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A Progress Energy Company

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U. S. Nuclear Regulatory Commission
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BRUNSWICK STEAM ELECTRIC PLANT, UNIT NOS. 1 AND 2
DOCKET NOS. 50-325 AND 50-324/LICENSE NOS. DPR-71 AND DPR-62
REVISIONS TO PLANT EMERGENCY PROCEDURES

Ladies and Gentlemen:

In accordance with 10 CFR 50.54(q) and 10 CFR 50, Appendix E, Section V, Carolina Power & Light (CP&L) Company is submitting revisions to Brunswick Steam Electric Plant (BSEP), Unit Nos. 1 and 2, plant emergency procedures. CP&L has evaluated the revisions, in accordance with 10 CFR 50.54(q), and has determined that the changes do not decrease the effectiveness of the Radiological Emergency Response Plan; and the Plan, as changed, continues to meet the standards of 10 CFR 50.47(b) and the requirements of 10 CFR 50, Appendix E. A list of the revised procedures is provided in Enclosure 1. A summary of the revisions is provided in Enclosure 2. Enclosure 3 contains copies of the revised procedures.

There are no regulatory commitments being made in this submittal. Please refer any questions regarding this submittal to Mr. Michael Alford, Supervisor - Emergency Preparedness, at (910) 457-2286.

Sincerely,

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A045-

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Enclosures:

1. Listing of Revised Plant Emergency Procedures
2. Summary of Revisions
3. Copies of Revised Procedures

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ENCLOSURE 1

BRUNSWICK STEAM ELECTRIC PLANT, UNIT NOS. 1 AND 2
DOCKET NOS. 50-325 AND 50-324/LICENSE NOS. DPR-71 AND DPR-62
REVISIONS TO PLANT EMERGENCY PROCEDURES

Listing of Revised Plant Emergency Procedures

Procedure	Revision	Effective Date	Title
OPEP-02.6.12	25	10/04/2001	Activation and Operation of the Operational Support Center
OPEP-03.4.7	14	10/04/2001	Automation of Off-Site Dose Projection Procedures

ENCLOSURE 2

BRUNSWICK STEAM ELECTRIC PLANT, UNIT NOS. 1 AND 2 DOCKET NOS. 50-325 AND 50-324/LICENSE NOS. DPR-71 AND DPR-62 REVISIONS TO PLANT EMERGENCY PROCEDURES

Summary of Revisions

A. OPEP-02.6.12, "Activation and Operation of the Operational Support Center," Revision 25:

1. Replaced references to OPEP-Appendix A, "Emergency Response Resources," with EPL-001, "Emergency Phone List," to reflect the change in procedure title and procedure number;
2. Updated the procedure to reflect the new permanent Operational Support Center;
3. Added responsibilities and instructions for the Operations Coordinator position for search and rescue missions; and
4. Revised Section 5.2.8 to allow Instrumentation and Control, Health Physics, and Chemistry Technicians to be dispatched to the Control Room, Technical Support Center (TSC), Emergency Operations Facility (EOF), and Chemistry lab without mission tracking or additional authorization and deleted the requirement to send routine missions to the TSC/EOF emergency diesel generator.

B. OPEP-03.4.7, "Automation of Off-Site Dose Projection Procedures," Revision 14:

1. Replaced references to OPEP-Appendix A, "Emergency Response Resources," with EPL-001, "Emergency Phone List," to reflect the change in procedure title and procedure number;
2. Added a Note to Section 5.1.4 to provide instructions for performing calculations to estimate the release activity resulting in a classification change;
3. Incorporated several editorial changes; and
4. Added a reference to a comparison of Carolina Power & Light (CP&L) Company and NRC dose projection methodologies.

ENCLOSURE 3

BRUNSWICK STEAM ELECTRIC PLANT, UNIT NOS. 1 AND 2
DOCKET NOS. 50-325 AND 50-324/LICENSE NOS. DPR-71 AND DPR-62
REVISIONS TO PLANT EMERGENCY PROCEDURES

Copies of Revised Procedures



CAROLINA POWER & LIGHT COMPANY
BRUNSWICK NUCLEAR PLANT

I
Information
Use

PLANT OPERATING MANUAL

VOLUME XIII

PLANT EMERGENCY PROCEDURE

UNIT
0



OPEP-03.4.7

***AUTOMATION OF OFF-SITE DOSE PROJECTION
PROCEDURES***

REVISION 14

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1.0 PURPOSE

The purpose of this procedure is to provide instruction for the performance of off-site dose calculations using the CPLDOSE software program. CPLDOSE software is maintained on the STA computer in the Control Room, Unit 1 and Unit 2 Reactor Operator computers and the Dose Projection computer in Room 128 of the Emergency Operations Facility. The CPLDOSE program is designed to provide off-site radiological dose projections based on real-time meteorological data and actual plant conditions during accident situations. The accident conditions designed into the CPLDOSE code, that are associated with the reactor plant, assume an increasing accident severity beginning with a breach of the reactor coolant pressure boundary and progress through severe core melt conditions. An additional scenario situation included in the CPLDOSE code is based on a spent fuel accident involving a dropped spent fuel bundle.

The intent of this procedure is to enable a rapid determination of the severity of a plant emergency involving the potential or actual breach of the reactor coolant pressure boundary with variable degrees of core damage and facilitate a projection of the potential associated off-site consequence. The CPLDOSE program provides Total Effective Dose Equivalent (TEDE) and thyroid Committed Dose Equivalent (CDE) projections.

This procedure is applicable to the Control Room staff as an initial step subsequent to the recognition of accident conditions and the realization that an off-site release could occur, is in progress, or has already occurred. The Dose Projection Team will assume responsibility for the implementation of this procedure when the Emergency Operations Facility is activated. The Dose Projection Team will then assist the Radiological Controls Director and Radiological Controls Manager in the determination and evaluation of projected off-site consequences.

Operations Control Room staff and Dose Projection Coordinators are trained in the implementation of the CPLDOSE program. For the purposes of this procedure, it is assumed that all personnel implementing this procedure are sufficiently proficient in standard computer manipulations to successfully initiate the CPLDOSE software program from a DOS, menu driven, or Windows format and it is not the intent of this procedure to provide detailed guidance for computer manipulations.

2.0 REFERENCES

- 2.1 EPA-400-R-92-001, "Manual of Protective Action Guides and Protective Actions for Nuclear Incidents," USEPA, May 1992
- 2.2 EPL-001, Emergency Phone List
- 2.3 OPEP-02.6.21, Emergency Communicator
- 2.4 OPEP-03.6.1, Release Estimates Based Upon Stack/Vent Readings
- 2.5 OPEP-02.6.20, Dose Projection Coordinator
- 2.6 CPLDOSE Code User Manual
- 2.7 BNP Health Physics Programs Technical Report "Comparison of CPLDOSE and NRC Dose Projection Methodologies"

3.0 RESPONSIBILITIES

- 3.1 Operations personnel under the direction of the Site Emergency Coordinator are responsible for performing Steps 5.1.1 through 5.1.4 of this procedure until the Dose Projection Team is activated in the Emergency Operations Facility (EOF).
- 3.2 Initially, the Dose Projection Coordinator may report to the Radiation Control Director upon the TSC activation and will provide dose projection calculation for the RCD and SEC to evaluate. Upon EOF activation, the Dose Projection Coordinator will report to the RCM.
- 3.3 The Dose Projection Coordinator is responsible for calculating the TEDE and the thyroid CDE, to be used in determining and evaluating possible off-site consequences from a release of airborne radioactivity.

4.0 DEFINITIONS

- 4.1 Committed Dose Equivalent (CDE)

The dose equivalent to a specific organ or tissue integrated over a 50-year period due to radionuclides in the body.

- 4.2 Committed Effective Dose Equivalent (CEDE)

The sum of committed dose equivalents integrated over a 50-year period due to radionuclides in the body. Units are in rem.

4.0 DEFINITIONS

4.3 Deep Dose Equivalent (DDE)

Dose equivalent at 1 cm tissue depth.

4.4 Dose Equivalent (DE)

The product of the absorbed dose in rad, a quality factor related to the biological effectiveness of the radiation involved and any other modifying factors. Units are in rem.

4.5 Effective Dose Equivalent (EDE)

The sum of the products of the dose equivalent to each organ and a weighing factor related to the risk of delayed health effects in the respective organ. Units are in rem.

4.6 Seabreeze

An atmospheric condition in which a radioactive release can travel inland, intersect the convergence zone, rise, reverse course in the return flow layer overhead, and return once again to land. If this condition is confirmed by a meteorologist, the projected dose should be adjusted upward by a factor of 2.5. Seabreeze is effective for those areas between the 16° and 269° bearings.

4.7 Total Effective Dose Equivalent (TEDE)

The sum of the deep dose equivalent and the committed effective dose equivalent.

4.8 Direct Torus Vent - is the Hardened Wetwell Vent which reads out on the XU54 panel located on each Unit.

5.0 INSTRUCTIONS

NOTE: The isotopic mixes used in CPLDOSE calculations are predetermined accident mixes developed using NUREG guidance. Application of the CPLDOSE code for plant conditions other than the those intended (i.e., loss of coolant, core damage, dropped fuel bundle) will result in overly conservative, erroneous dose calculations.

NOTE: CPLDOSE is intended as a real-time dose calculation model and should not be utilized for accident analysis purposes.

NOTE: If on-site meteorological data is unavailable, EPL-001, Emergency Phone List, provides telephone numbers for acquiring meteorological information from off-site sources.

NOTE: Availability of the CPLDOSE program is assured by the following:

- Communications inverter backup power to the Control Room STA computer.
- TSC/EOF Diesel Generator Backup power to the Dose Projection Computer.
- Redundant copies of the CPLDOSE program are available on the Unit 1 and Unit 2 RO computers.
- A backup diskette is available in the Dose Projection area in the EOF.

NOTE: Parameter inputs for the CPLDOSE program should be obtained from existing plant instrumentation or ERFIS.

5.0 INSTRUCTIONS

5.1 Dose Projection Program (CPLDOSE)

NOTE: Steps 5.1.1 to 5.1.4 should provide sufficient direction for Control Room personnel to complete a dose projection.

5.1.1 Program Initiation

1. Control Room

Initiate the CPLDOSE program on the STA or either Unit's RO computer by selecting the "CPLDOSE" icon.

2. EOF Dose Projection

- a. Start the computer.
- b. At the "Power-on Password" screen, type the password "lead" and strike the "Enter" key.
- c. At the "Network Password" screen, click on "Cancel."
- d. Select the "CPLDOSE" icon.

3. The program will open with the Main Menu displayed.

5.0 INSTRUCTIONS

NOTE: Guidance for manipulations within the CPLDOSE program is provided in Attachment 4.

NOTE: At the bottom of each screen is a brief description of the selected menu choices.

F1 is the Help function, which when selected, provides a pop-up window with information on the selected topic. HELP screens provide additional information such as normal readings, high alarm setpoints, and contingencies.

5.1.2 Across the top of the main menu are the options to select from:

- a. PROJECTION
- b. CONTINGENCY
- c. INT PHASE
- d. GRAPHICS
- e. UTILITIES
- f. EXIT

5.1.3 Verify the appropriate plant and unit are indicated at the top of the screen on the Main Menu.

1. To change the plant unit;

From the Main Menu select **UTILITIES** and in the drop down menu select **PLANT**. In the data entry box that appears select the appropriate unit **BRUNSWICK I** or **BRUNSWICK II** and verify at the top of the Main Menu.

5.0 INSTRUCTIONS

2. Determine if Seabreeze conditions exist

NOTE: If **SEABREEZE** is selected, the computer model automatically multiplies the dose projection calculation (equivalent Xe and I release) by a factor of 2.5.

NOTE: If the meteorological analysis is not confirmed by a meteorologist select **NO SEABREEZE**.

From the Main Menu select **UTILITIES** and in the drop down menu select **SEABREEZE**. In the data entry box that appears select either **SEABREEZE** or **NO SEABREEZE**.

5.1.4 Projection

NOTE: The **PROJECTION** option is intended for use when actual release data is available for dose projection purposes (i.e., effluent monitors, effluent sample analysis, environmental sample analysis, Direct Torus Vent).

NOTE: To obtain the Direct Torus Vent reading, go to Panel XU-54 for Unit 1 or Unit 2. A reading may be on the meter when you observe the panel. Push the "EFL" button and take the reading displayed. The "EFL" reading is displayed in microcuries per second.

NOTE: Use OPEP-03.4.7, Attachment 2, Data Sheet for Dose Projection Inputs, to determine individual or collective flows.

1. Selection of **CONTROL ROOM** or **RMS** will initiate a pop-up screen titled "Brunswick Effluent Monitors".

5.0 INSTRUCTIONS

- a. Enter release point, release rate, and the flow rate data on the Brunswick Effluent Monitor Screen. Release points include Main Stack, Turbine Building (two locations provided), Reactor Building, and/or Direct Torus Vent. If any flow instrument loop is not operational, refer to OPEP-03.6.1, Release Estimates Based on Stack/Vent Readings.
- b. When all the data is entered, the final selection is **CANCEL** or **DONE**. This allows the user to proceed with the dose projection or cancel and reenter the values or select another option.
- c. The SPECTRUM DETERMINATION screen appears if **DONE** is selected.
 - (1) Enter core uncover time. If unknown, use a best estimate. If the core was uncovered and water level was subsequently restored the time the core was uncovered should be entered.
 - (2) If this is a spent fuel accident, select "**Old Spent Fuel**" if affected bundle(s) is ≥ 5 years old. If age is ≤ 5 years old or unknown, select Spent Fuel.
 - (3) Select "**Effective**" or "**Not Effective**" for filtration. Any amount of filtration, partitioning (torus scrubbing), or sprays should be entered as effective.

5.0 INSTRUCTIONS

NOTE: If stability class information is not available, refer to Attachment 3, Stability Class Data.

- (4) Enter meteorological data. Meteorological data can be obtained for the EOF using ERFIS, as described in Attachment 1, Acquisition of Meteorological Data Via ERFIS. If no Met data is entered, an "E" stability class is automatically selected.

CAUTION

A shutdown date and time must be entered. If the reactor is not shutdown or this is a spent fuel accident, enter the current date and time.

- (5) Enter Shutdown date and time.
- (6) Enter an estimate of Release Duration. For known durations, enter the actual time of release (i.e., 0.5 hours, 0.75 hours, 1.0 hours). For projections of ongoing releases for which a duration is not known, one hour should be used. For releases that continue for more than one hour, the projections for previous releases should be summed for total release values.
- d. Select "**Done**" to get dose projection, or select **CANCEL** to start over. The dose projection will be displayed. The TEDE(mrem), CDE(mrem), Immersion EDE(mrem), Inhalation CEDE(mrem), and Ground EDE(mrem), X/Q Elevated (s/m³) at Site Boundary 2, 5, 10 miles and location at which the "MAX" dose readings are provided.
- e. The information highlighted in yellow corresponds to the off-site Emergency Notification Form, OPEP-02.6.21 Attachment 1 information.
- f. All of the input screens print out (unless deactivated) after the user chooses the **DONE** option.

5.0 INSTRUCTIONS

- g. If a threshold value, based on dose projection, is exceeded for an emergency action level a message will appear in the lower right corner of the screen identifying the appropriate classification level.

NOTE: Estimates of release activities required to reach dose thresholds resulting in classification changes may be made by taking release rate activity, the resulting dose projection "MAX" value, and the desired threshold value and performing a simple ratio calculation.

Example: Release rate 3.72e4 $\mu\text{Ci/sec}$
 Maximum dose 700 mrem CEDE
 Threshold value 5 rem CEDE (for General Emergency)

$$\frac{X}{5000 \text{ mrem}} = \frac{3.72e4 \mu\text{Ci/sec}}{700 \text{ mrem}}$$

$$X = 2.66e5 \mu\text{Ci/sec}$$

This result assumes no other factors (i.e., release flow rate, meteorological conditions) have changed.

- h. If a Site Area or General Emergency is indicated by the dose projection results, you can select to view the 10-Mile Plume Isopleth Map or 10-Mile PAR Keyhole Map located in the Graphics Option (Step 5.1.7).
- i. If another dose projection is to be performed, select "**Clear Main**" from Utilities Menu. This will return the program to the Main Menu.
2. The third option in the Projection Option dropdown menu is PLANT SAMPLE. This selection is used for the input of isotopes from an analyzed sample result. The sample may be either gaseous or liquid but must be taken directly from an effluent stream with no further dilution. THIS OPTION MAY NOT BE USED FOR POST ACCIDENT ANALYSIS SAMPLES.
- a. The screen which appears contains 44 predetermined isotopes in the CPLDOSE code.
- b. ENTER Time From Sample To Release or best estimate.

5.0 INSTRUCTIONS

- c. Select Release Height by choosing either ground or elevated.
- d. Enter meteorological information manually.

CAUTION

A shutdown date and time must be entered. If the reactor is not shutdown, or this is a spent fuel accident, enter the current date and time.

- e. Enter Shutdown date and time.
 - f. Enter sample data flow in units of CFM or select "**Flow**," to select the value from the pop-up screen. Use Mouse or Space Bar to select individual flow. Select **CANCEL** or **DONE** and return to the data screen. The value selected should appear in the "Flow" window.
 - g. Enter Release Duration or a best estimate. For known durations, enter the actual time of release (i.e., 0.5 hours, 0.75 hours, 1.0 hours). For projections of ongoing releases for which a duration is not known, one hour should be used. For releases that continue for more than one hour, the projections for previous releases should be summed for total release values.
 - h. Select **CANCEL** - to reenter data, or **DONE** - to get the dose projection.
 - i. CPLDOSE, based on the data input will calculate the TEDE(mrem), Thyroid CDE(mrem), Immersion EDE(mrem), Inhalation CEDE(mrem), Ground EDE(mrem), X/Q Ground (s/m³) at Site Boundary, 2, 5, 10-miles and MAX.
 - j. Write the Sample number on the printout.
3. The final choice in the Projection option dropdown menu is the ENVIRONMENTAL SAMPLE screen. There are two (2) options to obtain a dose projection. (1) Gamma closed window dose rate and (2) Air sample dose rate.

5.0 INSTRUCTIONS

NOTE: Actual Field readings allow dose rate data to be used as the basis for a dose projection.

- a. Gamma closed window dose rate -
- (1) Enter gamma closed window dose rate field data in units of mrem/hr.
 - (2) Enter Distance from plant (miles) where the data was gathered.
 - (3) Enter Bearing from plant (degrees) where the data was gathered.
 - (4) Enter Release Duration or best estimate. For known durations, enter the actual time of release (i.e., 0.5 hours, 0.75 hours, 1.0 hours). For projections of ongoing releases for which a duration is not known, one hour should be used. For releases that continue for more than one hour, the projections for previous releases should be summed for total release values.
 - (5) Select Release height - ground or elevated.
 - (6) Enter meteorological data. Meteorological data for the EOF can be obtained using ERFIS, as described in Attachment 1, Acquisition of Meteorological Data via ERFIS. If no data is entered, an "E" stability class is automatically selected.

CAUTION

A shutdown date and time must be entered. If the reactor is not shutdown, or this is a spent fuel accident, enter the current date and time.

- (7) Enter shutdown date and time.
- (8) Select **DONE**, and CPLDOSE calculates and displays the results.

5.0 INSTRUCTIONS

b. Air sample dose rate

- (1) Select "CART". A second screen, "Sample Cartridge," appears.
- (2) Enter sample volume data (cfm) then select either:
 - (a) "Net Count Rate" and enter cpm value or
 - (b) "Net Dose Rate" and enter mrem/hr value.
- (3) Select **DONE**, and the "Thyroid Committed Dose Rate" is calculated and displayed on the mRem/hr line for Air sample dose rate. To EXIT this screen, select **CANCEL**.
- (4) Enter Distance from the plant (miles) where the sample was taken.
- (5) Enter Bearing from the plant (degrees) where the sample was taken.
- (6) Enter Release Duration or best estimate. For known durations, enter the actual time of release (i.e., 0.5 hours, 0.75 hours, 1.0 hours). For projections of ongoing releases for which a duration is not known, one hour should be used. For releases that continue for more than one hour, the projections for previous releases should be summed for total release values.
- (7) Select the release height - ground or elevated.
- (8) Enter meteorological data. Meteorological data for the EOF can be obtained using ERFIS, as described in Attachment 1, Acquisition of Meteorological Data via ERFIS. If no data is entered, an "E" stability class is automatically selected.

5.0 INSTRUCTIONS

CAUTION

A shutdown date and time must be entered. If the reactor is not shutdown, or this is a spent fuel accident, enter the current date and time.

- (9) Enter Shutdown date and time.
- (10) Select DONE to obtain dose projection values or CANCEL to re-enter data.

5.1.5 Contingency

1. Contingency calculations are typically "what if" types of calculations that allow the user to make predictions of off-site dose based on some projected event. This menu should be used when utilizing PASS sample data.
2. The KNOWN MIX screen allows the user to input a projected isotopic spectrum.
 - a. Other inputs to this screen are: Time from Sample to Release(hrs); select Release height; Meteorological Information; enter Shutdown date and time; and Total Activity released (curies).
 - b. Select **DONE**, and CPLDOSE Code then calculates and prints the output. Select **CANCEL** to start over.
3. UNKNOWN MIX Screen - The user must answer several questions about core status.
 - a. Enter/Select core uncover **TIME**.
 - b. Select filtration/DW sprays/Partitioning - **Effective** or **Not Effective**.
 - c. Enter meteorological information manually.

5.0 INSTRUCTIONS

CAUTION

A shutdown date and time must be entered. If the reactor is not shutdown or this is a spent fuel accident, enter the current date and time.

- d. Enter Shutdown - date and time.
- e. Enter Total activity released value in curies.
- f. Select Release height - **ground** or **elevated**.
- g. Select **DONE**, and CPLDOSE Code then calculates and prints the output; or **CANCEL** to start over.

4. Defaults

CAUTION

The Contingency, Defaults: Spent Fuel should be used only as a last resort. The dose projection provided will vary conservative by several orders of magnitude.

- a. Select Core Uncovery Time; or for nonreactor accidents, select Spent Fuel or Old Spent Fuel.
- b. Select Filtration/DW spray/partitioning - **Effective** or **Not Effective**
- c. Enter Meteorological Data manually.

CAUTION

A shutdown date and time must be entered. If the reactor is not shutdown or this is a spent fuel accident, enter the current date and time.

- d. Enter Shutdown - date and time
- e. Select Release height - ground or elevated

5.0 INSTRUCTIONS

- f. Select **DONE** to obtain Dose Projection data, or **CANCEL** to start over.

5.1.6 Intermediate Phase Menu

1. This calculates the dose 1st-year, 2nd-year, and 50-year.
2. DOSE RATE
 - a. The calculated dose factors can be modified by selecting "Weathering" or "No Weathering" factors to be used located in the Utilities Option (Step 5.1.8). This must be done before running the program.
 - b. Input values for Dose Rate at 1 meter height, Distance from plant (miles), and bearing from the plant (degrees).
 - c. Select **DONE**, and CPLDOSE will calculate the 1st, 2nd, and 50-year doses based on a default spectrum and dose factors.
 - d. The screen displays the DDE External doses calculated for 1, 2, and 50-years, and skin dose calculated for 1st year dose only.
 - e. Select **CANCEL-Enter** to exit this screen.
3. SAMPLE Screen
 - a. The user can turn on or off the weathering factors located in the Utilities option. (Step 5.1.8)
 - b. The user enters the individual isotopic analysis data.
 - c. Enter the Sample Identification.
 - d. Choose yes or no to answer "Add the Sample to Average?" If yes is selected, values are retained, and the sample cannot be later subtracted from the average. **DO NOT** add hypothetical samples to this file average. Select yes or no.
 - e. Enters distance from plant (miles).

5.0 INSTRUCTIONS

- f. Enters bearing from plant (degrees).
- g. When **DONE** is selected, DDE External doses(mRem) are calculated for 1, 2, and 50-years, and skin dose(mRem) is calculated for 1st year dose only.
- h. Select **CANCEL** to exit this screen.

5.1.7 GRAPHICS Option choices are:

- 1. 10-Mile Isopleths
 - a. Perform a Control Room or RMS dose projection per Step 5.1.4.
 - b. When above is completed, select this screen which will display the PAG TEDE and CDE Thyroid plume.
- 2. 10-Mile PARs
 - a. Perform Control Room or RMS dose projection per Step 5.1.4.
 - b. When above is completed, select this screen to display the PAR keyhole plume out to 10 miles.
- 3. 10-Mile EMT.

Select this screen to enter and display the EMT sample dose rates(mRem) at the selected distance and bearing where the sample results were taken. This screen retains the data EMT sample data when the screen is exited.
- 4. 50-Mile INT Phase

Select this screen to enter and display the measured environmental dose rates or calculated CDE/TEDE dose rates out to 50 miles. This screen retains the data when the screen is exited.
- 5. These screens (10-mile EMT and 50-mile INT phase) are used by the Dose Projection Team to plot field reading results.

5.0 INSTRUCTIONS

5.1.8 UTILITIES Screens

1. CALCULATOR - Provides standard arithmetic assistance.
2. CONVERSIONS - Allows user to perform standard conversions factors for: Length, Area, Volume, Flow, Speed, Pressure, Temperature, Dose, Equivalent Dose and Activity.
3. PLANT - Allows the user to choose the plant site for the dose projection (Harris, Robinson, Brunswick I, Brunswick II).
4. SEABREEZE - Allows the user to select the Seabreeze option for Brunswick Site when Seabreeze conditions are in effect (seabreeze/no seabreeze).
5. WEATHERING - Allows the user to turn on or off the weathering factors used in the INT dose calculation (weathering/no weathering).
6. PRINTING - Enable or Disable auto printing. The program is set to automatic print each screen each time "**Done**" or "**Enter**" is input.
7. OTHER DIST. - Allows the user to enter in distances other than the standard ones of Site Boundary, 2, 5, 10 miles for dose calculation. Values in miles are entered for either or both of the following: furthest downwind distance; downwind increment.
8. RESET ERFIS - N/A BNP.
9. CLEAR MAIN - Allows the user to clear the main screen.

5.1.9 EXIT allows the user to exit CPLDOSE.

6.0 RECORDS

Documentation generated from implementation of this procedure should be forwarded to the Supervisor - Emergency Preparedness for submittal to Document Services for retention.

ATTACHMENT 1
Page 1 of 1
Acquisition of Meteorological Data Via ERFIS

1. Press the RETURN <CR> key a couple of times to awake the terminal.
2. If the Terminal server port has been Logged-Off, simply enter your name when prompted, and press RETURN <CR>.

NOTE: Any name will do, type your last name.

At the terminal server prompt:

Prompt looks like... a) or b) below.

3. a) local>
b) DSVRxx> xx is a terminal server number, and ERFIS has many.

NOTE: Several of the connect messages may have to be tried to find an active connection. Use Connect Sim for link to Simulator. This provides canned data. The other four will connect to live met data

4. At the keyboard, displaying either of the above prompts, type any one of the following:
CONNECT SIM <CR> For the Simulator Computer.
CONNECT ECO1A <CR> For the U1 ERFIS Computer TRA.
CONNECT ECO1B <CR> For the U1 ERFIS Computer RTAD.
CONNECT ECO2A <CR> For the U2 ERFIS Computer TRA.
CONNECT ECO2B <CR> For the U2 ERFIS Computer RTAD.
5. At the next LOGIN prompt, type your assigned USERNAME.
USERNAME: xxxxxxxx gepacuser <CR>
6. At the next LOGIN prompt, type your assigned PASSWORD.
PASSWORD: xxxxxxxx gepac <CR>
7. If your next prompt is "Enter your last Name:" xxxxxx <CR>
Type your last name or work group, i.e., OPS, MAINT, CHEMISTRY.
8. The Computer Node prompt will appear., i.e., \$, ECO1A::>, ECO1B::>, ECO2A::>, or ECO2B::>.
9. The W*EATHER is a logical name assigned to all the computers listed above.
Type, W <CR> and the ERFIS computer will display your WEATHER for the previous 15 minutes.

NOTE: Typing W <CR> is all that is necessary because no other DIGITAL Command starts with this letter

NOTE: Weather is obtained by modem from the ERFIS computer to the MET Tower every 15 minutes. Always use the Logical W*EATHER for update to obtain the latest information.

10. Type LOG <CR> to end the connection to any of the above Computers, thereby terminating your process.

NOTE: If terminal is not in the above condition at start of entry, contact ERFIS duty pager.

ATTACHMENT 2
Page 1 of 1
Data Sheet for Dose Projection Inputs

CHARACTERISTIC	TIME						
Main Stack	Release Rate (μ Ci/Sec)						
	Flow Rate (CFM)						
Turbine Building	#1 Release Rate (μ Ci/Sec)						
	#1 Flow Rate (CFM)						
	#2 Release Rate (μ Ci/Sec)						
	#2 Flow Rate (CFM)						
Reactor Building	Release Rate (CPM)						
	Flow Rate (CFM)						
Torus Vent	Release Rate (μ Ci/Sec)						
Core Uncovered	Time (1) lost/ (2) Returned						
Effective Filtration	Yes / No						
Release Height	Ground						
	Elevated						
Release Duration	Anticipated Length of Time						
Shutdown	Date						
	Time						
Met Data Wind Speed	Upper						
	Lower						
Met Data Direction	Upper						
	Lower						
Stability	Class						
Seabreeze	Yes / No						

ATTACHMENT 3
Page 1 of 1
Stability Class Data

Table 1

If there is no stability class data readily available, a general estimate of the current Atmospheric Stability Class can be made by visual observation using the following table:

	SUNNY DAY	CLOUDY DAY	CLOUDY NIGHT	CLEAR NIGHT
LIGHT WIND/OR CALM ≤ 4 m/sec or 8.9 mph	B	C	E	F
MODERATELY STRONG WIND ≥ 4 m/sec or 8.9 mph	C	D	D	D

NOTE: ASSUME Stability Class D whenever it's raining.

Table 2

With an elevated release, maximum radiological exposures may occur beyond the site boundary depending on Stability Class. For example:

STABILITY CLASS	DOWNWIND DISTANCE
A	0.27 MILES
B	0.45 MILES
C	0.76 MILES
D	1.8 MILES
E	3.5 MILES
F	9 MILES
G	33 MILES

ATTACHMENT 4
Page 1 of 1
Computer Instructions for CPLDOSE

The following is a discussion of the manipulations necessary to use the CPLDOSE program.

The normal and simplest method of movement within the CPLDOSE program is via the attached "Mouse" using the "point and click" method. "Point and click" refers to the process of manipulating the screen cursor position by moving the mouse on a flat surface until the screen cursor is in the desired position then clicking the left button on the mouse to initiate the option the cursor is pointing at. This process will accomplish the "SELECT" task as directed in the body of this procedure.

SELECT as used in the context of OPEP-03.4.7 means to position the cursor to the desired option and initiate the function whether using a mouse or in the manual mode using a keyboard.

If a mouse is not available on the computer being used for CPLDOSE, the program can be used in a manual keyboard manipulation mode.

Manual (Keyboard)

Only eight keys manipulations are needed in the manual mode of the CPLDOSE program:

1. F6
2. Arrow keys (←↑→↓)
3. TAB
4. SPACE BAR
5. ENTER

F6 - The F6 key is only functional for use with the Main Menu. The Main Menu is the initial menu, with six options across the top of the screen, that appears when you enter the CPLDOSE program. Depression of the F6 key will "activate" the main menu for use in the manual mode. The menu will be displayed with one of the six options "highlighted" after the F6 key is depressed.

Arrow Keys
(←→↑↓) - The arrow keys are used to move (1) between options with each successive selected option being highlighted and (2) the flashing cursor in the data entry boxes.

TAB - The TAB key is functional in the Data/Condition entry boxes. These boxes are easily identified by the presence of "CANCEL" and "DONE" options. The TAB key is used to move the flashing cursor between data entry points, condition selections, and selection of the "CANCEL" or "DONE" options.

SPACE
BAR - The SPACE BAR is functional in the Data/Condition entry boxes. The SPACE BAR is used when an "ON - OFF" toggle decision is necessary. These situations are identifiable by the presence of () or [] entry points. When the flashing cursor is positioned to the desired entry point, depressing the SPACE BAR will toggle between ON and OFF for the selection and will be indicated by the presence of an *.

ENTER - The ENTER button is only functional for the initiation of selected options. Depression of ENTER will initiate the highlighted or selected option. The actual action will vary. If DONE is highlighted in a Data/Condition entry box, depression of the ENTER key will initiate a calculation, transition to the next entry screen, or activate a specific conditional change (i.e., Seabreeze or No Seabreeze), if in the Main Menu it may simply initiate a dropdown screen of other options.

REVISION SUMMARY

Revision 14 of OPEP-03.4.7 consists of:

- Corrected typographical errors throughout the procedure.
- Added a unit description (rem) to the definition of Dose Equivalent in section 4.
- Changed all references to OPEP-Appendix A, Emergency Response Resources, to EPL-001, Emergency Phone List, reflecting replacement of Appendix A with EPL-001.
- Added Note to 5.1.4 giving instructions for performing ratio calculation to estimate release activity resulting in a classification change.
- Added Comparison of CPLDOSE and NRC Dose Projection Methodologies as referenced in Section 2.0.



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PLANT EMERGENCY PROCEDURE

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0PEP-02.6.12

***ACTIVATION AND OPERATION OF THE
OPERATIONAL SUPPORT CENTER***

REVISION 25

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1.0 PURPOSE

This procedure describes responsibilities of the Operational Support Center (OSC) staff and the normal work control process for managing repairs and monitoring activities during an emergency.

2.0 REFERENCES

- 2.1 OPEP-02.6.26, Activation and Operation of the Technical Support Center (TSC)
- 2.2 OPEP-03.7.6, Emergency Exposure Controls
- 2.3 OPEP-03.7.7, On-Site Radiological Controls
- 2.4 OPEP-03.8.2, Personnel Accountability and Evacuation
- 2.5 OPEP-03.9.2, First Aid and Medical Care
- 2.6 OPEP-03.9.6, Search and Rescue
- 2.7 OPEP-04.6, Radiological Emergency Kit Inventories
- 2.8 OPEP-04.2, Emergency Facilities and Equipment
- 2.9 NUREG-0654 Table B-1, Minimum Staffing Requirements
- 2.10 EPL-001, Emergency Phone List

3.0 GENERAL INFORMATION

- 3.1 The primary function of the OSC is to facilitate In-Plant repair and assessment activities.
- 3.2 The OSC will be activated at an Alert declaration or higher, or at the discretion of the Site Emergency Coordinator (SEC).
 - 3.2.1 Activation of the OSC must occur within 60 - 75 minutes following the declaration of an ALERT or higher emergency classification.
- 3.3 The OSC receives direction from the Technical Support Center (TSC) concerning repair activities and priorities.

3.0 GENERAL INFORMATION

- 3.4 In the event that the OSC can no longer meet habitability requirements, the OSC can be relocated to the simulator area of the Training Building. See Attachment 4, OSC Relocation Checklist, and Attachment 5, Alternate OSC.
- 3.5 OSC maintains full accountability for personnel dispatched from the OSC.
- 3.6 All personnel reporting to the OSC will "card in" on the OSC card reader located on the wall outside of the OSC command room.
- 3.7 OAP-50 Communications should be used during all event mitigating activities. "Attention In the OSC" should be used during OSC briefings to ensure pertinent information is heard and understood. OSC personnel should hold all phone calls and conversations during briefings, unless it is a priority communication.
- 3.8 Fire Brigade response will be dispatched immediately without going through the mission authorization process. Accountability will be maintained via the Incident Commander, and HP support will be provided via the E&RC Coordinator.

4.0 RESPONSIBILITIES

4.1 Emergency Repair Director (ERD)

- 4.1.1 Manage OSC activities to ensure accident mitigation activities are performed in a safe and expeditious manner.
- 4.1.2 Coordinate with TSC staff to establish priorities for repair and maintenance activities.
- 4.1.3 Maintain command and control of OSC activities.
- 4.1.4 Provide technical and administrative direction for repair activities.
- 4.1.5 Report status of repair activities to the TSC.
- 4.1.6 Provide liaison between TSC and OSC.
- 4.1.7 Brief OSC personnel on plant status, conditions, and emergency activities and levels.
- 4.1.8 Designate an individual to act as Assistant Emergency Repair Director (AERD), as needed.

4.0 RESPONSIBILITIES

4.2 Assistant Emergency Repair Director (AERD)

- 4.2.1 Assist ERD in performance of his duties.
- 4.2.2 Act for the ERD in his absence.
- 4.2.3 Ensure the OSC Mission Tracking Board is maintained.

4.3 Operational Support Center Mission Coordinator (OSCMC)

- 4.3.1 Coordinate maintenance emergency repair efforts.
- 4.3.2 Report maintenance emergency activities and receive ERDs direction and priorities.
- 4.3.3 Ensure priorities are clearly understood.
- 4.3.4 Maintain accountability for personnel entering and exiting OSC.
- 4.3.5 Identify to the ERD those parts, tools, and support needs which are not available on site and which are needed to support mission repairs.
- 4.3.6 Organize, brief, and dispatch emergency repair teams upon direction from the ERD.
- 4.3.7 Ensure emergency repair teams have proper procedures, tools, and protective equipment prior to entry into plant.
- 4.3.8 Track status of repair mission activities and provide status to ERD.
- 4.3.9 Debrief emergency repair teams upon return.
- 4.3.10 Designate an individual to act as Assistant Operational Support Center Mission Coordinator (AOSCMC), as needed.

4.4 Assistant OSC Mission Coordinator (AOSCMC)

- 4.4.1 Assist the OSCMC in the performance of his duties.
- 4.4.2 Assume duties of OSC Mission Coordinator in his absence.

4.0 RESPONSIBILITIES

4.5 Environmental & Radiation Control Coordinator (E&RC)

- 4.5.1 Report radiological information to the Radiological Control Director (RCD), ERD, and OSCMC.
- 4.5.2 Dispatch HP personnel to the Control Room, TSC, and EOF to serve as habitability technicians.
- 4.5.3 Provide appropriate Health Physics (HP) coverage for missions.
- 4.5.4 Ensure habitability surveys are periodically performed in the OSC and other locations that require continuous occupation for emergency response activities.
- 4.5.5 Direct the issue of dosimetry and protective equipment.
- 4.5.6 In coordination with the RCD issue an emergency RWP for the emergency, in accordance with OPEP-03.7.7, On-Site Radiological Controls.
- 4.5.7 Direct performance of In-Plant HP surveys by HP Leads.
- 4.5.8 Direct performance of chemistry activities by Chemistry Leads.

4.6 Health Physics Lead

- 4.6.1 Provide technical and administrative direction to Health Physics personnel.
- 4.6.2 Coordinate overall radiological control of on-site activities, in accordance with OPEP-03.7.7, On-Site Radiological Controls.
- 4.6.3 Brief/debrief emergency repair teams on radiological conditions and limitations.
- 4.6.4 Establish the OSC radiological control point (Attachment 1, Recommended OSC Layout) and a location for decontamination services.
- 4.6.5 Provide coordination of vehicle release activities per OPEP-03.7.7, On-Site Radiological Controls.
- 4.6.6 Provide Radiological condition information to the E&RC Coordinator in the OSC.

4.0 RESPONSIBILITIES

4.7 Chemistry Lead

- 4.7.1 Provide technical and administrative support to Chemistry and Analysis activities.
- 4.7.2 Provide support for Dose Projection Team source term assessment.
- 4.7.3 Provide support to obtain liquid and gas samples, including analyses for core damage assessments.
- 4.7.4 Coordinate with the EOF Administrative & Logistics Manager (ALM) to obtain off-site analysis of plant sample if required.
- 4.7.5 Trend SPDS radiological data.

4.8 Operations Coordinator

- 4.8.1 Provide liaison between the OSC, Control Room, and TSC.
- 4.8.2 Inform OSC personnel of changing plant conditions and impact on current missions.
- 4.8.3 Provide equipment clearance assistance, as required.
- 4.8.4 Arrange HP coverage for operations personnel in the plant through the E&RC Coordinator.
- 4.8.5 Coordinate Fire Brigade response.
- 4.8.6 Coordinate search and rescue activities with the Plant Operations Director and OSC personnel.

4.9 Access Control Logkeeper

- 4.9.1 Provide direction to OSC Administrative and Clerical personnel to ensure an adequate supply of forms and administrative supplies are available or obtained for operation of the OSC.
- 4.9.2 Designate one Administrative and Clerical individual for the O&M library to provide assistance.

4.0 RESPONSIBILITIES

4.9.3 Ensure OSC personnel:

- Properly log into and out of the OSC
- Mission teams are identified on an approved Mission Authorization Form.

4.9.4 Periodically verify accuracy of the OSC sign-in board.

4.10 Accident Assessment Team Member Liaison

Provide Liaison between the OSC and TSC to provide engineering guidance and support for OSC repair missions.

4.11 OSC Status Board Plotter

Maintain the OSC mission tracking board current with OSC activities.

5.0 PROCEDURE

Individual actions required within the OSC are contained in the following guides. Each individual is responsible for completing the actions contained in his respective guide.

IF YOUR ERO POSITION IS:	THEN REFER TO PAGE:
Emergency Repair Director/Assistant ERD	10
OSC Mission Coordinator/ Assistant OSC Mission Coordinator	13
E&RC Coordinator	17
Health Physics Lead	19
Chemistry Lead	21
Operations Coordinator	22
Access Control Logkeeper	24
Accident Assessment Team Member Liaison	25
OSC Status Board Plotter	26

5.1 Emergency Repair Director/Assistant ERD

ACTIVATION:

NOTE: The OSC may activate prior to the activation of the TSC, under the direction of the SEC in the Control Room and then transfer reporting responsibilities to the TSC on transfer of SEC responsibilities.

- 5.1.1 Sign in to the OSC and notify SEC upon arrival.
- 5.1.2 Obtain reference materials (procedures, logbook, supplies).
- 5.1.3 Initiate documentation of activities in logbook.
- 5.1.4 Verify the OSC has the following minimum staffing needed for activation:

ERD	HP Technician	(3)
OSC Mission Coordinator	Chemistry Technician	(1)
E&RC Coordinator	I&C/E Technician	(1)
	Mechanical Technician	(1)

NOTE: In addition to the minimum staffing positions required for activation, the following additional personnel are required for staff augmentation within 60-75 minutes:

HP Technicians	(6)
Chemistry Technician	(1)
I&C/Electrical Technician	(2)
Mechanical Technician	(1)

- 5.1.5 Establish communication links with the TSC and/or Control Room and verify operability of:
 - 1. TSC intercom
 - 2. Facsimile (O&M Library)

5.1 Emergency Repair Director/Assistant ERD

3. Phone link between the ERD and SEC.
4. Portable radio link with the SEC (800 MHz).

5.1.6 Synchronize time clocks with the Control Room.

ACTIVATION:

- 5.1.7 Staff the OSC and continue to augment staff, as needed, with I&C/E Technicians, HPs, Operations, Mechanics, Logkeeper (Administrative and Clerical), Planners and other personnel.
- 5.1.8 Report equipment problems/readiness to activate to the SEC.
- 5.1.9 Request the E&RC Coordinator initiate an Emergency RWP.

OPERATION:

- 5.1.10 Determine status of repair activities already in progress and notify the SEC of all missions already in the field (i.e., automatic missions and those assumed from ongoing activities).
- 5.1.11 Conduct an initial briefing for the OSC staff using the O&M Building internal PA System (phone access number for the O&M Building internal PA System is located in EPL-001).
- 5.1.12 Conduct additional periodic briefings at 30-60 minute intervals, or as conditions change.
- 5.1.13 Immediately notify the OSC Staff of any changes in:
 1. Event classification
 2. Habitability
 3. Radiological Conditions
 4. Mission priorities/objectives
- 5.1.14 Ensure dispatch of emergency repair teams/missions in the OSC is performed.

5.1 Emergency Repair Director/Assistant ERD

NOTE: Normal administrative clearance controls may be suspended during emergency conditions, when time is a critical factor, via specific directions to and physical control by an auxiliary operator (i.e., a "walking clearance").

1. Request Operations Coordinator to determine need for equipment clearances.
 2. Inform OSC Mission Coordinator, E&RC Coordinator, and Operations Coordinator to dispatch teams, as directed by SEC.
 3. Obtain SEC approval prior to deviating from procedures.
- 5.1.15 Evaluate maintenance mission activities and priorities.
- 5.1.16 Provide advice to SEC on plant mechanical, electrical, I&C, E&RC, and Operations repair and corrective actions as appropriate. Obtain mission priorities from the SEC.
- 5.1.17 Contact Security to secure emergency transportation vehicles, as needed.
- 5.1.18 Provide detail to OSC Mission Coordinator, E&RC Coordinator, and Operations Coordinator, if repairs are to be made, contamination controls implemented, or other special installations measures are to be taken.
- 5.1.19 Provide frequent updates to the SEC on mitigation activities.
- 5.1.20 Report mission completions to the SEC.
- 5.1.21 Request additional equipment, supplies and/or manpower through EOF Administrative and Logistics Manager (ALM).
- 5.1.22 Coordinate a shift relief rotation for OSC personnel with the Admin and Logistics Manager (ALM) in the EOF for extended OSC operations.
- 5.1.23 Provide shift turnover to the on-coming shift.

5.1 Emergency Repair Director/Assistant ERD

- 5.1.24 Initiate OSC relocation if necessary. Notify SEC prior to relocation.
- 5.1.25 Utilize Attachment 4, OSC Relocation Checklist, if relocation of the OSC is necessary. If OSC relocation is necessary, attempt to coordinate the move to minimize impact on response efforts.
- 5.1.26 Provide coordination for the NRC/OSC interface, as requested.

DEACTIVATION:

- 5.1.27 Deactivate the OSC, when directed.
 - 1. Inform the OSC personnel of deactivation.
 - 2. Evaluate condition of equipment and supplies for readiness of the OSC. (An inventory checklist is located in OPEP-04.2).
 - 3. Report deficiencies to the OSC Mission Coordinator.
 - 4. Return equipment and supplies to storage.
 - 5. Assemble logbooks and any other documentation generated during the for collection.

5.2 OSC Mission Coordinator/Assistant OSC Mission Coordinator

ACTIVATION:

- 5.2.1 Sign into OSC and notify ERD.
- 5.2.2 Verify sufficient staff is present and inform the ERD. (Notify the ERD of any personnel needs.)
 - 1. I&C/E Technician
 - 2. Mechanical Technician
- 5.2.3 Obtain portable radio equipment from the M&TE calibration shop. (Obtain three maintenance supervisor radios; 1 to monitor Ops, 1 to monitor Fire Brigade, and 1 for the Ops Coord.)

5.2 OSC Mission Coordinator/Assistant OSC Mission Coordinator

- 5.2.4 Obtain reference materials (procedures, logbook, supplies) and assist the ERD in preparing the OSC for activation.

ACTIVATION:

- 5.2.5 Set up the designated speaker phone for TSC Monitoring as follows:

1. Direct available TSC personnel to establish the OSC/TSC Intercom (Ext. 4773) once it begins ringing, press On/Off button and control volume, as needed.
2. Verify the plant PA is audible in the OSC.

- 5.2.6 Initiate a log of activities.

- 5.2.7 Set up the OSC Internal Intercom System (MPA-101).

1. Turn the amplifier on.
2. Verify volume level in the satellite areas of the OSC.

OPERATION:

- 5.2.8 Immediately assign I&C Technician(s) to support Operations in the Control Room. They may be dispatched prior to activation of the TSC/OSC. The technicians are assigned to the Control Room and do not require mission tracking, completion of mission authorization forms, or additional authorization. Technicians should check in with the SEC on arrival in the Control Room for accountability.

5.2 OSC Mission Coordinator/Assistant OSC Mission Coordinator

OPERATION:

- 5.2.9 If emergency repair teams are in the field prior to activation of the OSC, evaluate the need for HP coverage with the E&RC Coordinator. The repair teams already in the field shall be contacted, direction given, and mission numbers assigned for accountability and tracking purposes.
- 5.2.10 Designate or acquire personnel as Access Control Logkeeper, and Librarians (Administrative Staff). Utilize EPL-001 for personnel callout or, if available, acquire personnel from Site Evacuation assembly locations.
- 5.2.11 Ensure emergency classification signs are posted.
- 5.2.12 Coordinate all missions with the E&RC and Operations Coordinators and dispatch in a timely fashion.

NOTE: Mission Authorization Forms are available in triplicate for OSC use. The pink copy is to be retained in the OSC, the yellow copy is given to the OSC Access Control Logkeeper, and the white copy is retained by the Mission Team Leader.

- 1. Complete a Mission Authorization Form OPEP-02.6.12-1 for each mission dispatched.
- 5.2.13 Review and obtain at a minimum, ERD verbal authorization prior to approving Mission Authorization Forms for dispatch of any Emergency Repair Missions.

NOTE: Briefings should be held in available conference rooms or work areas, not in the OSC Command Room.

- 5.2.14 Ensure mission briefings are conducted with priorities and urgency understood by each team.
- 5.2.15 Ensure OSC personnel understand the focus of response efforts based on plant conditions.
- 5.2.16 Post data associated with OSC Emergency Repair Mission activities on the OSC Mission Board.

5.2 OSC Mission Coordinator/Assistant OSC Mission Coordinator

OPERATION:

- 5.2.17 Maintain accountability of OSC personnel throughout the event. At a Site Area Emergency or higher classification, provide OSC personnel accountability information to the ERD and TSC Security Director within 25 minutes.
- 5.2.18 Keep the ERD informed of mission status.
- 5.2.19 Periodically review mission status with the OSC staff and resolve discrepancies.
- 5.2.20 Obtain support, as necessary, to organize emergency repair teams/missions.
 - 1. Assign a team leader for each mission.
 - 2. Verify respirator and SCBA qualifications.
 - 3. Obtain allowable exposure information from the E&RC Coordinator.
 - 4. Request E&RC Coordinator to evaluate the need for HP assistance.
 - 5. Provide a key to the stores area for access to parts and tools, if the area is locked.
- 5.2.21 Identify and resolve obstacles to timely mission dispatch.
- 5.2.22 Provide timely information flow on system restoration to Operations.
- 5.2.23 Provide feedback to the ERD to meet objectives in a more timely manner, or when it may be necessary to deviate from procedures.
- 5.2.24 Designate radio communication channels to be used for field team communications.

5.2 OSC Mission Coordinator/Assistant OSC Mission Coordinator

DEACTIVATION:

- 5.2.25 Deactivate the OSC, when directed.
1. Evaluate condition of equipment and supplies.
 2. Assemble documentation (logs, forms, etc.) for collection and request the OSC Access Control Logkeeper to compile all event documentation.
 3. Inventory the OSC Equipment Storage Locker using Attachment 4 in OPEP-04.2 and restock items.
 4. Request the OSC Access Control Logkeeper to list any equipment/supply deficiencies identified.
 5. Provide information above to Supervisor - Emergency Preparedness.

5.3 E&RC Coordinator

ACTIVATION:

- 5.3.1 Sign in and notify ERD.
- 5.3.2 Obtain reference materials (procedures, logbook, supplies).
- 5.3.3 Verify sufficient staff to perform: (Notify the ERD of any deficiencies.)
1. Chemistry Sampling and Analysis
 2. In-plant HP Surveys
 3. Habitability Surveys

OPERATION:

- 5.3.4 If emergency repair teams are in the field prior to activating the OSC, evaluate the need to dispatch HP Technicians for coverage.

5.3 E&RC Coordinator

- 5.3.5 Immediately assemble personnel for assignment to the following locations, as required to support activities. They may be dispatched prior to activation of the TSC/OSC. No mission tracking, completion of mission authorization forms or additional authorization is required.
1. Chemistry Technician(s) to man the Chemistry Lab for analysis.
 2. HP Technician to the TSC/EOF for habitability surveys. Technician should log in at the TSC on arrival for accountability. The technician should also obtain an 800 MHz radio and deliver to the SEC.
 3. HP Technician to the Control Room for habitability surveys. Technician should check in with the SEC on arrival in the Control Room for accountability.
- 5.3.6 Immediately assemble Chemistry Technicians to ensure PASS heat trace is energized, in accordance with E&RC-1505, Operating Procedure and Postaccident Sampling Stations, **if conditions warrant**. They may be dispatched prior to activation of the TSC/OSC, if approved by the Control Room SEC. Once the TSC/OSC is activated, approval must be obtained from the ERD. This team will be assigned a Mission Number and priority. Coordinate all missions with the OSCMC and Operations Coordinator.

NOTE: Mission Authorization Forms are available in triplicate for OSC use. The pink copy is to be retained in the OSC, the yellow copy is given to the OSC Access Control Logkeeper, and the white copy is retained by the Mission Team Leader.

- 5.3.7 Review and obtain at a minimum, ERD verbal authorization prior to approving Mission Authorization Forms for dispatch of any E&RC Emergency Missions.
- 5.3.8 Frequently inform the ERD and Radiological Controls Director of HP activities.
- 5.3.9 Ensure OSC habitability is monitored, in accordance with OPEP-03.7.7, On-Site Radiological Controls and recommend relocation if necessary.

5.3 E&RC Coordinator

OPERATION:

- 5.3.10 Obtain preliminary data on current and up-coming missions from the ERD, Operations Coordinator, and OSC Mission Coordinator.
- 5.3.11 Assign an HP Tech for each mission, when conditions warrant, to assist in preparation and job coverage.
- 5.3.12 Maintain personnel/equipment decon facilities available in the Service Building Shower Room or TSC Shower Room, or as approved by the RCD.
- 5.3.13 Issue KI to OSC personnel, when authorized.
- 5.3.14 Evaluate OSC personnel exposures, in accordance with OPEP-03.7.6, Emergency Exposure Controls and OPEP-03.7.7, On-Site Radiological Controls.

NOTE: Briefings should be held in available conference rooms or work areas, not in the OSC Command Room.

- 5.3.15 Ensure radiological briefings for OSC missions address RWP requirements.

DEACTIVATION:

- 5.3.16 Deactivate the OSC, when directed.
 - 1. Evaluate condition of equipment and supplies.
 - 2. Assemble documentation (logs, forms, etc.) for collection.

5.4 Health Physics Lead

ACTIVATION:

- 5.4.1 Sign into the OSC.
- 5.4.2 Notify the E&RC Coordinator of arrival.
- 5.4.3 Initiate a log of activities and obtain reference materials (procedures, supplies).

5.4 Health Physics Lead

ACTIVATION:

- 5.4.4 Verify phone communication link with the RCD.

NOTE: Obtain E&RC Coordinator's approval prior to dispatching any HP personnel.
--

OPERATION:

- 5.4.5 Provide HP personnel for assistance at the protected area access turnstiles and assembly areas during a Site Evacuation.
- 5.4.6 Assign personnel for vehicle monitoring and decontamination, when conditions warrant.
- 5.4.7 Assign personnel to perform In-Plant radiological surveys per OPEP-03.7.7, On-Site Radiological Controls.
- 5.4.8 Trend and track radiological conditions.
- 5.4.9 Establish personnel monitoring and contamination control points as needed, in accordance with OPEP-03.7.7, On-Site Radiological Controls.
- 5.4.10 Provide radiological support for missions and brief the teams on known radiological conditions and requirements.
- 5.4.11 If requested, assign an individual to maintain communications with the Radiological Control Communicator in the TSC and, if staffed, the Health Physics Network (HPN) Communicator in the EOF.
- 5.4.12 If necessary, assign E&RC personnel to Doshier Hospital and inform the E&RC Coordinator.
- 5.4.13 Maintain awareness of OSC personnel radiation exposure status and inform RCD of personnel approaching or anticipated to approach (10CFR20) regulatory limits.

5.4 Health Physics Lead

DEACTIVATION:

- 5.4.14 Assemble documentation (logs, forms, etc.) for collection.
- 5.4.15 Inventory Emergency Kits per OPEP-04.6, Radiological Kit Inventories and restock as needed.

5.5 Chemistry Lead

ACTIVATION:

- 5.5.1 Sign into the OSC.
- 5.5.2 Notify the E&RC Coordinator of arrival.
- 5.5.3 Initiate a log of activities and obtain reference materials (procedures, supplies).
- 5.5.4 Ensure PASS heat trace is energized, in accordance with E&RC-1505 Operating Procedure for Postaccident Sampling Stations, if conditions warrant.
- 5.5.5 Verify communication links with the RCD, TSC Accident Assessment Team, and EOF Dose Projection.
- 5.5.6 Verify staffing of Chemistry Lab, PASS Team and other sampling personnel.
- 5.5.7 Ensure Chemistry lab is prepared to receive high level samples.

OPERATION:

NOTE: Obtain E&RC Coordinator approval prior to dispatching any Chemistry teams.

- 5.5.8 Coordinate dispatching of PASS Team with E&RC Coordinator.

5.5 Chemistry Lead

OPERATION:

- 5.5.9 Coordinate off-site analysis support from Harris, Robinson, and the HE&EC with the Administrative & Logistics Manager (ALM) in the EOF.
- 5.5.10 Provide sample results to the Accident Assessment Team for core damage estimation and the EOF Dose Projection Coordinator for dose projection.
- 5.5.11 Trend and track SPDS radiological data.

DEACTIVATION:

- 5.5.12 Assemble documentation (logs, forms, etc.) for collection.

5.6 Operations Coordinator

ACTIVATION:

- 5.6.1 Sign into the OSC and notify the ERD of arrival.
- 5.6.2 Obtain reference materials (procedures, logbook, supplies).
- 5.6.3 Establish communications with:
 - 1. SRO or Plant Operations Director (TSC).

OPERATION:

- 5.6.4 Monitor TSC Communications/briefings and inform the ERD of changing plant conditions or appropriate information from the OSC Monitor.

5.6 Operations Coordinator

OPERATION:

- 5.6.5 Track personnel dispatched from the Control Room, using a Mission Authorization Form; post team status on the OSC Mission Status Board; and provide support, as needed.

NOTE: Mission Authorization Forms are available in triplicate for OSC use. The pink copy is to be retained in the OSC, the yellow copy is given to the OSC Access Control Logkeeper, and the white copy is retained by the Mission Team Leader.

- 5.6.6 Review and obtain at a minimum, ERD verbal authorization prior to approving the Mission Authorization Form for dispatch of any Operations/Fire Brigade Emergency Missions. Coordinate all missions with the E&RC and OSC Mission Coordinators.
- 5.6.7 Initiate dispatch of Fire Brigade personnel for search and rescue missions per OPEP-03.9.6.
- 5.6.8 Coordinate search and rescue activities with the Plant Operations Director and OSC personnel per OPEP-03.9.6.
- 5.6.9 Verify a briefing is conducted for any mission dispatched.
- 5.6.10 Brief ERD of plant status, operator actions/needs and any information on TSC priorities.
- 5.6.11 Keep OSC staff informed of ongoing Operations/Fire Brigade activities.
- 5.6.12 Contact Plant Operations Director (POD) to obtain information on EOP/SAMG status.
- 5.6.13 Monitor and provide status and location of OSC Emergency Repair and Survey Missions to the Control Room.
- 5.6.14 Brief the ERD and OSC Staff of EOP actions, system actuation, etc., that may alter radiological conditions in any given area.
- 5.6.15 Notify the Control Room immediately following plant systems restoration.
- 5.6.16 Notify the Control Room of changing radiological conditions in plant.

5.6 Operations Coordinator

OPERATION:

- 5.6.17 Coordinate HP coverage for Operator/Fire Brigade actions in field. If personnel dispatch is from other than the OSC, a meeting location can be determined prior to team dispatch.

NOTE: Auxiliary Operators are located in the O&M Library after the OSC is activated.

- 5.6.18 Coordinate AO support of OSC activities and post Operations field activities on the OSC Mission Status Board.
- 5.6.19 Provide AOs and expedite equipment clearances to support missions.
- 5.6.20 Ensure ERD understands the urgency of missions to support accident mitigation, especially EOP Actions.

DEACTIVATION:

- 5.6.21 Deactivate the OSC, when directed.
1. Assemble documentation (logs, forms, etc.) for collection.

5.7 Access Control Logkeeper

ACTIVATION:

- 5.7.1 Ensure adequate supplies of forms are available (Mission Authorization Form, Personnel Status Log Sheets).

NOTE: Compile a List of OSC personnel by badge numbers and provide information to the OSC Mission Coordinator.

- 5.7.2 Ensure that personnel log in upon arrival using the Personnel Log Status Sheets, Attachment 2, and swipe the OSC card reader for accountability.

5.7 Access Control Logkeeper

ACTIVATION:

- 5.7.3 Personnel should only log out for:
1. Termination of event
 2. Reassignment to another facility (TSC, EOF, outside protected area).
 3. Re-entering the OSC after having left the protected area.

OPERATION:

- 5.7.4 Ensure that personnel leaving the OSC have an approved OSC Mission Authorization Form. (white copy)
1. Detach and retain a copy of the Mission Authorization Form for accountability of mission team personnel when dispatched. (yellow copy)
- 5.7.5 Utilize Attachment 2, Personnel Status Log Sheets, to account for personnel entering and exiting the OSC for purposes other than approved missions.
1. Periodically verify accuracy of the OSC sign-in board.
- 5.7.6 Provide accountability information to the OSC Mission Coordinator.

DEACTIVATION:

- 5.7.7 Deactivate the OSC, when directed.
1. Compile documentation (logs, form, etc.) from the OSC.
 2. Deliver documentation, including inventory forms, to the Supervisor - Emergency Preparedness.

5.8 Accident Assessment Team Member Liaison

ACTIVATION:

- 5.8.1 Sign in and notify OSC Mission Coordinator upon arrival.

5.8 Accident Assessment Team Member Liaison

ACTIVATION:

- 5.8.2 Establish a communication link to the AATL in the TSC for additional engineering guidance/support.

OPERATION:

- 5.8.3 Provide technical guidance in development/research of repair activities.
- 5.8.4 Provide status updates to the AAT Leader in the TSC.

DEACTIVATION:

- 5.8.5 Assemble documentation for collection.

5.9 OSC Status Board Plotter

ACTIVATION:

- 5.9.1 Refer to Attachment 7, Status Board Plotter Headset Cordless Phone, for setup information.

OPERATION:

- 5.9.2 Maintain the OSC mission tracking board current with OSC activities, as directed by the OSCMC.
- 5.9.3 Maintain communications with TSC, EOF, and Control Room to ensure activity status is current in all facilities.

DEACTIVATION:

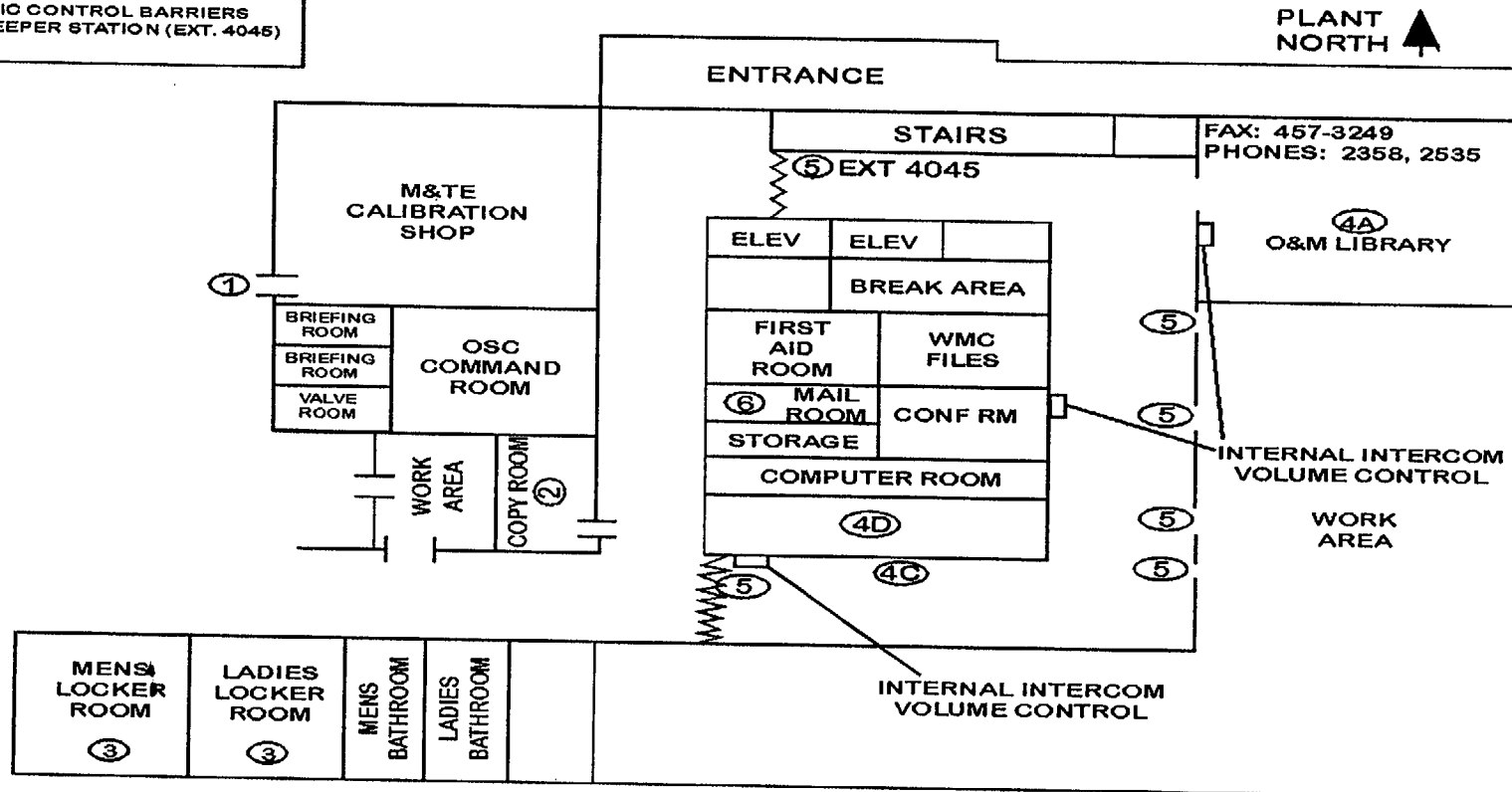
- 5.9.4 Assist in additional facility deactivation, as directed by the OSCMC.

6.0 RECORDS

Documentation generated from implementation of this procedure should be forwarded to the Supervisor - Emergency Preparedness for submittal to Document Services for retention.

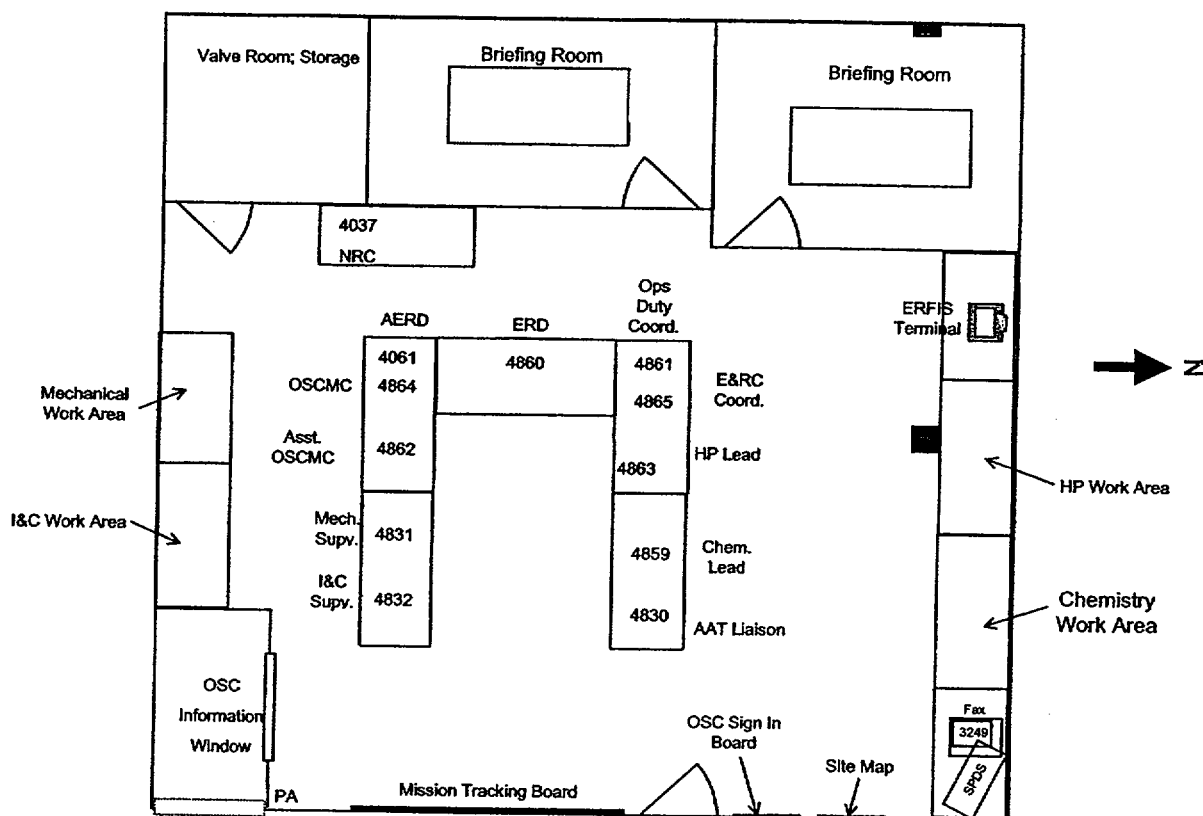
ATTACHMENT 1
Page 1 of 2
Recommended OSC Layout

1. OSC FRISKING CONTROL POINT
2. OSC HP KITS
3. OSC DRESS-OUT LOCKER ROOMS
4. OSC MUSTER AREAS
 - A. MECHANICS OPERATORS
 - B. I&C/E
 - C. E&RC
 - D. COMMON
5. TRAFFIC CONTROL BARRIERS
6. LOGKEEPER STATION (EXT. 4045)



NOTE: Establish Personnel Muster areas and Traffic Control Barriers per above diagram, or as directed by the ERD.

ATTACHMENT 1
Page 2 of 2
Recommended OSC Layout



NOTE: Setup may be modified by ERD.

ATTACHMENT 2
Page 1 of 5
I&C/E Personnel Status Log Sheet

[illegible]

Mechanical Personnel Status Log Sheet

[illegible]

[illegible]

ATTACHMENT 2
Page 4 of 5
E&RC Personnel Status Log Sheet

[illegible]

ATTACHMENT 2
Page 5 of 5
OSC Staff Personnel Status Log Sheet

Personnel		Social Security #	Badge #
ERD			
AERD			
OSCMC			
AOSCMC			
E&RC Coordinator			
OPS Coordinator			
HP Lead			
Chem. Lead			
Access Control Log Keeper	;		
Planner			
Planner			
Other			

OSC Mission Tracking Board

PRIORITY	TEAM NO.	MISSION	LEAD/TEAM MEMBERS	LOCATION	TIME OUT	TIME IN	STATUS

ATTACHMENT 4
Page 1 of 1
OSC Relocation Checklist

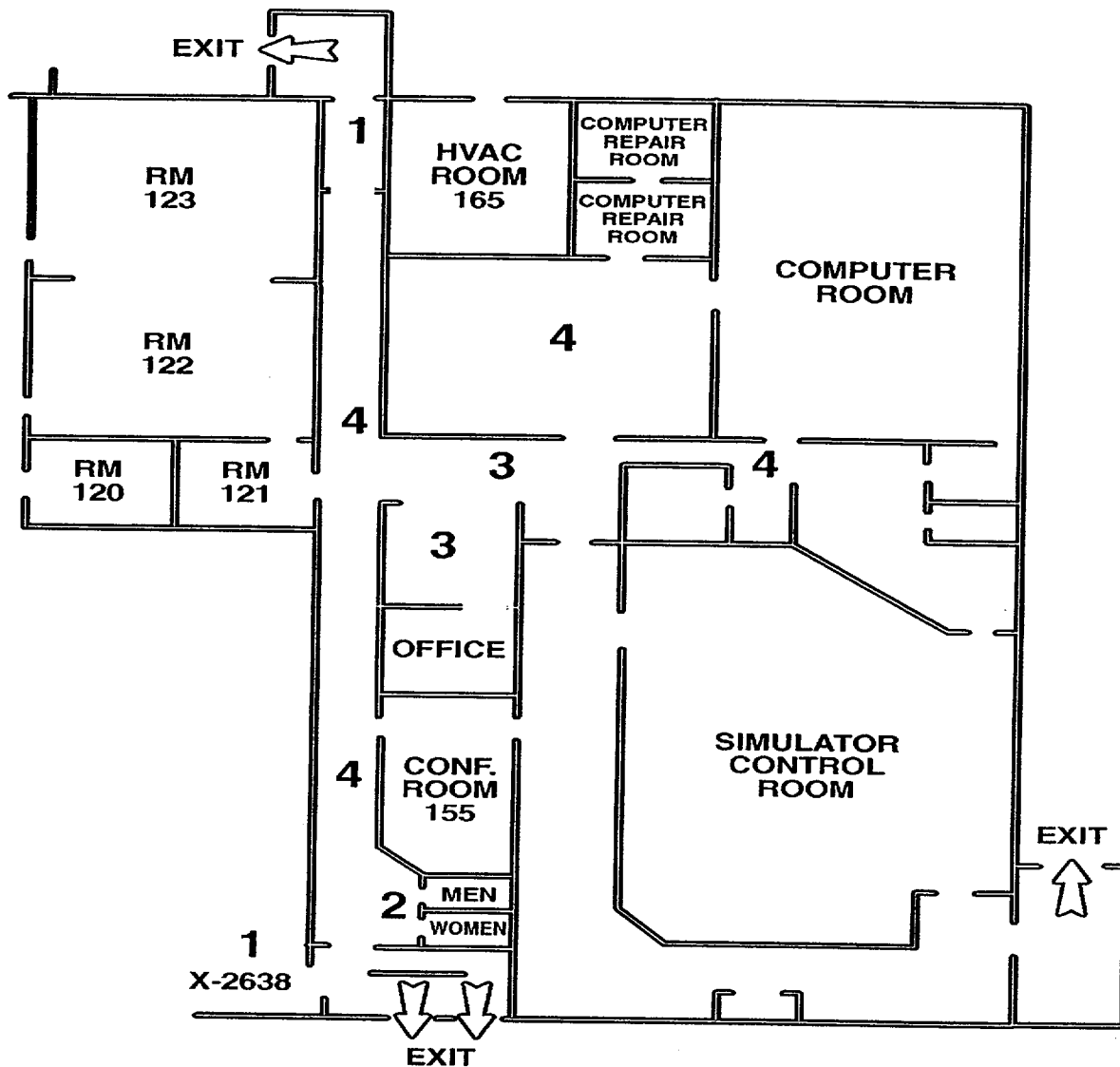
NOTE: This attachment may change with various radiological conditions. In some cases, the need to relocate may be based on "shine" instead of an airborne situation. In this case, the unaffected reactor building may be suitable to stage teams, with the ERD in the Technical Support Center (TSC).

Steps

(Check or N/A Items)

1. Notify OSC staff to prepare for relocation to Simulator area of TSC/EOF Building or designated area. _____
2. Ensure that communications can be maintained with the SEC and OSC Missions in the field. _____
3. Perform an accountability of all personnel assigned to the OSC. _____
4. Notify the E&RC Coordinator to dispatch personnel to the simulator or designated area to set up a frisking location and develop an entrance/exit route for personnel relocation. _____
5. Coordinate with the E&RC Coordinator if exit monitors are inoperable due to high background. _____
6. Notify OSC personnel to proceed to simulator or designated area, with applicable procedures, status boards (use Attachment 3), necessary communication equipment and other supplies as needed. _____
7. Maintain constant communication with teams in the field. _____
8. Notify the SEC of conditions for evaluation of the need to evacuate CAS. _____
9. Upon completion of the relocation:
 - a. Perform an accountability of OSC personnel. _____
 - b. Ensure work areas and communications are established. Contact the SEC and field teams with new telephone numbers _____
10. Coordinate with Security for teams' access in/out of the protected area. _____

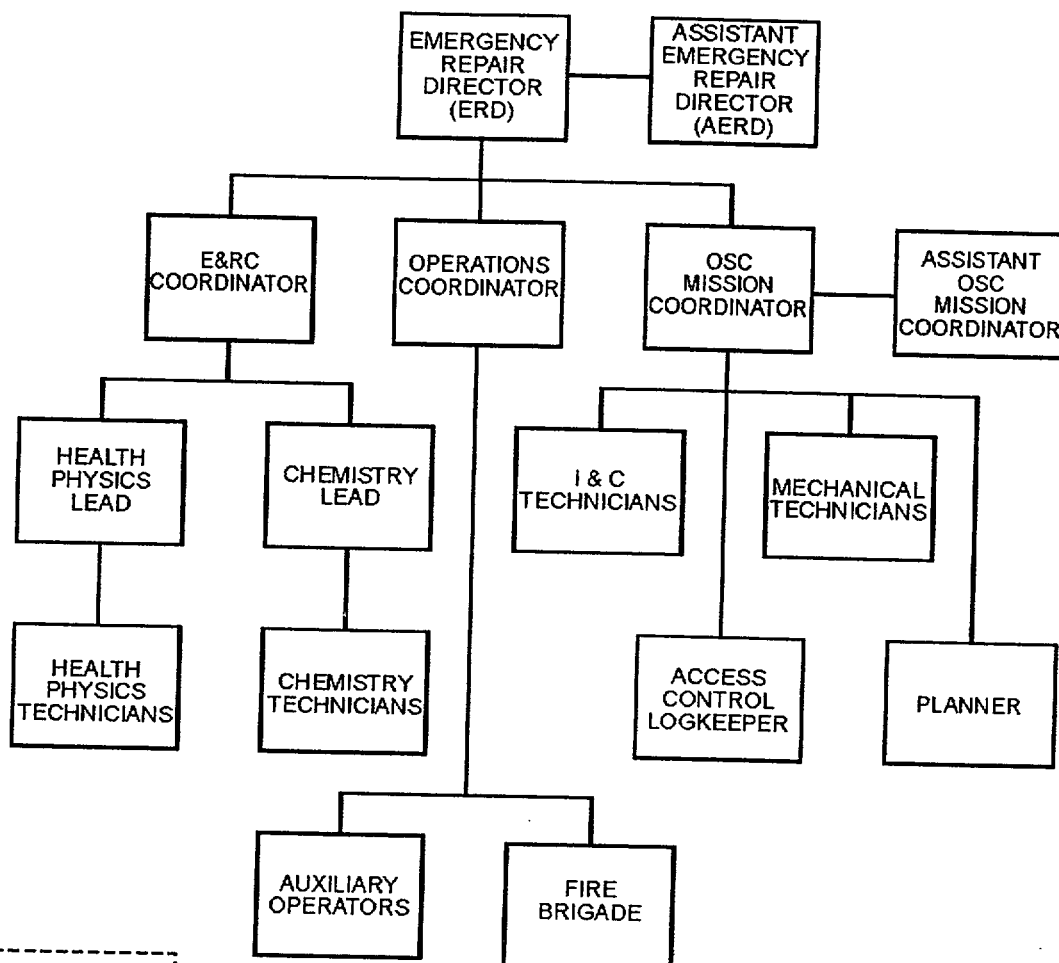
ATTACHMENT 5
Page 1 of 1
Alternate OSC



1. FRISKING AREAS (DETERMINED BY ERD)
2. RESTROOMS FOR DECON
3. ERD AND STAFF
4. PERSONNEL MUSTER AREAS

NOTE: Establish frisking areas, staff and personnel muster areas per above diagram.

ATTACHMENT 6
Page 1 of 1
Operational Support Center Organization



* ACCIDENT ASSESSMENT
TEAM MEMBER LIAISON

*NOTE: Reports to Accident Team Leader in TSC.

ATTACHMENT 7
Page 1 of 2
Status Board Plotter Headset Cordless Phone

NOTE: The headset requires AC power to operate. When the AC power is off, you cannot dial out or receive incoming calls via the headset cordless phone.

1. Setup and Operation
 - a. Ensure the phone line is connected to the base of the headset.
 - b. Ensure the AC adapter's barrel is plugged into the DC 12V jack on the back of the base and the adapter is plugged into a standard AC outlet.
 - c. Lift the base antenna to a vertical position.
 - d. Place the headset on your head with the earpiece over either ear and adjust the headset band until it rests with almost no pressure on your ear and the top of your head.

NOTE: The TSC Status Board Plotter will initiate the communications link between the TSC, OSC, and EOF.

- e. When the phone rings, press "TALK" on the cordless keypad to answer the call. Always press "TALK" to begin or end a call.

ATTACHMENT 7
Page 2 of 2
Status Board Plotter Headset Cordless Phone

2. Headset Volume Control Adjustment and Muting

- a. To adjust the headset's volume, repeatedly press "VOLUME <up>" or "VOLUME <down>" during a call until the sound level is comfortable.

NOTE: The "MUTE" button is located directly under the "TALK" button on the keypad. (Be careful not to confuse "MUTE" with the "TALK" button.)

- b. To talk with someone else in the room without the person on the other end of the phone line hearing your conversation, press "MUTE". Press "MUTE" again to resume your phone conversation.

3. Changing the Battery

NOTE: Replace the battery pack with the spare battery when the "LOW BATT" indicator on the keypad flashes. This headset provides about 8 hours of talk time per battery when fully charged, or 7 days of standby time.

NOTE: An illuminated "CHARGE" light on the base indicates the spare battery is being charged. An illuminated "CHARGE/IN USE" light on the base indicates the primary battery installed in the keypad is charging.

- a. To remove the old battery pack, press the latch release, then slide the battery pack back and lift it from the keypad.
- b. To connect the new battery pack, line up the slots on the battery pack with the posts on the keypad. Press down and slide it forward until the latch clicks.

MISSION AUTHORIZATION FORM**FORM OPEP-02.6.12-1 (5/00)**

Page 1 of 1

MISSION# _____

1. MISSION (CONDITIONS, PROBLEMS, OBJECTIVES):			
2. TEAM MEMBERS	WORK GROUP	BADGE NO.	TEAM LEADER CHECK (√)
3. LOCATION:			
4. ENTRANCE/EXIT ROUTE:			
5. ALARA/RWP INFORMATION: RWP NO. _____ E&RC _____ Time: _____ Date: _____			
6. WORK INSTRUCTIONS (PROCEDURES, DRAWINGS, CLEARANCES AND COMMUNICATIONS):			
7. CORRECTIVE ACTIONS:			
8. APPROVAL FOR DISPATCH: SIGNATURE _____ Time _____ Date: _____			

NOTE: Pink Copy - Retain in OSC.

Yellow Copy - Forward to OSC Access Control Logkeeper.

White Copy - Forward to Mission Team Leader.

REVISION SUMMARY

Revision 25 of OPEP-02.6.12 consists of the following changes:

- Added reference to EPL-001, Emergency Phone List, to section 2 and replaced references to OPEP-Appendix A with EPL-001 throughout the procedure.
- Changed references, instructions, and attachments throughout procedure to reflect permanently located OSC.
- Added responsibilities and instructions to Operations Coordinator position for search and rescue missions referencing OPEP-03.9.6 and coordination of these activities with the Plant Operations Director.
- Revised Section 5.2.8 to allow I&C, HP, and Chemistry Technicians to be dispatched to the Control Room, TSC/EOF, and Chemistry lab without mission tracking or additional authorization and deleted requirement to send routine mission to TSC/EOF emergency diesel.