOTE: IF ANY PARTICULAR AREA OF THE PLANT IS FOUND TO BE RADIOLOGICALLY UNSAFE DURING AN EMERGENCY, AND A SITE ASSEMBLY IS HELD, WARNINGS SHOULD BE SOUNDED THROUGH THE PUBLIC ADDRESS SYSTEM ADVISING THE "SAFE" CORRIDORS TO USE.

DUKE POWER COMPANY

OCONEE NUCLEAR STATION

ACTION PLAN FOR ONSITE PERSONNEL IN RESPONDING TO A SITE ASSEMBLY ALAR

4.4.1 Each person (except those noted in 4.4.3) shall assemble with their supervisor. EACH REPORTING SUPERVISOR IS TO REPORT LOCATION, NAME, TELEPHONE NUMBER, NUMBER OF PEOPLE ASSEMBLED, AND THE NAME(S) OF ANY UNACCOUNTED PERSON(S). Assembly points for personnel onsite at Oconee Nuclear Station are identified in Enclosure 4.5. Additionally, these locations are on the back of the security badge for those personnel inside security.

NOTE: TOTAL ACCOUNTABILITY SHALL BE MADE WITHIN 30 MINUTES. SUPERVISOR SHOULD REPORT THEIR ACCOUNTABILITY WITHIN 8 TO 10 MINUTES. SUPERINTENDENTS SHALL HAVE A TOTAL NUMBER FOR THEIR GROUP AND THE NAMES OF ANY PERSONS NOT ACCOUNTED FOR WITHIN 20 MINUTES.

4.4.2 0800-1630 (Monday-Friday normal working hours)

Each supervisor shall be responsible for accounting for all personnel reporting to him. Station Superintendents and the Supervisors of various organizations working at Oconee (SSD, Transmissions, QA, Visitors Center Keowee-Hydro, SMS, and B&W) shall make an accountability report to the SECURITY SHIFT LIEUTENANT for their areas of accountability. When reports from all areas are received, the Emergency Coordinator will be notified that all persons have been accounted for.

After hours, weekends, holidays

Each supervisor shall be responsible for accounting for all personnel reporting to him. Supervisors shall report accountability to the SECURITY SHIFT LIEUTENANT. When reports from all areas are received, the Emergency Coordinator will be notified that all persons have been accounted for by their supervisor.

4.4.3 Persons working in Radiation Control Areas in protective clothing should leave their work areas and go to the appropriate change room. In the change room, they should contact the appropriate persons as designated by 4.4.2 for personnel accountability reporting. Judgement should be used concerning the advisability of changing clothes and reporting to normal assembly areas.

NOTE: IN CASE OF A REACTOR BUILDING EVACUATION ALARM, THE REPORTING REQUIREMENTS IN 4.4.3 ABOVE APPLY.

RP/0/B/1000/09
ENCLOSURE 4.5

DUKE POWER COMPANY

OCONEE NUCLEAR STATION

SITE ASSEMBLY LOCATIONS

DUKE OCONEE NUCLEAR STATION PERSONNEL

Section	Assembly Point
Manager's Group:	
Station Manager/Superintendents: and Assigned Clerks	Respective Offices
Station Services:	
Administrative Services	Administrative Offices
Training/Safety	Training Office
Contract Services	Contract Services' Offices
Maintenance:	
I&E Engineers	I&E Engineers' Offices
I&E Shifts A,B,C,D,E (On-Duty)	Operational Support Center
I&E Supervisors & Technicians	I&E Shops Turbine Building
Mech. Maintenance Shifts A,B,C,D,E (On-Duty)	Operational Support Center
Mechanical Maintenance Supervisors & Technicians	Maintenance Shop
Mechanical Maintenance Engineers	Mechanical Maintenance Engineers' Offices
Planning & Scheduling	Planning & Scheduling Offices
Materials	Materials Offices
Maintenance Mgt. Support	Maintenance Mgt. Support Offices
Operations: All	Control Rooms/Operating Engineers' Offices
Integrated Scheduling: All	Integrated Scheduling Offices

Technical Services:	
Projects	Projects Offices
Performance (All)	Performance Engineer's Office
Health Physics:	
Projects and Training	Station Health Physicist's Office
Support Functions	Station Health Physicist's Office
Surveillance and Control	Station Health Physicist's Office
HP Shift Personnel (A,B,C,D,E) (On-Duty)	Operational Support Center
Chemistry:	
Staff Chemists	Station Chemist's Office
Radwaste	Radwaste Coordinator's Office
Power Chemistry	Station Chemist's Office
Chemistry Shift Personnel (On-Duty A,B,C,D,E)	Operational Support Center
Environmental Chemistry	Environmental Offices
Radwaste Startup Team	Radwaste Startup Office
Compliance	Compliance Engineer's Office
Quality Assurance: All	Quality Assurance Offices
Training Services: All Personnel at Training Center	Oconee Training Center
Oconee Safety Review Group: All	Compliance Office

DUKE NON-OCONEE NUCLEAR STATION PERSONNEL
(Permanently Badged Personnel)

Section	Assembly Point
Station Services:	Administration Offices
Operations:	Operating Engineers' Offices
Chemistry:	Station Chemist's Office
Health Physics:	Station Health Physicist's Office
SMS:	SMS Offices
Station Support Division:	SSD Offices
Keowee:	Keowee Hydro Station
Visitors' Center:	Visitor Center Office
Quality Assurance:	QA Offices

DUKE NON-OCONEE NUCLEAR STATION PERSONNEL

Section	Assembly Point
Design Engineering:	Projects Office
Maintenance:	Service Building Mezzanine (I&E, Mechanical Maintenance, or Planning & Scheduling Offices)
Sub. Station Maintenance	Sub. Station Maintenance Offices

NON-DUKE OCONEE NUCLEAR STATION PERSONNEL

K-Mac:	Those Inside Security	Canteen South End, Turbine Building
	Those Outside Security	Administration Bldg. Canteen
Babcock & Wilcox:	All	Resident Engineer's Office
Globe Security:		Personnel Access Portal
Health Physics Vendors		Station Health Physicist's Office
Chem-Nuclear:		Radwaste Coordinator's Office
NRC:	All	Compliance Office
Wometco:	All	Administration Building Canteen

VISITORS

Inside Security with Escort	Receptionist Lobby
Outside Security	Receptionist Lobby

OTHER PERSONNEL OUTSIDE PROTECTED AREA

All personnel not identified above will report to the Receptionist Lobby.

CONTROL COPY

Form SPD-1002-1

INFORMATION ONLY

DUKE POWER COMPANY
PROCEDURE PREPARATION
PROCESS RECORD

(1) ID No: RP/O/B/1000/10
Change(s) 0 to
0 Incorporated

(2) STATION: OCONEE

(3) PROCEDURE TITLE: PROCEDURE FOR EMERGENCY EVACUATION OF STATION PERSONNEL

(4) PREPARED BY: Edna C. Jennings DATE: 5/30/84

(5) REVIEWED BY: R.T. Bond DATE: 5/30/84

Cross-Disciplinary Review By: [illegible] N/R: _____

(6) TEMPORARY APPROVAL (IF NECESSARY):

By: _____ (SRO) Date: _____

By: _____ Date: _____

(7) APPROVED BY: M. S. Tuckerman Date: 6/1/84

(8) MISCELLANEOUS:

Reviewed/Approved By: _____ Date: _____

Reviewed/Approved By: _____ Date: _____

DUKE POWER COMPANY

OCONEE NUCLEAR STATION

PROCEDURE FOR EMERGENCY EVACUATION OF STATION PERSONNEL

The purpose of this procedure is to set guidelines for dealing with an emergency evacuation should it become necessary for non-essential personnel to be evacuated during a radiological emergency. Station Evacuation is activated only after personnel have been assembled through a Site Assembly.

1.0 SYMPTOMS

Category 1 (Enclosure 4.1)

1) External Radiation Level > 2 mrems in any one hour

2) Airborne Radioactivity > 1 x mpc for an unrestricted area (10CFR20, Appendix B, Table II)

Category 2 and 3 (Enclosure 4.1)

1) External Radiation level > 2.5 mrem/hr 100 mrems/week, or 1250 mrems in a quarter

2) Airborne Radioactivity > equivalent amount inhaled for 40 hours/ week for 13 weeks at 1 mpc (10CFR20, Section 20.103 and Appendix B, Table 1)

2.0 IMMEDIATE ACTION

2.1 When it is determined that the emergency situation requires station evacuation, the Emergency Coordinator shall:

Date/Initial
Name

____2.1.1 Determine evacuation route using meteorological information available and local area maps.

____2.1.2 Determine offsite assembly location. Health Physics Surveillance and Control personnel should obtain the keys to the appropriate school from Security. Keys are located in the Security-Controlled Key Box in the Unit #3 Shift Supervisor's office.

____2.1.3 Determine re-entry routes to be used for entry into the station.

____2.1.4 Work with available group representatives; make a determination of station support staff required to safely operate the station and deal with an emergency.

Date/Initial
Name

____2.1.5 Prepare instructions to be relayed to onsite personnel.

____2.1.6 Direct Health Physics personnel to implement emergency surveillance and decontamination plans for personnel and vehicle evacuation.

____2.1.7 Provide evacuation instructions to supervisors onsite for distribution to station personnel.

____2.1.8 Direct Station Security to patrol the station general areas to assure evacuation instructions are carried out.

3.0 SUBSEQUENT ACTION

____3.1 Station Security will set up the evacuation exit points from the station.

____3.2 The Appropriate County EOC will be made aware that the station is being evacuated so that law enforcement escort can be provided. Officers will be required to properly secure the school area so that processing may be carried out in an orderly manner. Supervisory personnel evacuated to the remote area will assist in maintaining order and control.

____3.3 Health Physics will monitor and decontaminate personnel and vehicles in accordance with HP/0/B/1009/16, both onsite and offsite.

____3.4 If personal vehicles cannot be used for evacuation, the Superintendent of Station Services shall arrange for bus transportation through the Anderson Retail Office. See Emergency Telephone Directory located in TSC Emergency Procedures Cart.

____3.5 Once transportation has been determined/secured, evacuation will take place.

4.0 ENCLOSURES

4.1 Categories of Personnel

4.2 Emergency Evacuation Routes

DUKE POWER COMPANY

OCONEE NUCLEAR STATION

CATEGORIES OF PERSONNEL

CATEGORY 1

All members of the general public and other persons who are not subject to occupational radiation exposure at Oconee Nuclear Station:

Visitors	Wometco
"A" Workers	Keowee Hydro

CATEGORY 2

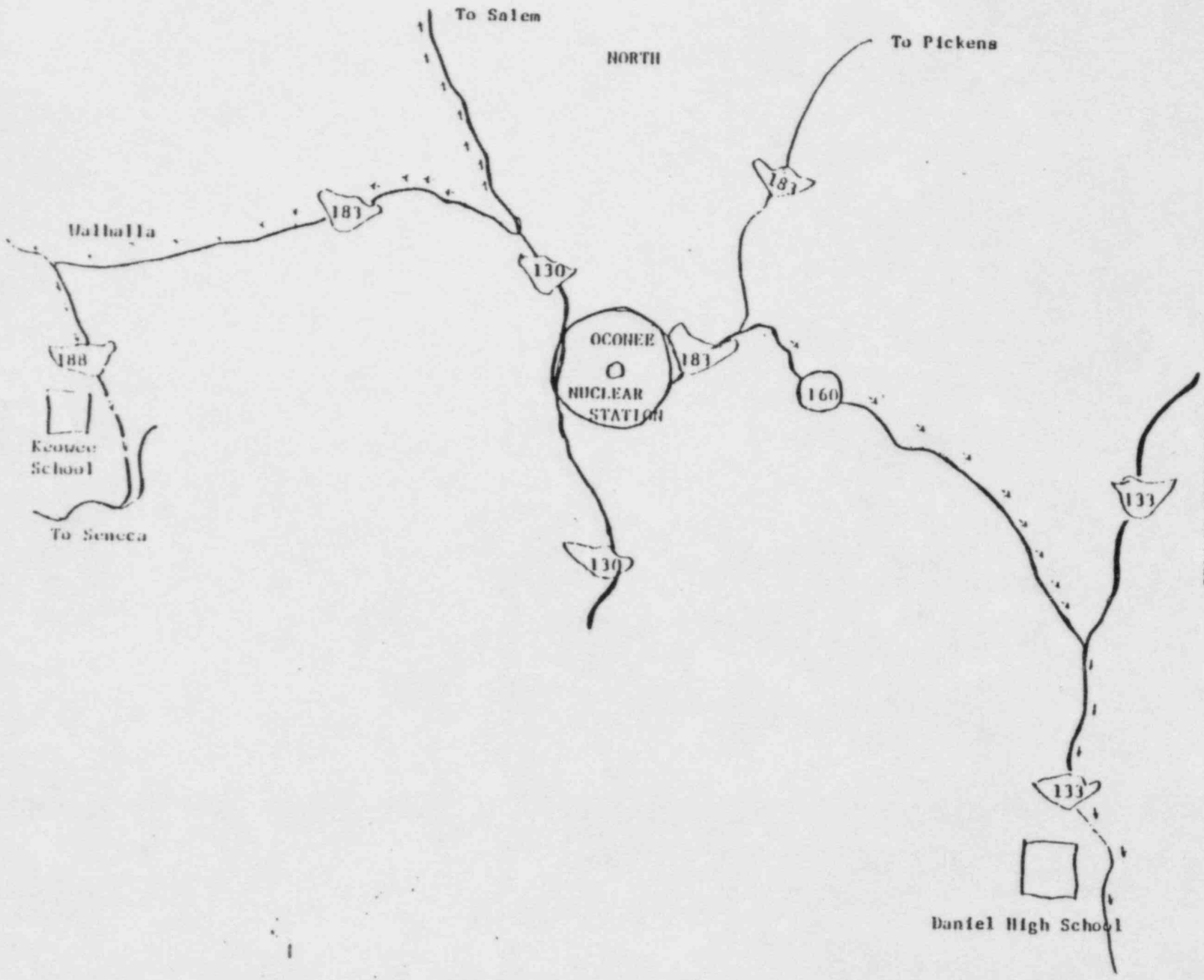
Various groups of personnel who are subject to occupational radiation exposure at the station and are considered non-essential to the operation of the station during a classified emergency situation.

SMS	Chem-Nuclear
SSD	Vendors (Other than HP)
QA	Duke Personnel (Other than ONS)
B&W	All others (not listed in 3 below)
Design Engineering	
Oconee Training Center	

CATEGORY 3

Personnel identified as the Emergency Response Organization.

Operations	Globe Security
Health Physics	Resident B&W Engineer
Health Physics Vendors	Station Services
Compliance	Maintenance
NRC Resident Inspector	Chemistry
K-Mac	Performance
Transmissions	Visitor's Center
	Projects



OCONEE NUCLEAR STATION
EMERGENCY EVACUATION ROUTES

RP/0/B/1000/10
Enclosure 4.2

INFORMATION ONLY

CONTROL COPY

Form SPD-1002-1

DUKE POWER COMPANY
PROCEDURE PREPARATION
PROCESS RECORD

(1) ID No: RP/O/B/1000/11
Change(s) 0 to
0 Incorporated

(2) STATION: OCONEE

(3) PROCEDURE TITLE: PLANNED EMERGENCY EXPOSURE

(4) PREPARED BY: Coleman B. Jarvis DATE: 11/8/84

(5) REVIEWED BY: Donald L Davidson DATE: 11/8/84

Cross-Disciplinary Review By: R L Swight N/R: _____

(6) TEMPORARY APPROVAL (IF NECESSARY):

By: _____ (SRO) Date: _____

By: _____ Date: _____

(7) APPROVED BY: L L Bass Date: 11/29/84

(8) MISCELLANEOUS:

~~Reviewed~~/Approved By: Charlie Haynes Date: 11-21-84

Reviewed/Approved By: R. J. Bost Date: 11/29/84

DUKE POWER COMPANY

OCONEE NUCLEAR STATION

PLANNED EMERGENCY EXPOSURE

1.0 SYMPTOMS

1.1 Situation which is immediately hazardous to life and property

1.2 Situation where it is necessary to save lives or prevent loss of lives

1.2.1 Action(s) required to strictly save lives.

1.2.2 Actions required to prevent loss of equipment which would provide mitigation of and/or recovery from the accident.

2.0 IMMEDIATE ACTIONS

2.1 Select individuals by the following conditions:

2.1.1 Personnel should be volunteers.

2.1.2 Personnel should be broadly familiar with the potential consequences of such exposure.

2.1.3 Women capable of reproduction should not take part in these actions.

2.1.4 All factors being equal, select volunteers above the age of 45 and those who normally encounter little exposure.

2.2 Obtain the verbal or written approval of the Emergency Coordinator to extend dose limits for planned emergency exposures. Complete either Enclosure 4.1 or Enclosure 4.2 depending on the symptoms.

2.3 Exposure should be maintained ALARA.

3.0 SUBSEQUENT ACTIONS

3.1 Exposures above 10CFR20 limits may require an occupational penalty.

3.2 Exposures within the guidelines of Enclosure 4.2 may require a medical decision as to whether the individual may continue in radiological work and should be limited to a once in a lifetime dose.

3.3 Planned emergency doses shall be recorded, estimated if necessary, and included in the individual's exposure history record.

3.4 Reports of planned emergency exposure shall be reported as per Oconee Nuclear Station reporting requirements.

4.0 ENCLOSURES

4.1 Exposures Hazardous to Life and Property

4.2 Exposures Necessary to Save Lives or Prevent Loss of Lives

Enclosure 4.2

EXPOSURES HAZARDOUS TO SAVE LIVES OR PREVENT LOSS OF LIVES

I. Request for Planned Emergency Exposure

TO: Station Health Physicist Date: _____

FROM: _____
(Operational Support Center)

Planned voluntary maximum exposures are required to remedy the following situation where it is necessary to save lives or loss of lives. (NOTE: Those actions necessary to directly save lives and equipment that if lost would prevent mitigation of and/or recovery from the accident)

_____

_____

_____

_____

Whole Body	25 – 75* Rems
Skin of Whole Body or Thyroid	150 rems*
Extremities	375 rems

*Dose to this limit must be approved by Emergency Coordinator.

II. Approval for Planned Emergency Exposure

Request No.: _____

Permission is hereby granted for the individual(s) listed below to exceed the guidelines set forth in the System Health Physics Manual but within the guidelines of the Crisis Management Plan* as stated on this form.

APPROVAL REQUIRED BY:

_____
Emergency Coordinator

Date: _____ Time: _____

___Phone Call ___In Person

NOTIFIED:

_____
Recovery Manager

Date: _____ Time: _____

___Phone Call

H.P. Badge Number	Name	Age	Work Group	Signature	Dose Received

Enclosure 4.1
EXPOSURES HAZARDOUS TO LIFE AND PROPERTY

I. Request for Planned Emergency Exposure

TO: Station Health Physicist Date: _____

FROM: _____
(Operational Support Center)

Planned voluntary maximum exposures are required to remedy the following situation immediately hazardous to life and property:

_____

_____

_____

_____

Whole Body	5 - 25* Rems
Skin of Whole Body or Thyroid	30 -125* Rems
Extremities	75 rems

*Dose to this limit must be approved by Emergency Coordinator.

II. Approval for Planned Emergency Exposure

Request No.: _____

Permission is hereby granted for the individual(s) listed below to exceed the guidelines set forth in the System Health Physics Manual but within the guidelines of the Crisis Management Plan* as stated on this form.

APPROVAL REQUIRED BY:

_____
Emergency Coordinator

Date: _____ Time: _____

___Phone Call ___In Person

NOTIFIED:

_____
Recovery Manager

Date: _____ Time: _____

___Phone Call

H.P. Badge Number	Name	Age	Work Group	Signature	Dose Received

DUKE POWER COMPANY
OCONEE NUCLEAR STATION
P. O. BOX 1439
SENECA, S. C. 29678
TELEPHONE: AREA 803
882-5363

December 14, 1984

INTRASTATION LETTER
OCONEE NUCLEAR STATION

TO: NRC-Atlanta, Ga CONTROL COPY NO. 44B & 45B

SUBJECT: OCONEE NUCLEAR STATION
Emergency Implementing Procedures Manual
Revision No. 84-4

Please make the following changes to the Volume B, Implementing Procedures Manual, Oconee Nuclear Station Emergency Plan:

REMOVE	INSERT
1. Title Page, Rev. 84-3	1. Title Page, Rev. 84-4
2. Table of Contents, (1-3)	2. Table of Contents, (1-2)
3. *Emergency Telephone Numbers (Tab & Proc.)	3. #
4. *RP/0/B/1000/01 (Tab & Proc.)	4. #
5. *RP/0/B/1000/02 (Tab & Proc.)	5. #
6. *RP/0/B/1000/03 (Tab & Proc.)	6. #
7. *RP/0/B/1000/04 (Tab & Proc.)	7. #
8. *RP/0/B/1000/05 (Tab & Proc.)	8. #
9. *RP/0/B/1000/06 (Tab & Proc.)	9. #
10. AP/0/B/1000/07 (Tab Only)	10. AP/0/B/1000/07 (New Tab)
11. AP/0/B/1000/08 (Tab & Proc.)	11. ----------
12. *RP/0/B/1000/09 (Tab & Proc.)	12. #
13. *RP/0/B/1000/10 (Tab & Proc.)	13. #
14. *----------	14. #RP/0/B/1000/11 -- See Volume C
15. PT/0/B/2000/04 (Tab & Proc.) which has been deleted	15. ----------
16. CP/1/A/2002/04A (Tab & Proc.) which has been deleted	16. ----------
17. CP/2/A/2002/04A (Tab & Proc.) which has been deleted	17. ----------
18. CP/3/A/2002/04A (Tab & Proc.) which has been deleted	18. ----------
19. CP/1/A/2002/04B (Tab & Proc.) which has been deleted	19. ----------
20. CP/2/A/2002/04B (Tab & Proc.) which has been deleted	20. ----------
21. CP/3/A/2002/04B (Tab & Proc.) which has been deleted	21. ----------
22. CP/1/A/2002/04C (Tab Only)	22. CP/1/A/2002/04C (New Tab)
23. CP/2/A/2002/04C (Tab & Proc.)	23. CP/2/A/2002/04C (Tab & Proc.)
24. CP/3/A/2002/04C (Tab & Proc.)	24. CP/3/A/2002/04C (Tab & Proc.)
25. CP/1&2/A/2002/05 (Tab Only)	25. CP/1&2/2002/05 (New Tab)
26. CP/3/A/2002/05 (Tab Only)	26. CP/3/A/2002/05 (New Tab)
27. CP/0/B/2003/02 (Tab & Proc.) which has been deleted	27. ----------
28. ----------	28. CP/0/B/2003/02B (New Tab)
29. CP/0/B/2004/02E (Tab Only)	29. CP/0/B/2004/02E (New Tab)
30. CP/0/B/2004/03C (Tab Only)	30. CP/0/B/2004/03C (New Tab)
31. CP/0/B/2005/02D (Tab Only)	31. CP/0/B/2005/02D (New Tab)
32. CP/0/B/4003/01 (Tab Only)	32. CP/0/B/4003/01 (New Tab)
33. CP/0/A/4003/02 (Tab Only)	33. CP/0/B/4003/02 (New Tab)

8501080170 841221
PDR ADOCK 05000269
F PDR

34. HP/0/B/1009/09 (Tab Only)	34. HP/0/B/1009/09 (New Tab)
35. HP/0/B/1009/10 (Tab Only)	35. HP/0/B/1009/10 (New Tab)
36. HP/0/B/1009/11 (Tab Only)	36. HP/0/B/1009/11 (New Tab)
37. HP/0/B/1009/12 (Tab Only)	37. HP/0/B/1009/12 (New Tab)
38. HP/0/B/1009/13 (Tab & Proc.) which has been deleted	38. ----------
39. HP/0/B/1009/14 (Tab Only)	39. HP/0/B/1009/14 (New Tab)
40. HP/0/B/1009/15 (Tab Only)	40. HP/0/B/1009/15 (New Tab)
41. HP/0/B/1009/16 (Tab Only)	41. HP/0/B/1009/16 (New Tab)
42. HP/1/A/1009/17 (Tab Only)	42. HP/1/A/1009/17 (New Tab)
43. HP/2/A/1009/17 (Tab Only)	43. HP/2/A/1009/17 (New Tab)
44. HP/3/A/1009/17 (Tab Only)	44. HP/3/A/1009/17 (New Tab
45. IP/0/B/1601/13 (Tab & Proc.) which has been deleted	45. ----------
46. ----------	46. Chemistry Manual 5.1(New Tab) before Pr
47. ----------	47. Compliance Manual 6.1 (New Tab) before Proc.
48. ----------	48. Health Physics Manual 11.2 (New Tab) before Proc. 11.1
49. Maintenance Directive V.D & Tab	49. Maintenance Directive V.D & Tab
50. ----------	50. Performance Man. 4.5 (New Tab) before Pr
51. ----------	51. Project Services Manual 6.1 (New Tab) before proc.
52. Station Services Procedure	52. Station Services (Tab & Proc.)
53. ----------	53. OMP 1-7 (Tab & Proc.) which is new

NOTE: *These are being deleted from VOLUME B.
#These will be issued in VOLUME C.

Also find attached an additional VOLUME C of the Emergency Implementing Procedures for your update and upkeep. Acknowledge that revision has been made to VOLUME B and that you have received VOLUME C below. Return it to Document Control by December 21, 1984.

J. T. McIntosh
Superintendent
Station Services

/lss
Attachments & VOLUME C

OCONEE NUCLEAR STATION
EMERGENCY IMPLEMENTING PROCEDURES MANUAL
Revision No. 84-4 (December, 1984)

CONTROL COPY NO._____

_____
SIGNATURE

_____
LOCATION

_____
DATE

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

February 11, 1984

50-269/270/287 Oconee

MEMORANDUM FOR: Chief, Document Management Branch, TIDC

FROM: Director, Division of Rules and Records, ADM

SUBJECT: REVIEW OF UTILITY EMERGENCY PLAN DOCUMENTATION

The Division of Rules and Records has reviewed the attached document and has determined that it may now be made publicly available.

J. M. Felton, Director
Division of Rules and Records
Office of Administration

Attachment: As stated