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August 28, 2002

U. S. Nuclear Regulatory Commission
Document Control Desk
Washington, D. C. 20555

Subject: Oconee Nuclear Station
Docket Nos. 50-269, -270, -287
Emergency Plan Implementing Procedures Manual
Volume C Revision 2002-08

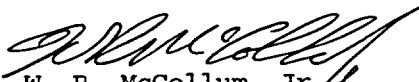
Please find attached for your use and review copies of the revision to the Oconee Nuclear Station Emergency Plan: Volume C Revision 2002-08 August 2002.

This revision is being submitted in accordance with 10 CFR 50-54(q) and does not decrease the effectiveness of the Emergency Plan or the Emergency Plan Implementing Procedures.

Any questions or concerns pertaining to this revision please call Rodney Brown, Emergency Planning Manager at 864-885-3301.

By copy of this letter, two copies of this revision are being provided to the NRC, Region II, Atlanta, Georgia.

Very truly yours,


W. R. McCollum, Jr.
VP, Oconee Nuclear Site

xc: (w/2 copies of attachments)
Mr. Luis Reyes,
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Mr. Steven Baggett
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(w/o Attachments, Oconee Nuclear Station)
NRC Resident Inspector
M. D. Thorne, Manager, Emergency Planning

A045

August 28, 2002

OCONEE NUCLEAR SITE
INTRASITE LETTER

SUBJECT: Emergency Plan Implementing Procedures
Volume C, Revision 2002-08

Please make the following changes to the Emergency Plan Implementing Procedures Volume C by following the below instructions.

REMOVE

Cover Sheet - Rev. 2002-07

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HP/0/B/1009/022 - (10/08/01)

RP/0/B/1000/029 - (02/05/02)

ADD

Cover Sheet Rev. 2002-08

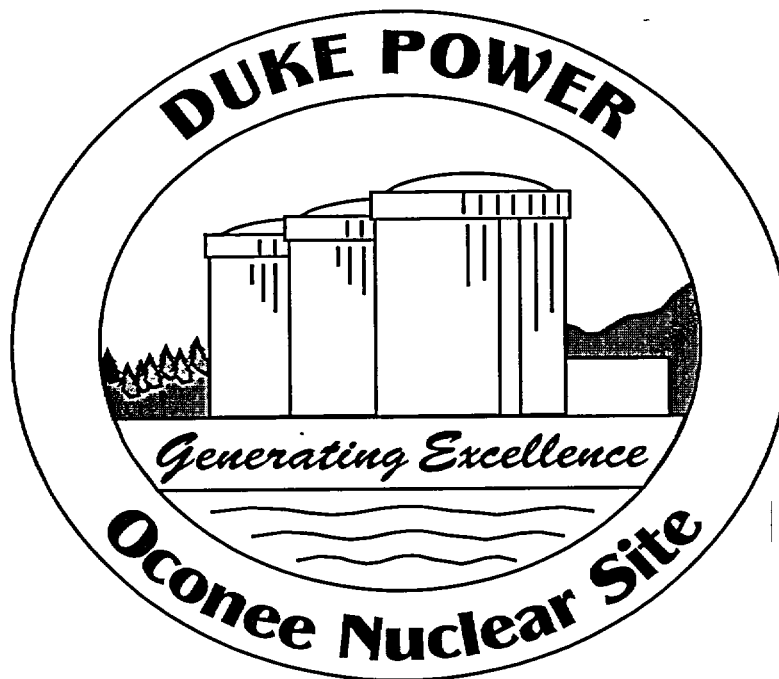
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HP/0/B/1009/022 - (08/15/02)

RP/0/B/1009/022 - (08/01/02)

DUKE POWER

EMERGENCY PLAN IMPLEMENTING PROCEDURES VOLUME C



APPROVED:

W. W. Foster, Manager
Safety Assurance

August 28, 2002

Date Approved

August 28, 2002

Effective Date

VOLUME C
REVISION 2002-08
AUGUST 2002

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RP/0/B/1000/001	Emergency Classification	06/19/02
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SSG Functional Area Directive 102	SSG Emergency Response Plan -- ONS Specific	03/01/01
NSC -- 110	Nuclear Supply Chain -- SCO Emergency Response Plan	04/02/01
Engineering Manual 5.1	Engineering Emergency Response Plan	07/17/02
Human Resources Procedure	ONS Human Resources Emergency Plan	01/07/02
Radiation Protection Manual Section 11.3	Off-Site Dose Assessment And Data Evaluation	04/06/99
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Revision 2002-08
August, 2002

**INFORMATION
ONLY****PROCEDURE PROCESS RECORD**Revision No 009**PARATION**(2) Station OCONEE NUCLEAR STATION(3) Procedure Title On-Shift Off-Site Dose Projections(4) Prepared By Doug Berkshire Date 7/24/02

(5) Requires 10CFR50.59 evaluation?

☐ Yes (New procedure or revision with major changes)☒ No (Revision with minor changes)☐ No (To incorporate previously approved changes)(6) Reviewed By [Signature] (QR) Date 08/15/02Cross-Disciplinary Review By [Signature] (QR) NA WHL Date 08/15/02Reactivity Mgmt. Review By [Signature] (QR) NA WHL Date 08/15/02

(7) Additional Reviews

Reviewed By _____ Date _____

Reviewed By _____ Date _____

(8) Temporary Approval (if necessary)

By _____ (SRO/QR) Date _____

By _____ (QR) Date _____

(9) Approved By [Signature] Date 8/15/02**PERFORMANCE** (Compare with control copy every 14 calendar days while work is being performed.)

(10) Compared with Control Copy _____ Date _____

Compared with Control Copy _____ Date _____

Compared with Control Copy _____ Date _____

(11) Date(s) Performed _____

Work Order Number (WO#) _____

COMPLETION

(12) Procedure Completion Verification

☐ Yes ☐ NA Check lists and/or blanks initialed, signed, dated, or filled in NA, as appropriate?☐ Yes ☐ NA Listed enclosures attached?☐ Yes ☐ NA Data sheets attached, completed, dated, and signed?☐ Yes ☐ NA Charts, graphs, etc. attached, dated, identified, and marked?☐ Yes ☐ NA Procedure requirements met?

Verified By _____ Date _____

(13) Procedure Completion Approved _____ Date _____

() Remarks (Attach additional pages, if necessary)

Duke Power Company
Oconee Nuclear Station

On-Shift Off-Site Dose Projections

Reference Use

Procedure No.

HP/0/B/1009/022

Revision No.

009

Electronic Reference No.

OX0092T4

On-Shift Off-Site Dose Projections

1. Purpose

- 1.1 This procedure provides guidance for on-shift personnel to perform initial off-site dose projections using Raddose-V.
- 1.2 This procedure is an Emergency Plan Implementing Procedure (EPIP). It must be forwarded to the Emergency Planning Group within three working days of approval by the responsible group. {PIP 4-O-93-0701}

2. References

- 2.1 Earth Tech RADDPOSE 5 Computer Program Documentation
- 2.2 EPA 400-R-92-001, Manual of Protective Action Guides and Protective Actions for Nuclear Incidents
- 2.3 Letter from M. S. Tuckman to USNRC, dated January 15, 1997, "Capability for On-Shift Dose Assessment at Catawba, McGuire, and Oconee Nuclear Sites"
- 2.4 PIP 4-O-93-701, Distribution Of Emergency Plan Procedures

3. Limits And Precautions

- 3.1 This procedure may be performed in sections or parts, using steps in any order to project off-site dose.
- 3.2 Accident release path(s) considered for on shift projections are the Unit Vents (LOCA) and the Steam Relief with Steam Generator Tube Rupture (SGTR).
- 3.3 This procedure is initiated at the request of the Operations Shift Manager/ Emergency Coordinator:
 - 3.3.1 The Operations Shift Manager should specify the affected unit, and the release pathway in question (LOCA or SGTR).
- 3.4 Computers with Raddose-V are located in the RP Shift Lab (including laptop), TSC, OSC and the OSC Briefing Room.
- 3.5 Protective Action Recommendations (PARs) are made as follows:
 - 3.5.1 Only after a General Emergency is declared are PARs made.

- 3.5.2 Plant conditions are expected to drive Emergency Action Levels and PARs. Upon declaration of General Emergency from the Control Room (as opposed to the TSC when established), default PARs are to recommend evacuation out to 5-miles around the plant and to shelter all remaining zones. On-Shift Offsite Dose projections are used to determine if zones between 5 to 10 miles away from the plant should be recommended for evacuation.
- 3.5.3 A recommendation to evacuate based on offsite dose is made when the forecast dose (Section 4.11 of this procedure) in a particular zone results in 1 rem or greater TEDE dose OR 5 rem or greater CDE thyroid dose:
- IF 1 rem or greater TEDE or 5 rem or greater CDE thyroid dose is projected, a General Emergency is declared if it was NOT declared previously, and PARs are made.

4. Procedure

- 4.1 IF Operations Shift Manager has NOT specified RIA indicating high activity, consult SDS to determine highest reading RIA in release pathway specified by Operations Shift Manager.
- 4.2 At applicable computer, select DAS (Dose Assessment Software).

<p>NOTE: If network is down, an error message will be displayed that network is unavailable. This will <u>NOT</u> affect the program, therefore continue to use Raddose-V.</p>

- 4.3 Double-click left mouse button to select AFFECTED OCONEE UNIT'S RADDLOSE-V (example: Raddose-V, Unit 1).
- 4.4 Single-click left mouse button on Drill Mode for emergency drill OR on Accident Mode for actual emergency.

NOTE: The drill simulator currently does NOT supply automatic data to Raddose-V, so when "Drill" mode is selected, "Manual" data loading should also be selected.

- 4.5 IF network is available, select AUTOMATIC data loading, if network is down, select MANUAL data loading:

NOTE: Procedure default values of 16 degrees C for air temperature and 0 inches of precipitation may be used since these are standard/conservative values.

- 4.5.1 IF "Manual" data loading is selected, obtain meteorological, RIA AND Unit Vent flow rate data as required by Enclosure 5.1:

- 4.5.1.1 IF computer network is down AND Automatic Data is unavailable, collect data from SDS.

NOTE: Manual meteorological charts and data are NOT available in the Control Rooms.

- 4.5.1.2 IF SDS is NOT available, collect data available from Control Room display and document on Enclosure 5.1.

- 4.5.1.3 IF Control Room indications are NOT available, utilize procedure defaults and indicate defaults were used on Enclosure 5.1.

- 4.6 At RADDLOSE-V STARTUP MENU, select BEGIN NEW INCIDENT and select YES at prompt to erase previous data.

- 4.7 At ACCIDENT SCENARIO DEFINITION screen, perform the following:

NOTE:

- Current date and times from computer will appear as the reactor trip date and time and the release date and time.
- If a reactor trip has NOT occurred or reactor trip time is NOT known, no editing of time is required.

- 4.7.1 Edit reactor trip time.

- 4.7.2 Edit release time:

- 4.7.2.1 IF actual release time is NOT known, input a time 15 minutes before current time (Example: current time is 0800 hours. The correct input is 0745).

- 4.7.3 Enter initials.

4.7.4 Select ACCEPT at bottom of screen.

4.8 At MAIN MENU, single-click ENTER/EDIT METEOROLOGICAL DATA:

NOTE: Raddose-V may select default meteorological data, depending upon time of day and River Wind Direction. This can occur if either "Automatic" OR "Manual" data is used.

4.8.1 IF "Automatic" data loading was selected, Raddose-V will automatically obtain data available from the network, proceed to Step 4.8.3.

4.8.2 IF "Manual" data loading was selected (or network data is NOT available), input required meteorological data on screen:

4.8.2.1 Select OK to acknowledge all error/pop-up messages.

4.8.2.2 Single click left mouse button at first block under "Wind Speed" (this will show a separate Wind Speed and Wind Direction table).

NOTE: Entering data in field and pressing Enter moves cursor from field to field.

4.8.2.3 Enter data in Wind Speed and Wind Direction table:

- Do NOT enter data in fields under "NWS" or under "Other" in Wind Speed and Wind Direction table.

4.8.2.4 Press F9 to exit table and to continue entering meteorological data.

4.8.2.5 Complete entry of data on Meteorological Data Input screen.

4.8.2.6 Select ACCEPT at bottom of screen.

4.8.2.7 Proceed to Step 4.9.

4.8.3 Review data in this time step:

- 4.8.3.1 **IF** no field shows "****" or "???", select "Accept" at bottom of screen and proceed to Step 4.9.

NOTE:

- If value of A-G for Stability Class is displayed on Raddose screen, it is **NOT** necessary to complete field below Delta Temperature, even though "****" or "???" may be present.
- If data is **NOT** automatically loaded, procedure default values of 16 degrees C for air temperature and 0 inches of precipitation may be used since they are standard/conservative values.

- 4.8.3.2 **IF** any data field displays "****" or "???", obtain required data using Enclosure 5.1 **AND** use Steps 4.8.3.3 through 4.8.3.5 to edit field.

- 4.8.3.3 Click left mouse button once to select data field requiring editing.

- 4.8.3.4 Type in value obtained using Enclosure 5.1 (Steps 4.5.1.1 - 4.5.1.3).

- 4.8.3.5 After data has been entered in all fields, select ACCEPT at bottom of screen.

4.9 At MAIN MENU, single-click ENTER/EDIT SOURCE TERM DATA:

- 4.9.1 Select first block under "Accident Type" data field.

- 4.9.2 Double-click left mouse button to select appropriate Accident Type; either LOCA or SGTR:

- 4.9.2.1 **IF** accident type is **NOT** known, contact Operations Shift Manager.

- 4.9.3 Select first block under "NG Method" (Noble Gas Method) to select pathway.

4.9.4 At MONITOR DESCRIPTION MENU, double-click left mouse button for Affected Unit's radiation monitor as follows:

4.9.4.1 IF LOCA was chosen as accident type, select RIA-45, RIA-46 OR RIA-56:

- A. Use RIA-45 if reading $<1E7$ cpm;
- B. Use RIA-46 if RIA-45 $\geq 1E7$ cpm (offscale high); AND RIA-46 $<1E7$ cpm.
- C. Use RIA-56 if RIA-46 $\geq 1E7$ cpm (offscale high).
- D. Select Filter Status "Off".
- E. Select OK.

NOTE:

- If network is available, Raddose-V will input Unit Vent Flow Rate and RIA Reading.
- If network is NOT available, these fields will require manual entry.

F. Continue at Step 4.9.5.

4.9.4.2 IF SGTR was chosen as accident type, select RIA 16 OR 17:

NOTE:

- The RIA reading the highest (16 or 17) should be used as specified by Operations Shift Manager, SDS or Control Room indications.
- If network is available, Raddose-V will obtain Steam Line RIA reading.
- If network is NOT available, this field will require manual entry.

- A. Select Steam Generator NOT Partitioned.
- B. Select OK.
- C. WHEN RIA 16 OR 17 is selected as NG Method, use default value of $4.5E6$ pounds mass of steam per hour as the flow rate.
- D. Continue at Step 4.9.5.

4.9.5 Review data in this time step:

- 4.9.5.1 **IF** no field shows "****" or "???", select "Accept" at bottom of screen and proceed to Step 4.10.
- 4.9.5.2 **IF** any data field displays "****" or "???", perform Steps 4.9.5.3 through 4.9.5.5 to edit field.
- 4.9.5.3 Select data field requiring editing.
- 4.9.5.4 Type in value obtained from Enclosure 5.1 or obtained directly from SDS or Control Room indications.
- 4.9.5.5 After all fields have been completed, select ACCEPT at bottom of screen.

4.10 At MAIN MENU, select PERFORM CALCULATIONS:

- 4.10.1 Select CONTINUE at bottom of 10-mile map.
- 4.10.2 At OUTPUT MENU, select GO TO REPORT MENU.
- 4.10.3 Select PRINT SUMMARY REPORT:
 - 4.10.3.1 Select OK at Print Selector screen.
 - 4.10.3.2 **IF** printer is **NOT** working, follow steps in Enclosure 5.2.
- 4.10.4 Select RETURN TO OUTPUT MENU.
- 4.10.5 Select RETURN TO MAIN MENU.

4.11 At MAIN MENU, select PERFORM FORECAST:

NOTE: Forecast Period box will appear requiring you to enter the forecast period in hours
--

- 4.11.1 Input 1 and ENTER.
- 4.11.2 A pop-up message will display "Note: Forecast will use the meteorological and source term data from Step 1. Continue?" Select OK.
- 4.11.3 Select CONTINUE at bottom of 10-mile map:
 - 4.11.3.1 A pop-up message will display "Do you want to save PAZs identified in Forecast Mode for evacuation?" Select NO.
- 4.11.4 At OUTPUT MENU, select GO TO REPORT MENU.

4.11.5 At REPORT MENU, select PRINT GREEN FORM:

4.11.5.1 Select OK at Print Selector screen.

4.11.5.2 Obtain Emergency Notification Form (green sheet) printout.

4.11.5.3 IF printer is NOT working, follow steps in Enclosure 5.3.

NOTE: Raddose-V will complete Lines 11, 12 and 14 on Emergency Notification Form (green sheet).

4.11.5.4 At Line 13, place an "X" in "New" box of the Raddose-V printout of the Emergency Notification Form (green sheet).

NOTE: • If dose projections indicate evacuation and sheltering are necessary, Raddose-V will identify the affected Protective Action Zones (PAZs) in Line 15, items B and C.

4.11.5.5 At Line 15, IF no recommended Protective Action Zones are printed place an "X" in box A.

4.11.5.6 At Line 15, IF recommended Protective Actions are printed, place an "X" in boxes B and C.

4.11.5.7 IF dose projections indicate that ANY zone should be evacuated, recommend a General Emergency to Operations Shift Manager.

4.11.5.8 Refer to Enclosure 5.4 to assist in the completion of the Emergency Notification Form.

4.11.6 Provide Emergency Notification Form information (from Step 4.11.5) to Operations Shift Manager or designee.

4.11.7 Select RETURN TO OUTPUT MENU.

4.12 At OUTPUT MENU, select CONTINUE CALCULATIONS:

4.12.1 A pop-up message will display "You just completed a forecast. Remember to check the meteorological and source term data for current information". Select OK.

4.13 At MAIN MENU, select GO TO STARTUP MENU.

4.14 At STARTUP MENU, perform one of the following:

4.14.1 **IF** additional dose projections are **NOT** needed, per Operations Shift Manager request, select EXIT RADDPOSE-V.

4.14.2 **IF** additional dose projections are needed, per Operations Shift Manager request, select BEGIN NEW INCIDENT:

4.14.2.1 Continue projections at frequency requested by Operations Shift Manager, repeating Steps 4.6 through 4.14.

4.15 Complete Procedure Process Record sign-off:

4.15.1 Transfer completed Procedure Process Record, Raddose 5 sheets and Enclosure 5.1, 5.3 and 5.4 to Radiation Protection Staff personnel.

5. Enclosures

5.1 Manual Input Data Collection

5.2 Manual Recording Of Summary Report

5.3 Manual Recording Of Emergency Notification Form

5.4 Assisting In The Completion Of The Emergency Notification Form

5.5 Example Summary Report

5.6 Example Emergency Notification Form (green sheet)

Manual Input Data Collection

Per Steps 4.5.1.1 through 4.5.1.3, record the following data from available data sources, (listed in order of preference); use defaults for temperature and precipitation; SDS; then actual Control Room displays if automatic data is **NOT** available to Raddose-V. Use the Default meteorological table only if SDS is **NOT** available. Obtain only the data needed, all blanks do **NOT** necessarily need to be filled in. This is an example form. Any other form that assists in collecting necessary data is acceptable.

METEOROLOGICAL DATA COLLECTION

- * Use average meteorological data as displayed in SDS: Use precipitation and temperature values in Table: If all data is **NOT** available in SDS, Default data and Live data can be mixed.

	10 METER TOWER (Lower Level)	60 METER TOWER (Upper Level)	RIVER TOWER
WIND SPEED			
WIND DIRECTION			
DELTA TEMP ¹		NA	NA
TEMPERATURE °C	ASSUME 16	NA	NA
PRECIPITATION	ASSUME 0	NA	NA

¹ Delta Temp = Temperature differential between 10 meters and 60 meters on Met Tower.

IF Meteorological Data is **NOT** available, input the following values:

	10 METER TOWER (Lower Level)	60 METER TOWER (Upper Level)	RIVER TOWER
WIND SPEED	1	1	1
WIND DIRECTION	140	140	140
DELTA TEMP ¹	+ 2.1	NA	NA
TEMPERATURE °C	16	NA	NA
PRECIPITATION	0	NA	NA

¹ Delta Temp = Temperature differential between 10 meters and 60 meters on Met Tower.

SOURCE TERM DATA COLLECTION

IF data is **NOT** available through sources listed above (or Steps 4.5.1.1 through 4.5.1.3) this procedure **CANNOT** be completed.

MONITOR	UNIT 1	UNIT 2	UNIT3
RIA-45 cpm			
RIA-46 cpm			
RIA-56 R/hr			
UNIT VENT FLOW RATE cfm			
RIA-16 mR/hr			
RIA-17 mR/hr			
Main Steam Flow Rate	Assume 4.5E6	Assume 4.5E6	Assume 4.5E6

Enclosure 5.2
Manual Recording Of Summary Report

HP/0/B/1009/022
Page 1 of 1

NOTE: IF printer problems occur and the Summary Report CANNOT be printed, this enclosure should be used to record data.

1. Use the following steps to record required information:
 - 1.1 At REPORT MENU, select REVIEW SUMMARY REPORT.
 - 1.2 Scroll up and down the report as necessary to access information (pages are separated by "dash" marks across the screen).
 - 1.3 Copy information from Page 3 of Summary Report onto form at bottom of this enclosure.
 - 1.4 On table below, circle highest "Emergency Class Criteria" that is marked with "*" on "Summary Report" screen.
 - 1.5 WHEN complete, select DONE at bottom of screen, continue at procedure Step 4.10.4.

CURRENT DATE: _____ STEP NUMBER: 1
CURRENT TIME: _____ STEP DATE: NA
OPERATOR: _____ STEP TIME: NA

Emergency Classification Based on Dose Rate @ NA: _____
(Specify)

Emergency Class Criteria						
Dose Type	1.0 mi	Sector	Unusual Event	Alert	Site Emergency	General Emergency
TEDE (mrem/hr)	_____ (specify)	<u>NA</u>	1.14E-1	1.14E+1	100	1000
CDE Thyroid (mrem/hr)	_____ (specify)	<u>NA</u>	3.42E-1	3.42E+1	500	5000

*Identifies any value which exceeds the radiological action level.

Enclosure 5.3
Manual Recording Of Emergency
Notification Form

HP/0/B/1009/022
Page 1 of 1

This enclosure should be used if printer problems occur and the Emergency Notification Form (green sheet) CANNOT be printed. Use the following steps to record required information, based on radiological conditions:

1. At Report Menu, select DISPLAY GREEN FORM.
2. Select NEXT PAGE at bottom of screen to access Lines 11 through 15 as necessary.
3. Copy information from Lines 11, 12, and 14, of the displayed Emergency Notification Form, onto the form at the bottom of this enclosure.
4. At line 13, place an "X" in the "New" box below and copy the remaining information.
5. At line 15, of the Raddose-V display, perform the following:
 - IF no Recommended Protective Actions are displayed, place an "X" in box A below.
 - IF dose projections indicate evacuation and sheltering are necessary, Raddose-V will display the affected Protective Action Zones (PAZs) at boxes B and C. If applicable, copy this information onto the form below and check boxes B and C.
6. Using Enclosure 5.2 or the "Summary Report" record Emergency Classification below.
7. Select CANCEL or DONE at bottom of screen, then continue at Step 4.11.6.

****11. TYPE OF RELEASE:**

☐

ELEVATED

☒ GROUND LEVEL

☒

AIRBORNE:

STARTED: ____:____/____/____
Time (Eastern) Date

STOPPED: ____:____/____/____
Time (Eastern) Date

☐

LIQUID:

STARTED: ____:____/____/____
Time (Eastern) Date

STOPPED: ____:____/____/____
Time (Eastern) Date

****12. RELEASE MAGNITUDE**

☒

Curies Per Sec

☐

Curies

NORMAL OPERATING LIMITS:

☐

BELOW

☐

ABOVE

☒

NOBLE GASES

☒

IODINES

☒

PARTICULATES

☐

OTHER

N/A

****13. ESTIMATE OF PROJECTED OFF-SITE DOSE.**

☒

NEW

☐

UNCHANGED

PROJECTION TIME:

Eastern

TEDE
mrem

Thyroid CDE
mrem

ESTIMATED DURATION. _____ HRS.

SITE BOUNDARY
2 MILES
5 MILES
10 MILES

****14 METEOROLOGICAL DATA:**

☒

WIND DIRECTION (from) _____°

☒

SPEED (mph) _____

☒

STABILITY CLASS _____

☒

PRECIPITATION (type) _____

15.

RECOMMENDED PROTECTIVE ACTIONS:

☐

NO RECOMMENDED PROTECTIVE ACTIONS

☐

EVACUATE _____

☐

SHELTER IN-PLACE _____

☐

OTHER N/A _____

Emergency Classification (circle one)

None Unusual Event Alert

Site Area Emergency General Emergency

Assisting In The Completion Of The
Emergency Notification Form

Raddose-V will print the Emergency Classification, based on Off-Site Dose on Page 3 of the "Summary Report" obtained at Step 4.10.3. Circle corresponding Emergency Classification at line 5 on Raddose-V printout of the Emergency Notification Form. If no Emergency Classification applies, write "NONE" on line 5 of the Emergency Notification Form. If the Emergency Notification form (green sheet) generated by Raddose-V recommends evacuation of any zone, circle "General Emergency" on the Raddose-V printout and recommend a General Emergency to the OPERATIONS SHIFT MANAGER (refer to the following note for more information).

- NOTE:**
- Radiological Emergency Classification is based on dose rates at the Site Boundary (1mile). Under low wind speeds, Raddose-V may indicate low (or no) dose rates at 1 mile for a large release of activity. Then, after performing a forecast, evacuation might be recommended by Raddose. This is expected and is due to the low wind speed conditions.
 - "Protective Action Recommendations" are either NO Protective Actions Necessary, or Evacuate Affected Zones. Whenever one or more zones are recommended for evacuation, sheltering of ALL other zones must be recommended. It is the responsibility of the Operations Shift Manager to determine which, if any zones should be recommended for evacuation.

For conditions when this procedure is used, if a General Emergency is declared, all zones out to 5 miles around the plant (A0, A1, B1, C1, D1, E1, and F1) will be recommended to be evacuated by Operations. Sheltering is recommended for all other zones. Dose Projections are performed primarily to determine if any zones beyond 5 miles should be evacuated.

Continue at Step 4.11.6.

Example
Summary ReportRADDOSE-V Version Rev 2.0
OCOONEE NUCLEAR STATION - UNIT 1
Copyright 1998-99 Earth Tech

REAL TIME MODE SUMMARY REPORT

CURRENT DATE:	08/21/98	STEP NUMBER:	1
CURRENT TIME:	18:21	STEP DATE:	08/21/98
OPERATOR:	DJB	STEP TIME:	12:15

Scenario Definition:

REACTOR TRIP DATE	08/21/98	RELEASE DATE	08/21/98
REACTOR TRIP TIME	12:00	RELEASE TIME	12:00

General Emergency has NOT been declared

Meteorological Data:

WIND SPEED	6.0 mph (F)	STABILITY CLASS	B (H)
WIND DIRECTION	240 deg (F)	DELTA-TEMPERATURE	-0.9 deg C (H)
AIR TEMPERATURE	18.0 deg C (H)	MIXING HEIGHT	1000.0 m (C)
PRECIPITATION RATE	0.00 in/15 min (H)		

Source Term Data:

ACCIDENT TYPE	Pathway 1
FLOWRATE	LOCA
MOBILE GAS METHOD	6.30E+04 B-2/m/hr
MOBILE GAS MONITOR	UV1H (R1A48)
MOBILE GAS REL RATE	3.60E+02 cpm (H)
RODNEPARTICULATE METHOD	2.58E+00 C/m
RODNEPARTICULATE REL RATE	UV1H (R1A48)
LODNE REL RATE	1.81E-01 C/m
PARTICULATE REL RATE	8.05E-03 C/m
OTHER INPUT DATA:	

TIME SINCE TRIP (HRS)	0.00
BRPAYS	----
HOLD-UP TIME	-----
CONT LEAK RATE METHOD	-----
CONT LEAK TYPE	-----
CONT PRESSURE	-----
CONT LEAK RATE	-----
CONT BYPASS FRACTION	-----
FILTERS	-----
SG PARTITIONED	No
POOL SCORBING	-----
FIELD MEASUREMENT	-----
DISTANCE	-----
DIRECTION	-----
FUEL ASSEMBLY AGE (DAYS)	-----

Key:

- (P)-Primary Data Based on Hierarchy
- (B)-Backup Data Based on Hierarchy
- (R)-Riser Tower Data Based on Hierarchy
- (C)-Value Calculated by RadDose-V
- (H)-Manual User Input Value

Example
Summary Report

RADDOSE-V Version Rev 2.0
OCONEE NUCLEAR STATION - UNIT 1
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REAL TIME MODE SUMMARY REPORT

CURRENT DATE:	09/21/98	STEP NUMBER:	1
CURRENT TIME:	15:21	STEP DATE:	09/21/98
OPERATOR:	DJB	STEP TIME:	12:15

Total Release Rates:

NOBLE GAS	2.56E+00 Ci/s
IODINE	1.81E-01 Ci/s
PARTICULATE	9.05E-03 Ci/s

Plume Arrival Times (Hrs) from 12:15 hours

Distance (mi)	Arrival Time (hrs)
0.5	Arrived
1.00	Arrived
2.00	Arrived
5.00	0.58 hrs @ time 12:50
10.00	1.42 hrs @ time 13:40

Isotopic Spectrum 0.25 hour after Reactor Trip Based on Source Term LOCA

Relative Percent Abundance at Time 12:15

<u>Noble Gases</u>		<u>Iodines</u>		<u>Particulates</u>	
Kr85	0.712%	I131	23.256%	Sr89	5.882%
Kr85m	0.821%	I132	29.457%	Sr90	0.480%
Kr87	0.460%	I133	28.682%	Y91	11.763%
Kr88	1.478%	I134	3.876%	Ru106	0.061%
Xe131m	0.657%	I135	14.729%	Te132	12.134%
Xe133	90.884%			Cs134	12.134%
Xe133m	1.259%			Cs136	6.501%
Xe135	3.449%			Cs137	40.242%
Xe138	0.279%			Ba140	10.370%
				Ce144	0.433%

Enclosure 5.5
Example
Summary Report

HP/0/B/1009/022
Page 3 of 3

RADDOSE-V Version Rev 2.0
OCONEE NUCLEAR STATION - UNIT 1
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REAL TIME MODE SUMMARY REPORT

CURRENT DATE:	09/21/98	STEP NUMBER:	1
CURRENT TIME:	15:21	STEP DATE:	09/21/98
OPERATOR:	DJB	STEP TIME:	12:15

Emergency Classification Based on Dose Rate @ 09/21/98 12:15 : Alert

Emergency Class Criteria						
Dose Type	1.0 mi	Sector	Unusual Event	Alert	Site Emergency	General Emergency
TEDE (mrem/hr)	1.16E+01	SSW(K)	1.14E-1*	1.14E+1*	100	1000
CDE Thyroid (mrem/hr)	1.99E+02	SSW(K)	3.42E-1*	3.42E+1*	500	5000

* Identifies any value which exceeds the radiological action level

Unusual Event is based upon 2 times the SLC value

Alert is based upon 200 times the SLC value

Site Emergency is based upon one tenth of the Protective Action Guides

General Emergency is based upon the Protective Action Guides

TEDE is Total Effective Dose Equivalent

CDE is Committed Dose Equivalent (Thyroid, Adult)

Self Reading Dosimeter (SRD) Correction Factor

SRD Correction Factor= [TEDE/(Plume EDE + Ground Shine)]

Maximum SRD Correction Factor at the Site Boundary = 2.74E+00

PROVIDE SRD CORRECTION FACTOR to EMERGENCY WORKERS

Example

Emergency Notification Form (Green Sheet)

1. A ☐ THIS IS A DRILL B. ☒ ACTUAL EMERGENCY ☐ INITIAL ☐ FOLLOW-UP MESSAGE NUMBER _____

2. SITE: Oconee UNIT: 1 REPORTED BY: _____

3. TRANSMITTAL TIME/DATE: _____ : _____ / _____ / _____ CONFIRMATION PHONE NUMBER: _____
(Eastern) mm/dd/yy

4. AUTHENTICATION (If Required): _____
(Number) (Codeword)

5. EMERGENCY CLASSIFICATION: A. ☐ NOTIFICATION OF UNUSUAL EVENT
B. ☐ ALERT C. ☐ SITE AREA EMERGENCY D. ☐ GENERAL EMERGENCY

6. ☒ Emergency Declaration At: ☐ Termination At: TIME/DATE: _____ : _____ / _____ / _____ (If B, go to item 16)
(Eastern) mm dd yy

7. EMERGENCY DESCRIPTIONS/REMARKS: _____

8. PLANT CONDITION: ☒ IMPROVING ☐ STABLE ☐ DEGRADING

9. REACTOR STATUS: ☒ SHUTDOWN TIME/DATE: _____ : _____ / _____ / _____ ☐ _____ % POWER
(Eastern) mm dd yy

10. EMERGENCY RELEASE(S):
A. ☐ NONE (Go to item 14) B. ☐ POTENTIAL (Go to item 14) C. ☐ IS OCCURRING D. ☐ HAS OCCURRED

**11. TYPE OF RELEASE: ☐ ELEVATED ☒ GROUND LEVEL
☒ AIRBORNE: STARTED: 12:00 09/21/98 STOPPED: _____
Time (Eastern) Date Time (Eastern) Date
☐ LIQUID: STARTED: _____ : _____ / _____ / _____ STOPPED: _____ : _____ / _____ / _____
Time (Eastern) Date Time (Eastern) Date

**12. RELEASE MAGNITUDE: ☒ Curies Per Sec ☐ Curies NORMAL OPERATING LIMITS: ☐ BELOW ☒ ABOVE
☒ NOBLE GASES 2.55E+00 ☐ IODINES 1.81E-01
☒ PARTICULATES 9.05E-03 ☐ OTHER _____

**13. ESTIMATE OF PROJECTED OFFSITE DOSE: ☐ NEW ☐ UNCHANGED PROJECTION TIME: 12:15
TEDE (mrem) Thyroid CDE (mrem) (Eastern)
SITE BOUNDARY 1.45E+01 2.48E+02
2 MILES 2.93E+00 4.97E+01 ESTIMATED DURATION: 1.25 HRS.
5 MILES 3.93E-01 6.78E+00
10 MILES 0.00E+00 0.00E+00

**14. METEOROLOGICAL DATA: ☒ WIND DIRECTION (from) 20.0 deg ☐ SPEED (mph) 5.0
☒ STABILITY CLASS B ☐ PRECIPITATION (type) 0.00 in/16 min

15. RECOMMENDED PROTECTIVE ACTIONS:
A. ☐ NO RECOMMENDED PROTECTIVE ACTIONS
B. ☐ EVACUATE
C. ☐ SHELTER IN-PLACE
D. ☐ OTHER

16. APPROVED BY: _____ TIME/DATE: _____ : _____ / _____ / _____
(Name) (Title) (Eastern) mm dd yy

* If items 8-14 have not changed, only items 1-7 and 15-16 are required to be completed

** Information may not be available on initial notification

Emergency Notification Form (Green Sheet)

09/21/98

12:15

This page is for internal use only. Do not FAX.

The accumulated dose at the site boundary is: 2.9E+0 mSvrem (TEDE)
 since the beginning of the release. 4.96E+1 mSvrem (CDE Thyroid)

This information is taken from ☒ Raddose-V estimate.

The following list of dose comparisons should be used to assist the News Group and/or the company spokesperson in quantifying the above exposure to the public through news releases.

Comparisons in millirem(s)

Exposure received from a routine X-ray of the arm or leg. (NUREG/BR-0150)	1
Exposure received during a cross-country flight. (NCRP Report No. 94, 1987)	1.5
Exposure from a single diagnostic chest X-ray. (NUREG/BR-0150)	6
Annual dose commitment limit, to any individual member of the public, from the licensed operation of a nuclear power facility. (10CFR20, Appendix B, Table 2)	50
Routine Upper GI series X-ray. (NCRP Report No. 100, 1989)	250
Average annual exposure to the U.S. population from all sources including radon. (NCRP Report No. 94, 1987)	360
EPA Protective Action Guide for the public evacuation and/or shelter. (EPA-400)	1000
Annual occupational limit for nuclear power plant workers. (10CFR20.1201(f))	5000

INFORMATION PROCEDURE PROCESS RECORD

ONLY

Revision No. 005

SEPARATION

Station OCONEE NUCLEAR STATION(3) Procedure Title Fire Brigade Response(4) Prepared By Rodney Brown (Signature) Rodney Brown Date 08/01/2002

(5) Requires NSD 228 Applicability Determination?

☒ Yes (New procedure or revision with major changes)☐ No (Revision with minor changes)☐ No (To incorporate previously approved changes)(6) Reviewed By Robert Taylor (QR) Date 8/1/02

Cross-Disciplinary Review By _____ (QR)NA _____ Date _____

Reactivity Mgmt Review By _____ (QR)NA _____ Date _____

Mgmt Involvement Review By _____ (Ops Supt) NA _____ Date _____

(7) Additional Reviews

Reviewed By (RE) [Signature] Date 8-1-02Reviewed By Michael [Signature] Date 8-1-02

(8) Temporary Approval (if necessary)

By _____ (OSM/QR) Date _____

By _____ (QR) Date _____

(9) Approved By Michael D. Thorne Date 8-1-02**PERFORMANCE** (Compare with control copy every 14 calendar days while work is being performed.)

(10) Compared with Control Copy _____ Date _____

Compared with Control Copy _____ Date _____

Compared with Control Copy _____ Date _____

(11) Date(s) Performed _____

Work Order Number (WO#) _____

COMPLETION

(12) Procedure Completion Verification:

☐ Unit 0 ☐ Unit 1 ☐ Unit 2 ☐ Unit 3 Procedure performed on what unit?☐ Yes ☐ NA Check lists and/or blanks initialed, signed, dated, or filled in NA, as appropriate?☐ Yes ☐ NA Required enclosures attached?☐ Yes ☐ NA Data sheets attached, completed, dated, and signed?☐ Yes ☐ NA Charts, graphs, etc. attached, dated, identified, and marked?☐ Yes ☐ NA Procedure requirements met?

Verified By _____ Date _____

(13) Procedure Completion Approved _____ Date _____

(14) Remarks (Attach additional pages)

**Duke Power Company
Oconee Nuclear Station**

Fire Brigade Response

Reference Use

Procedure No.

RP/0/B/1000/029

Revision No.

005

Electronic Reference No.

OX0091UU

Fire Brigade Response

NOTE: This procedure is an implementing procedure to the Oconee Nuclear Site Emergency Plan and must be forwarded to Emergency Planning within seven (7) working days of approval.

1. Symptoms

- 1.1 Fire, explosions or conditions (smoke, smoldering, burning) associated with a fire have been reported to the Control Room or to the OSC when activated.
- 1.2 This procedure shall provide guidance to shift personnel and Emergency Coordinator for response, actions, and coordination associated with an incident involving real or suspected fires.

2. Immediate Actions

- 2.1 **IF** Fire Brigade response is being considered during routine operations
THEN Go to Enclosure 4.1 (Fire Brigade Response - Routine Operations)
- 2.2 **IF** Fire Brigade response is being considered
AND The OSC/TSC are activated
THEN Go to Enclosure 4.2 (Fire Brigade Response - OSC/TSC Activation).

3. Subsequent Actions

- ____ 3.1 **WHEN** HPSW Pump **NO** longer required perform the following:
 - 3.1.1 Ensure HPSW Pump switch returned to required position per OP/0/A/1104/011 (High Pressure Service Water).
 - 3.1.2 If required reset Mulsifyres per OP/0/A/1104/011 (High Pressure Service Water).
 - 3.1.3 If required close any Fire Hydrant that was opened. {4}
- ____ 3.2 **IF** Fire Brigade equipment or supplies have been used,
THEN Ensure that all equipment is returned to its proper place and consumable supplies are replaced or ordered.

NOTE: Original copies of the Fire Emergency Report can be located in NSD 112, Fire Brigade Organization and Training.

- _____ 3.3 Complete Enclosure 4.3 (Fire Emergency Report).
 - _____ 3.3.1 Forward a copy to the Fire Protection Engineer.
 - _____ 3.3.2 Initiate a PIP if Enclosure 4.3 (Fire Emergency Report) is completed. Include all important information from Enclosure 4.3 (Fire Emergency Report) in PIP.
 - _____ 3.3.3 Forward this procedure to the Emergency Planning Section.
- _____ 3.4 Conduct a post incident critique for events requiring full Fire Brigade activation.

4. Enclosures

- 4.1 Fire Brigade Response - Routine Operations
- 4.2 Fire Brigade Response - OSC/TSC Activation
- 4.3 Fire Emergency Report
- 4.4 Fire Brigade Leader Checklist
- 4.5 Safety Officer's Checklist
- 4.6 References

Enclosure 4.1
Fire Brigade Response - Routine Operations

RP/0/B/1000/029
Page 1 of 8

1. Fire Brigade Response – Routine Operations

- Actions may be followed in any sequence.
- Lines left of procedure steps are used to indicate place in procedure.
- Check marks are acceptable in these blanks.
- Complete the procedure steps that apply to this incident.
- N/A steps not performed.

_____ 1.1 Complete the following with information taken from the caller:

Name/Group of person reporting fire/smoke _____

Location of fire/smoke _____

Equipment/components affected by fire/smoke _____

Time _____ Date _____

Are there people in the immediate area who need to be warned or relocated to a safe area?

Are there any injured people? _____

Call back number _____

_____ 1.2 Notify OSM and STA.

_____ 1.3 Refer to the Fire Plan for the location reported for fire in Step 1.1

_____ 1.3.1 Request support from an unaffected unit. (Refer to Fire Plan SOG #10 for Fire Brigade equipment locations).

Enclosure 4.1
Fire Brigade Response - Routine Operations

RP/0/B/1000/029
Page 2 of 8

NOTE: The Operations Shift Manager (OSM) or designee may activate a full Fire Brigade response without sending someone to investigate first, if deemed necessary. Possible situations that warrant full response could include:

- Multiple reports from individuals
- Multiple alarms,
- Other system indications
- Any other indicators that the Operations Shift Manager deems significant.

_____ 1.4 **IF** Fire is involved or suspected **INSIDE** the protected area

THEN Perform the following:

_____ 1.4.1 Send one operator, with a radio, to the fire/smoke location to perform one of the following:

A. Extinguish the fire (if possible) with portable extinguisher (notify Control Room)

OR

B. **IF** Fire Brigade response is required

THEN Notify Control Room immediately.

_____ 1.4.2 **IF** Fire Brigade response is **NOT** needed

THEN Perform the following:

A. Direct NEO to

- Search affected area for victims
- Activate MERT if required per RP/0/B/1000/016, Medical Response.
- **IF NO** fire was discovered then exit this procedure.
- If fire was discovered then GO TO Step 1.4.8.

Enclosure 4.1
Fire Brigade Response - Routine Operations

RP/0/B/1000/029
Page 3 of 8

- _____ 1.4.3 **IF** A full Fire Brigade response is needed
- THEN** Perform the following:
- A. Direct NEO to:
- Search effected area for victims
 - Evacuate surrounding areas
 - Pre-stage nearby equipment for Fire Brigade
 - Report to Fire Brigade Leader for further instructions
- B. Use plant page to request all Fire Brigade and MERT members to respond to the fire.
1. Include any information, if known, that would be important to Fire Brigade members responding to the incident location. (eg. Hazardous materials, smoke, structural damage, etc.)
 2. Include the statement "All non-Fire Brigade personnel please avoid the _____." (fire location area)
- _____ 1.4.4 Use the following directions to activate radios and pagers.
- A. Transmit "Standby for Emergency Message"
- B. Press the "Instant Call" button labeled "Fire Brigade"
- C. Wait for the red "Transmit" light on the radio to turn off
- D. Transmit message including information, if known, that would be important to Fire Brigade members responding to the staging area (e.g. hazardous materials, smoke, structural damage, etc.).
- _____ 1.4.5 Get staging area location from the Fire Brigade Leader then repeat Steps 1.4.3.B & 1.4.4.
- _____ 1.4.6 Notify SRO to evaluate the need for staging personnel at the SSF.
- _____ 1.4.7 Establish and maintain communications with Fire Brigade Leader to provide assistance as needed. {3}
- A. Available equipment, refer to SOG #10 in the Fire Plan.
- B. Critical equipment in vicinity of fire (Fire Plan)

Enclosure 4.1
Fire Brigade Response - Routine Operations

RP/0/B/1000/029
Page 4 of 8

- _____ 1.4.8 **IF** Hazardous materials are involved,
- THEN** Refer to RP/0/B/1000/017 (Spill Response Procedure).
- _____ 1.4.9 **IF** An oil filled transformer is involved in a fire,
- THEN** Request Oconee County Fire Department to dispatch the Keowee Key Fire Department to the site.
- Dial 9-911 from Ext. 3271 Operations Shift Manager's phone
Dial 9-911 from Ext. 2159 Unit 1 Control Room SRO's phone or
Dial 911 from 882-7076 Units 1, 2 and 3 Control Rooms, Bell South lines
- _____ 1.4.10 **IF** The Fire Brigade identifies a fire requiring application of water for extinguishment,

THEN perform the following:

NOTE: These steps are in order of preference.

- A. Perform one of the following:
1. Activate Mulsifyre Transformer No. 3Y [3Y Currently spare] (T-3-B42)
OR
 2. Activate any one of the following (preferably not loaded or energized):
 - Mulsifyre Transformer CT-1 (T-3-B14)
 - Mulsifyre Transformer No.CT-2 (T-3-D29)
 - Mulsifyre Transformer No.CT-3. (T-3-B42)**OR**
 3. Remove cap and open any fire Hydrant within protected area or switchyard with a 2.5" outlet.

NOTE: HPSW Pump should be started \leq 30 minutes from start of fire.

- B. Start HPSW Pump per OP/0/A/1104/011 (High Pressure Service Water).
 {1} {4}
- C. Make a PA announcement to discontinue use of HPSW for non-essential purposes. {1}
- D. Evaluate any Auxiliary Building Flooding Concerns (Refer to Auxiliary Building Flood AP). {2}

Enclosure 4.1
Fire Brigade Response - Routine Operations

RP/0/B/1000/029
Page 5 of 8

____ 1.4.11 **IF** Fire occurs on backshifts or weekends

AND Additional Fire Brigade support is needed,

THEN Perform the following:

A. Select the off duty shift(s) that will impact the safe operation of the plant the least by being recalled (i.e., shifts other than on coming shift).

 ____ A ____ B ____ C ____ D ____ E

B. Call the Switchboard Operator and request them to call the shift(s) selected in Step A.

NOTE: All site phones except for the following are blocked from accessing the public 911 emergency service line.

____ 1.4.12 **IF** Oconee County Fire Department assistance is needed,

THEN Dial 9-911 from Ext. 3271 Operations Shift Manager's phone

 Dial 9-911 from Ext. 2159 Unit 1 Control Room SRO's phone

 Or

 Dial 911 from 882-7076 Units 1 /2 and 3 Control Rooms, Bell South lines

A. Request a response from:

- Keowee Key Fire Department
- Keowee Ebenezer Fire Department
- Corinth-Shiloh Fire Department
- Give the fire location (building, parking lot, etc.) and best gate for entry to the fire department dispatch.
- Call Security (ext. 2222) and request that they have a Security Officer escort the fire department to the fire location.

Enclosure 4.1
Fire Brigade Response - Routine Operations

RP/0/B/1000/029
Page 6 of 8

- NOTE:**
- Offsite fire departments are normally responsible for fire suppression activities outside the Protected Area. The Fire Brigade may provide limited support for a fire outside the Protected Area if resources allow.
 - The Fire Plan for Keowee Hydro calls for sending the Fire Brigade to extinguish fires there.
 - Security will automatically send a Security Officer to investigate alarms on fire detection systems that are monitored by Security in the PAP. Security will call the emergency line to report the existence of a fire or a need for further investigation by plant personnel as needed.

_____ 1.5 **IF** Fire is involved or suspected **OUTSIDE** the Protected Area,

THEN Call Security (ext. 2222) and request that a Security Officer be dispatched to the suspected fire location to verify fire location and nature of the fire.

Request Security Shift Supervisor to relay information back to the Control Room via the emergency line (4911).

_____ 1.5.1 **IF** Security confirms that there is a fire or the situation has the potential for developing into one,

THEN Send a Fire Brigade Leader and one Fire Brigade Member or the full Fire Brigade if resources allow.

Enclosure 4.1
Fire Brigade Response - Routine Operations

RP/0/B/1000/029
Page 7 of 8

_____ 1.5.2 **IF** The Fire Brigade identifies a fire requiring application of water for extinguishment

THEN Perform the following:

NOTE: These steps are in order of preference.

- A. Perform one of the following:
1. Activate Mulsifyre Transformer No. 3Y [3Y Currently spare] (T-3-B42)
- OR**
2. Activate any one of the following (preferably not loaded or energized):
 - Mulsifyre Transformer CT-1 (T-3-B14)
 - Mulsifyre Transformer No.CT-2 (T-3-D29)
 - Mulsifyre Transformer No.CT-3. (T-3-B42)
- OR**
3. Remove cap and open any fire Hydrant within protected area or switchyard with a 2.5" outlet.

NOTE: HPSW Pump should be started ≤ 30 minutes from start of fire.

- B. Start HPSW Pump per OP/0/A/1104/011 (High Pressure Service Water).
 {1} {4}
- C. Make a PA announcement to discontinue use of HPSW for non-essential purposes. {1}

NOTE: All site phones except for the following are blocked from accessing the public 911 emergency service line.

_____ 1.5.3 **IF** Oconee County Fire Department assistance is needed,

THEN Dial 9-911 from Ext. 3271 Operations Shift Manager's phone

 Dial 9-911 from Ext. 2159 Unit 1 Control Room SRO's phone

 or

 Dial 911 from 882-7076 Units 1/2 and 3 Control Rooms, Bell South line

Enclosure 4.1
Fire Brigade Response - Routine Operations

RP/0/B/1000/029
Page 8 of 8

_____ 1.5.4 Request a response from:

- Keowee Key Fire Department
- Keowee Ebenezer Fire Department
- Corinth-Shiloh Fire Department
- Give the fire location (building, parking lot, etc.) and best gate for entry to the fire department dispatch.
- Call Security (ext. 2222) and request that they have a Security Officer escort the fire department to the fire location.

NOTE: Keowee Hydro Station is located in Pickens County. Dialing 9-911 will **NOT** access the Pickens County Fire Dispatch.

_____ 1.5.5 **IF** Six Mile Fire Department assistance is needed for a fire at Keowee Hydro Station,

THEN Call the Pickens County Sheriffs Department (898-5500) and request the response of Six Mile Fire Department to Keowee Hydro Station.

- Call Security (ext. 2222) and request that they have a Security Officer escort the fire department to the fire location.

_____ 1.6 Return to Section 3, Subsequent Actions.

1. Fire Brigade Response – OSC/TSC Activation

- Actions may be followed in any sequence.
- Lines left of procedure steps are used to indicate place in procedure.
- Check marks are acceptable in these blanks.
- Complete the procedure steps that apply to this incident.
- N/A steps not performed.

_____ 1.1 Complete the following with information taken from the Work Control Assistant who received the emergency line call:

Name/Group of person reporting fire/smoke _____

Location of fire/smoke _____

Equipment/components affected by fire/smoke _____

Time _____ Date _____

Are there people in the immediate area who need to be warned or relocated to a safe area?

Are there any injured people? _____

Call back number _____

_____ 1.2 Refer to Fire Plan for the location reported for fire in Step 1.1.

_____ 1.2.1 Request support from an unaffected unit. (Refer to Fire Plan SOG#10 for Fire Brigade Equipment locations).

Enclosure 4.2
Fire Brigade Response - OSC/TSC Activation

RP/0/B/1000/029

Page 2 of 7

NOTE: The Emergency Coordinator or designee may activate a full Fire Brigade response without sending someone to investigate first, if deemed necessary. Possible situations that warrant full response could include:

- Multiple reports from individuals
- Multiple alarms,
- Other system indications
- Any other indicators that the Emergency Coordinator deems significant.

_____ 1.3 **IF** Fire is involved or suspected **INSIDE** the Protected Area,

THEN Perform one of the following as required.

_____ 1.3.1 Send one operator, with a radio, to the fire/smoke location to perform one of the following:

A. Extinguish the fire (if possible) with portable extinguisher (notify Control Room)

OR

B. **IF** Fire Brigade response is required

THEN Notify Control Room immediately.

_____ 1.3.2 **IF** Fire Brigade response is **NOT** needed,

THEN Perform the following:

A. Direct NEO to search affected area for victims

B. Activate MERT if required per RP /0/B/1000/016 (Medical Response)

C. IF **NO** fire was discovered then exit this procedure.

D. If fire was discovered then GO TO Step 1.3.5.

Enclosure 4.2
Fire Brigade Response - OSC/TSC Activation

RP/0/B/1000/029
Page 3 of 7

- _____ 1.3.3 **IF** A full Fire Brigade response is needed,

 THEN Perform the following:
- A. Direct NEO to:
- Search effected area for victims
 - Evacuate surrounding areas
 - Pre-stage nearby equipment for Fire Brigade
 - Report to Fire Brigade Leader for further instructions
- B. Dispatch Fire Brigade Members assigned to the OSC to respond to the fire.
- C. Request the OSC Security Manager to have MERT respond along with the Fire Brigade to the fire location.
- _____ 1.3.4 Establish and maintain communications with Fire Brigade Leader to provide assistance as needed. {3}
- A. Available equipment (Refer to SOG #10 in the Fire Plan)
- B. Critical equipment in vicinity of fire (Fire Plan)
- _____ 1.3.5 **IF** Hazardous materials are involved,

 THEN Refer to RP/0/B/1000/017 (Spill Response Procedure).
- _____ 1.3.6 **IF** An oil filled transformer is involved in a fire,

 THEN Request Oconee County Fire Department to dispatch the Keowee Key Fire Department to the site.
- | | | |
|------------|----------------|--|
| Dial 9-911 | from Ext. 3271 | Operations Shift Manager's phone |
| Dial 9-911 | from Ext. 2159 | Unit 1 Control Room SRO's phone or |
| Dial 911 | from 882-7076 | Units 1, 2 and 3 Control Rooms, Bell South lines |

Enclosure 4.2
Fire Brigade Response - OSC/TSC Activation

RP/0/B/1000/029
Page 4 of 7

- _____ 1.3.7 **IF** The Fire Brigade identifies a fire requiring application of water for extinguishment,
- THEN** Perform the following:

NOTE: These steps are in order of preference.

- A. Perform one of the following:
1. Activate Mulsifyre Transformer No. 3Y [3Y Currently spare] (T-3-B42)
- OR**
2. Activate any one of the following (preferably not loaded or energized):
 - Mulsifyre Transformer CT-1 (T-3-B14)
 - Mulsifyre Transformer No.CT-2 (T-3-D29)
 - Mulsifyre Transformer No.CT-3. (T-3-B42)
- OR**
3. Remove cap and open any fire Hydrant within protected area or switchyard with a 2.5" outlet.

NOTE: HPSW Pump should be started \leq 30 minutes from start of fire.

- B. Start HPSW Pump per OP/0/A/1104/011 (High Pressure Service Water).
 {1} {4}
- C. Make a PA announcement to discontinue use of HPSW for non-essential purposes. {1}
- D. Evaluate any Auxiliary Building Flooding Concerns (Refer to Auxiliary Building Flood AP). {2}

_____ 1.3.8 Notify SRO to evaluate the need for staging personnel at the SSF.

- _____ 1.3.9 **IF** Fire occurs on backshifts or weekends
- AND** Additional Fire Brigade support is needed,
- THEN** Perform the following:

- A. Select the off duty shift(s) that will impact the safe operation of the plant the least by being recalled (i.e., shifts other than on coming shift).
- _____ A _____ B _____ C _____ D _____ E
- B. Call the Switchboard Operator and request them to recall the shift(s) selected in Step A.

_____ 1.3.10 **IF** Oconee County Fire Department assistance is needed,

THEN Request that the Offsite Communicator call and request a fire department response from:

- Keowee Key Fire Department
 - Keowee-Ebenezer Fire Department
 - Corinth Shiloh Fire Department
- A. Give the fire location (building, parking lot, etc.) and best gate for entry to the Offsite Communicator so that it can be given to the fire department dispatcher.
- B. Request that a Security Officer meet and escort the fire department to the fire location.

NOTE:

- Offsite fire departments are normally responsible for fire suppression activities outside the Protected Area. The Fire Brigade may provide limited support for a fire outside the Protected Area if resources allow.
- The Fire Plan for Keowee Hydro calls for sending the Fire Brigade to extinguish fires there.
- Security will automatically send a Security Officer to investigate alarms on fire detection systems that are monitored by Security in the PAP. Security will call the emergency line to report the existence of a fire or a need for further investigation by plant personnel as needed.

_____ 1.4 **IF** Fire is involved or suspected **OUTSIDE** the Protected Area,

THEN Request that a Security Officer be dispatched to the suspected fire location to verify the location and status of the fire. Request that information be relayed back to the OSC via the emergency line (4911).

_____ 1.4.1 **IF** Security confirms that there is a fire or the situation has the potential for developing into one,

THEN Send a Fire Brigade Leader and one Fire Brigade Member or the full Fire Brigade if resources allow.

Enclosure 4.2
Fire Brigade Response - OSC/TSC Activation

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_____ 1.4.2 **IF** The Fire Brigade identifies a fire requiring application of water for extinguishment,

THEN Perform the following:

NOTE: These steps are in order of preference.

- A. Perform one of the following:
1. Activate Mulsifyre Transformer No. 3Y [3Y Currently spare] (T-3-B42)
- OR**
2. Activate any one of the following (preferably not loaded or energized):
 - Mulsifyre Transformer CT-1 (T-3-B14)
 - Mulsifyre Transformer No.CT-2 (T-3-D29)
 - Mulsifyre Transformer No.CT-3. (T-3-B42)
- OR**
3. Remove cap and open any fire Hydrant within protected area or switchyard with a 2.5" outlet.

NOTE: HPSW Pump should be started \leq 30 minutes from start of fire.

- B. Start HPSW Pump per OP/0/A/1104/011 (High Pressure Service Water).
 {1} {4}
- C. Make a PA announcement to discontinue use of HPSW for non-essential purposes. {1}

Enclosure 4.2
Fire Brigade Response - OSC/TSC Activation

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- ____ 1.4.3 **IF** Oconee County Fire Department assistance is needed,
- THEN** Request that the Offsite Communicator call and request a fire department response from:
- Keowee Key Fire Department
 - Keowee-Ebenezer Fire Department
 - Corinth Shiloh Fire Department
- A. Give the fire location (building, parking lot, etc.) and best gate for entry to the Offsite Communicator so that it can be given to the fire department dispatcher.
- B. Request that a Security Officer meet and escort the fire department to the fire location.

NOTE: Keowee Hydro Station is located in Pickens County.

- ____ 1.4.4 **IF** Six Mile Fire Department assistance is needed for a fire at Keowee Hydro Station,
- THEN** Request the Offsite Communicator call the Pickens County Sheriffs Department (898-5500) and request Six Mile Fire Department to respond to Keowee Hydro Station.
- Request that a Security Officer meet and escort the fire department to the fire location.

____ 1.5 Return to Section 3, Subsequent Actions.

Enclosure 4.3
Fire Emergency Report
FIRE EMERGENCY REPORT

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Station/Location: _____ Date: _____

Location (Unit/Area): _____

Time Discovered: _____ Discovered By: _____

Operations Shift Manager: _____

Evacuation: Yes _____ No _____ Partial _____ Other _____

Fire Brigade Response: Yes _____ No _____

Time Fire Extinguished: _____

List All Fire Protection Equipment Used _____

Operation Satisfactory: Yes _____ No _____ (Use Back For Details)

Equipment Restored For Use: Yes _____ No _____ If no, Explain (Use Back for Details)

Outside Assistance Called: No _____ Yes _____ Agency(s) _____

Area Involved: _____

Point of Origin (If known): _____

Cause (If known) _____

Damage To:
Building _____
Equipment _____
Personal _____
Other _____

Injuries Reported: _____

Briefly Describe What Happened: _____

*Signature of Fire Brigade Leader

*Signature of Operations Shift Manager

*Notify Safety Representative of Fires Involving Personal Injury (Refer to Duty List for after hours).

Enclosure 4.4
Fire Brigade Leader Checklist

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TASK	✓
Don Fire Brigade Leader Vest	
Determine Staging Area and Communicate to Control Room <ul style="list-style-type: none"> • Safe accessibility • Minimal distractions • Appropriate vicinity 	
Establish The Following Teams/Priorities: <ul style="list-style-type: none"> • Entry Team - Priority = search & rescue/fight fire • Backup Team - Priority = backup Entry Team/help fight fire • Rapid Intervention Team - Priority = Rescue Fire Fighters (if required) 	
Stress The Following Items With All Teams Prior To Dispatching To Fire: <ul style="list-style-type: none"> • Safety of Team is top priority • Stay with the hose/rescue line <u>at all times</u> • Maintain contact with your team at all times • All teams report to Safety Officer prior to entering fire zone and after exiting fire zone for accountability 	
Assess The Fire: <ul style="list-style-type: none"> • Request CR to dispatch additional resources as required: <ul style="list-style-type: none"> - Off Duty Shifts and/or Offsite Fire Departments - Outside Equipment Truck and/or Equipment Carts - CO2 or Wheeled Dry Chemical Extinguishers - Foam Units • Exposures - Critical Equipment Concerns <ul style="list-style-type: none"> - Above/Below Fire?, Fire/Smoke/Water?, Electrical Hazards? • Report Critical Equipment Concerns to CR for Emergency Plan Consideration 	
Request Location of Nearest Fire Hose Locations From Control Room: <ul style="list-style-type: none"> • Elevation/column # • Communicate locations to teams 	
Request Assistance From RP/Security <ul style="list-style-type: none"> • Request Security At The Scene To Control Access To The Area • If Radiological Concerns Exist, Request CR To Notify RP 	
Refer To Fire Plan As Required: <ul style="list-style-type: none"> • Hazards/Ventilation • Refer To SOG #10 for Fire Brigade equipment locations 	
If Hazardous Materials Involved, Request CR to Dispatch Haz-Mat Team	

Enclosure 4.5
Safety Officer's Checklist

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TASK	✓
Don Safety Officer Vest	
Establish Accountability For FB Members <ul style="list-style-type: none">• Name tags/accountability board	
Perform PPE Checks of Fire Fighters <ul style="list-style-type: none">• All skin covered• All turnout gear openings closed• SCBA cylinder full (≥ 4000 psi)• SCBA cylinder valves fully open• PASS device operational	
Log Team Assignments on Accountability Board <ul style="list-style-type: none">• Log time on air• Log entry times• Log team assignments	
Assign MERT Responsibilities <ul style="list-style-type: none">• Stand by with medical equipment• Monitor FB members for signs of heat exhaustion/stress/etc.• Provide drinking water for fire fighters	
Maintain Continuous Contact With Fire Brigade Leader	
Evaluate SCBA Needs <ul style="list-style-type: none">• If required, request CR to have SCBA cylinder fill trailer delivered• If required, request CR to have Spare SCBA cylinders delivered.• If required, request CR to have spare SCBAs (for additional responders) delivered	

References:

- {1} PIP 01-0405**
- {2} PIP 99-1286**
- {3} PIP 01-1220**
- {4} PIP 02-03870**