Dominion Nuclear Connecticut, Inc.
Millstone Power Station
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Dominion™

NOV 13 2002

Docket Nos. 50-245
50-336
50-423
B18791

RE: 10 CFR 50, Appendix E
10 CFR 50.47(b)(5)

U.S. Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, DC 20555

Millstone Power Station, Unit Nos. 1, 2 and 3
Revised Emergency Plan Procedures

The purpose of this letter is to inform the Nuclear Regulatory Commission that the following Emergency Plan Procedures have been implemented:

- MP-26-EPI-FAP10, "Dose Assessment," Major Revision 2, transmitted via Attachment 1;
- MP-26-EPI-FAP10-001, "IDA - Data Input Information," Major Revision 1, transmitted via Attachment 2;
- MP-26-EPI-FAP15-013, "EOF Air Handling and High Radiation Filtration System," Major Revision 0, Minor Revision 1, transmitted via Attachment 3; and
- MP-26-EPA-FAP01, "Management Program for Maintaining Emergency Preparedness," Major Revision 0, Minor Revision 1, transmitted via Attachment 4.

There are no regulatory commitments contained within this letter.

If you have any questions concerning this submittal, please contact Mr. David A. Smith at (860) 437-5840.

Very truly yours,

DOMINION NUCLEAR CONNECTICUT, INC.

G. D. Hicks, Director
Nuclear Station Safety and Licensing

cc: See next page

A045

Attachments (4)

cc: H. J. Miller, Region I Administrator (2 copies)
R. J. Conte, Chief, Operational Safety Branch, Region I

cc: (w/o attachment)

J. B. Hickman, NRC Project Manager, Millstone Unit No. 1
J. R. Wray, NRC Inspector, Region I, Millstone Unit No. 1
R. B. Ennis, NRC Senior Project Manager, Millstone Unit No. 2
V. Nerses, NRC Senior Project Manager, Millstone Unit No. 3
Millstone Senior Resident Inspector

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Attachment 1

Millstone Power Station, Unit Nos. 1, 2 and 3

Emergency Procedures Implementing (EPI) Functional Administrative Procedure (FAP)
MP-26-EPI-FAP10, "Dose Assessment"
Major Revision 2

08/20/02
Approval Date

09/03/02
Effective Date

# Procedure Action Request

| Document No.: MP-26-EPI-FAP10 | Writer: Tom Gilbert | Rev. No. 002 | Minor Rev. 00 |
|---|---|---|---|

Title: Dose Assessment

**For New Documents** Document is QA ☐ DH Title:

☒ Revision ☐ Minor Revision ☐ Cleanup Revision ☒ Biennial Review
☐ Cancel ☐ Void (Do Not Use) ☐ Expire ☐ Superceded By:

Comments: ☐ Administrative Correction FLS: _____

CR-02-10587
Includes FAP10-001, Rev. 001

| Reviews | | Print | Sign | Date | Department |
|---|---|---|---|---|---|
| | ☐ | | | | |
| | ☐ | | | | |
| | ☐ | | | | |
| Writer's Guide | ☒ | BARBARA CLIVER | Barbara Cliver | 10/3/02 | NPO |
| RCD | ☒ | Tom Gilbert | [signature] | 10/7/02 | EPD |
| Environmental Screen | ☒ | Tom Gilbert | [signature] | 10/7/02 | EPD |
| Licensing Basis (50.59 Screen Req. ☐ Yes ☒ No) 50.54 Q | ☒ | Tom Gilbert | [signature] | 10/7/02 | EPD |
| Tech Independent | ☒ | Tom Rigney | Tom Rigney | 10/8/02 | EPD |

| Validation | ☒ None ☐ Field - Use MP-05-DC-SAP01-004 ☐ Simulated Performance - Use MP-05-DC-SAP01-004 ☐ Table Top and Walk-through ☐ Comparison | | | |
|---|---|---|---|---|
| (minimum of two) | Print | Sign | Date | Dept |
| Coordinator | Tom Gilbert | [signature] | 10/8/02 | EPD |
| Member | Per MP-05-DC-FAP01.1 no validation required step 2.5.2 | | | |

**Training:** ☒ None ☐ Nuclear Training ☐ Briefing ☐ Familiarization

☐ **SQR Review and Approval**
Approval ☒ Disapproval ☐
Mark Birch 10-9-02
(1) SQR Sign/Date
Barbara Cliver 10/9/02
(2) Department Head Approval Sign

☐ **SORC Review and Approval**
(1) Department Head Sign/Date
(2) SORC Meeting Number
(3) SORC Approval Sign

☐ **Department Head Review and Approval**
(1) Department Head Approval Sign

**Approval Date:** 10/9/02 **Effective Date:** 10/14/02

# Functional Administrative Procedure

Millstone Station

# Dose Assessment

# MP-26-EPI-FAP10

# Rev. 002

Approval Date: 10/9/02

Effective Date: 10/9/02

TABLE OF CONTENTS

1. PURPOSE

## 1.1 Objective

Provide methods for calculating dose equivalents around the Millstone Nuclear Power Station for actual or potential airborne releases to use in assessing radiological event classifications and dose based general public protective action recommendations.

## 1.2 Applicability

An emergency has been declared.

Events require the projection of off-site doses due to an actual or potential release of radioactive materials near or beyond the site boundary.

## 1.3 Documents

1.3.1 NA

## 1.4 Discussion

Dose assessment requires an understanding of the purpose for the analysis (e.g., off-site protective actions), knowledge of the physical situation (i.e., release point), knowledge of the available release rate, and dose rate calculational models, including their limitations and personnel requirements and a validation by comparison to field measurements.

Radiological emergency classification and dose based protective action recommendations are based on the TEDE and the thyroid CDE. Potential exposure pathways within this procedure include:

- External gamma dose (DDE) from noble gases in the plume
- External gamma dose (DDE) from ground shine from deposited radioactive material
- CEDE from inhalation of plume activity

Two computer programs can be used within this procedure, MIDAS (Meteorological Information and Dose Assessment System) and IDA (Initial Dose Assessment).

MIDAS

All MIDAS accident calculations (TEDE, CDE, EDE, etc.) are performed in accordance with EPA 400 and NRC guidance. An unlimited number of fixed field monitoring points can be displayed on MIDAS maps. MIDAS can accommodate up to 10 design basis accident scenarios for each unit. The MIDAS roadmap is centered on the site stack and contains features such as the EPZ or IPZ towns, roads, railroads, bodies of water, and field monitoring points. MIDAS accident reports contain site specific protective action recommendations.

The MIDAS software can handle up to four release points per unit. Each release point is calculated separately and merged together spatially on a grid. The output reports are then plotted and printed from the gridded results. Release points can have multiple sources and are distinguished only by physical features that affect dispersion. The MIDAS software

performs range checking on all data and numeric entries. The input ranges are in user friendly site specific files. The MIDAS software also has a user friendly mouse screen input. The user selects from large boxes that are easy to read and understand. The MIDAS accident software is set up so that the user is required to make a minimum of entries. Each menu has a default duration and monitor flow (if required). In most cases, other than automatic runs, the user has the option to change these values before proceeding with the run. The MIDAS accident software has many methods of source term entry. The data can be automatic, manually entered, default values, or preplanned scenario data. The scenario data are typically used for drills. The MIDAS software can calculate dose and release rates down to 1.0 E-17 and has the capability to back calculate from field data. Once the release rate is established, based on the location of the field monitoring reading, the normal variable trajectory dose calculations are made. The MIDAS software takes into account the affect of daughter in-growth.

The MIDAS software can be run from each PC workstation connected to the central server where the real time meteorological and effluent data will be stored. All software changes under system manager control will be made on the central server and sent to each PC workstation. The accident model can be run using manually entered data as a stand-alone computer calculation if data are not available from the central server. MIDAS accepts and displays data only in English units.

MIDAS utilizes both dry and wet deposition depending on existing weather conditions. Different deposition velocities and rainout rates are used depending on the precipitation rate.

All MIDAS emergency dose calculations for plume and ingestion pathway are made on a polar fine grid with 64 direction sectors by 56 downwind distances typically out to 50 miles. This distance and detail of the grid is under user control in a site specific edit. The grid approach allows plume tracking to follow changes in weather conditions.

The age of the fuel for fuel handling accidents can be taken into account through the design basis accidents. Different mixes can be entered for the various fuel ages required.

All MIDAS reports are available in tabular format. In most cases, reports are also available as color plots. The graphical data are always plotted on site specific maps with contours depicting various projected dose or concentration levels. All MIDAS plots have "point of interest" capability. This allows the user to select any point on the map and immediately display numerical text giving dose or dose rate information. There is no limit to the number of points that can be selected. The wind speed is adjusted up or down to the actual release height using the Power Law. Before all calculations are made, the user has the opportunity to check both the meteorological and radiological data to be used for each release point calculation. The MIDAS software has editors for both meteorological and radiological data.

The following methods can be used to perform dose assessment using MIDAS:

- **What If** - Provides an integrated dose based on an assumed future release. Typically done in anticipation of a barrier failure to assist in classification and to project dose based PARs for comparison with plant based PARs.
- **Real Time** - Based on releases in progress in order to project radiological conditions and validate the adequacy of the current classification level and PARs.
- **Normalized** - Based on an assumed release rate of noble gas and iodine or monitor reading. Normalized dose calculations could be run with near-term or current forecast meteorological data and anticipated release points, etc. The results are used to establish ratios with field data should releases occur. The ratio can then be used to estimate the release rate for noble gas or iodines.

<u>IDA</u>

IDA, developed in-house, is written to be user friendly. IDA estimates plume centerline TEDE, thyroid CDE, CEDE, plume, and ground DDE values. The results provided by the program comply to EPA-400 methodology and represent an "estimate" of off-site dose equivalents that would result due to real time user inputs (i.e., met data and monitor data) as well as specified accident conditions (i.e., filtered release, sprays operating, fuel degradation, accident type, and decontamination factors).

IDA is a database program based on results obtained from the NRC's RASCAL code, version 2.1. RASCAL was run for multiple accident and meteorological conditions and the results were placed in a Microsoft Access data file. The RASCAL generated results provide all aspects of the resulting dose assessment. The site specific inputs that determine the accident, determine the appropriate RASCAL results to use. The noble gas source term is calculated using defined monitor conversion methods, or can be input by the user. Assumptions for various release pathways were incorporated into IDA to determine eventual release height of the resulting plume.

2. INSTRUCTIONS

**2.1 Selecting and Initiating Dose Calculations**

2.1.1 IF in the EOF, perform dose assessment as follows:

a. Ensure the Meteorological Assistant refers to EPI-FAP04-010, "Meteorological Assistant," Table 1, and determines if fumigation potential exists.

b. IF the release is from the site stack AND fumigation potential exists, run projections using ground release and an "E" stability class until fumigation conditions cease to exist.

**NOTE**

Attachment 4, "Reference Information," is available, as required, to perform dose calculations.

2.1.2 Select the appropriate dose assessment method from one of the following:

- IF a Unit 1 event, Go To EPI-FAP10-005, "Unit 1 Dose Calculation for Fuel Handling Accident."
- IF performing dose calculations from the Control Room using IDA, Go To Section 2.2.
- IF performing dose calculations from the EOF using IDA, Go To Section 2.4.
- IF performing dose calculations using MIDAS, Go To Section 2.5.
- IF calculating thyroid CDE from a field air sample, Go To Section 2.6

## 2.2 Control Room OFIS Access for IDA Dose Calculations

**NOTE**

If a monitored and unmonitored release are occurring simultaneously, only the field monitoring data is used to calculate dose.

2.2.1 Refer To EPI-FAP10-001, "IDA - Data Input Information" and obtain information for Part 1 and Part 3, Column A of the section from the CR-DSEO or Designee.

2.2.2 IF accessing the OFIS program through a personal computer, perform the following:

a. Open the "OFIS" icon.

b. Select "Connect to Millstone LAN" from the "Millstone OFIS Connection Menu."

c. Select "MP3 OFIS" from the "Millstone Station PPC Top Menu," as applicable.

d. Select "Meteorological (A11)" from the "MP3 OFIS" menu, as applicable.

e. IF connection is *not* successful, connect to the "MP3 PPC" as follows:

1) Open the "OFIS" icon.

2) Select "Connect to MP3 PPC from the "Millstone OFIS Connection Menu," as applicable.

3) Select "OFIS" from the "MP3 PPC" Top Menu," as applicable.

4) Select "Meteorological (A11)" from the "MP3 OFIS" menu," as applicable.

f. Refer To and complete EPI-FAP10-001, "IDA - Data Input Information" Part 2 (Meteorology).

**NOTE**

The CR-DSEO is the source of data if OFIS is not available or functioning. To ensure OFIS is current, the time and date should be checked.

g. IF meteorological data is *not* available on OFIS, request the CR-DSEO or Designee provide data from an alternate source and press the "Page Up" (↑) arrow.

h. Enter one of the following commands into OFIS, as applicable, to obtain monitor and flow parameters and record in EPI-FAP-10-001, Part 3 :

- IF Unit 3, select "Radioactivity (A10)."
- IF Unit 2, select the top level display icon and perform the following:

1) Select "MP2 OFIS."

2) Select "Radioactivity (A10). "

i. IF designated OFIS item is *not* available, perform the following:

1) Refer To Attachment 3, "Data Sources," and select an alternate source.

2) Consult CR-DSEO or TIC on method to obtain data.

j. Close the "R*TIME Data Viewer" window.

k. Close the Millstone "OFIS Connection Menu" window.

## 2.3 Control Room IDA Dose Calculations

**NOTE**

A back-up computer is located in the TSC if the Control Room PC is not available.

2.3.1 Select IDA icon from the designated Control Room PC.

2.3.2 Refer To EPI-FAP10-001, "IDA - Data Input Information," Part 1, and enter the following on the "Accident Description" screen:

- Unit affected
- Accident type
- Fuel damage state
- IF applicable, containment sprays "YES" (on) or "NO" (off)

**NOTE**

1. If reactor is still critical, the reactor shutdown date and time should be left blank.
2. If a fuel drop accident, most recent refueling date and time must be estimated by the CR-DSEO and entered.

- Current (now) and reactor shutdown date and time
- Release duration (2 hour default unless instructed otherwise by the CR-DSEO)

2.3.3 Select "Next."

2.3.4 Refer To EPI-FAP10-001, "IDA - Data Input Information," Part 2, and enter all of the following on the "Meteorology" screen:

- Wind speeds from the 033', 142', and 374' elevations
- Wind directions from the 033', 142', and 374' elevations
- Delta temperatures from the 142' and 374' elevations

2.3.5 Select "Next."

**NOTE**

1. If the unmonitored ground release pathway is selected, no other release pathway can be selected.
2. IDA can accept up to two NON GROUND release pathways.
3. If multiple NON GROUND release pathways are chosen, only the two LOWEST elevation pathways are entered.

2.3.6 Refer To EPI-FAP10-001, "IDA - Data Input Information," Part 3, and enter the following on the "Release Pathways" screen:

- Active release pathways
- Filters operating, if applicable
- Number of safeties releasing, if applicable
- Flow rates using default values or OFIS

2.3.7 Select "Next."

**NOTE**

Plant monitor data is zeroed if unmonitored field team data is entered.

2.3.8 Refer To EPI-FAP10-001, "IDA - Data Input Information," Part 3, and enter the following on the "Monitor" screen:

- Applicable radiation monitor readings
- Applicable field team reading (If unmonitored release)

2.3.9 Select "Finish."

2.3.10 Press "Printer" icon and select "All."

2.3.11 Press "OK" to print output.

2.3.12 IF printer is *not* available, Refer To EPI-FAP10-003, "Doses for Protective Action Recommendation," and manually record data.

2.3.13 Attach EPI-FAP10-001, "IDA - Data Input Information," to printed output or to EPI-FAP10-003, "Doses for Protective Action Recommendation."

2.3.14 Refer To EPI-FAP10-001, "IDA - Data Input Information," and perform verification of input data from Output Summary.

2.3.15 Submit results to the CR-DSEO.

2.3.16 IF warranted by changing conditions, repeat Sections 2.3 and notify CR-DSEO of changes.

## 2.4 EOF IDA Dose Calculations

2.4.1 Select the following from the designated EOF PC:

a. IDA icon

b. "OPTION"

c. "EXTENDED"

2.4.2 Enter the following information on the "Accident Description" screen:

- Affected unit
- Accident type
- Fuel damage state
- IF applicable, containment sprays "YES" (on) or "NO" (off)

**NOTE**

If the reactor is still critical, leave the reactor shutdown date and time as a blank.

- Current (now) and reactor shutdown date and time
- Release duration (2 hour default unless instructed otherwise by the MRDA)

2.4.3 Select "Next."

2.4.4 Enter the following on the "Meteorology" screen:

- Wind Speeds from the 033', 142', and 374' elevations in metric units
- Wind directions from the 033', 142', and 374' elevations
- Delta temperatures from the 142', and 374' elevations in metric units

2.4.5 Select "Next."

**NOTE**

1. If the unmonitored ground release pathway is chosen, no other release pathway can be selected.
2. IDA can accept up to two non-ground release paths.
3. If multiple non-ground release pathways are chosen, only the two lowest elevation pathways shall be entered.

2.4.6 Enter the following on the "Release Pathways" screen:

- Release Pathways

- Filters operating (if applicable)
- Number of safeties releasing (if applicable)
- Flow rates using default values or OFIS

2.4.7 Select "Next."

**NOTE**

1. Plant monitor data is zeroed if unmonitored field team data is entered. If field team data is entered first, the code will not allow monitor data input.
2. Iodine release rates are inversely proportional to DF. If iodine release rates need to be reduced by a factor of 100, the DF must be increased by a factor of 100.

2.4.8 Enter the following on the "Monitor" screen:

- Applicable radiation monitor readings
- Applicable field team reading (if unmonitored release)
- Applicable noble gas release rate (if available)
- Applicable DF based on field team comparisons to calculated values

2.4.9 Press "Enter" and calculate Source Term Ci/sec.

2.4.10 Select "Finish" and calculate TEDE and Thyroid CDE.

2.4.11 Print the report.

2.4.12 Review the results and verify the inputs to the calculations prior to releasing data.

2.4.13 IF performed by the RAE, submit results to the MRDA.

## 2.5 MIDAS Dose Calculations

2.5.1 Refer To and complete the following Sections as appropriate:

a. IF performing a projection using manual entry of radiation monitor data, EPI-FAP10-002 Section A, "Manual Entry of Radiation Monitor Data."

b. IF performing a "What-If" projection for a LOCA in containment, EPI-FAP10-002 Section B, "What-If Based Upon LOCA in Containment."

c. IF performing a back calculation based on field data, EPI-FAP10-002 Section C, "Back Calculation Based Upon Field Monitoring."

d. IF MIDAS is *not* available, Go To step 2.5.46.

2.5.2 Select the "MIDAS" icon.

2.5.3 Ensure the site selection is set to "Millstone."

2.5.4 Select the appropriate affected unit.

2.5.5 Set "Accident Run Menu Selection" to correspond to the applicable data sheet section.

2.5.6 Select "OK."

2.5.7 Ensure the following:

a. Data source is set to "Manual Entry" on the spreadsheet.

b. Appropriate release points have check marks.

c. "Exit Flow to Environment" is correct for the projected release point.

d. "Initial Display Radius" is adequate (typically set to 13 miles).

2.5.8 Select the "Next" down arrow.

2.5.9 Ensure the Dose Calculation Mode is set to "Projected PAG."

**NOTE**

Projection times are integrated duration (stay) times starting from the current time. The plume transit time must be considered as well as the evacuation time estimates to ensure the projection time will encompass the entire dose.

2.5.10 Ensure the "Start of Exposure" is appropriate.

2.5.11 Ensure the "Exposure Times" are set to "0.25," "2," "6," and "12."

2.5.12 Select the "Next" down arrow.

2.5.13 Ensure the "Release Option" is set to mode from the applicable section.

2.5.14 Select "Confirm."

2.5.15 IF the calculation mode is "Manual Radiation Monitor Mode," perform the following:

a. Select "New" on the spreadsheet control menu.

b. Select "OK" on the warning dialog box.

**NOTE**

All required meteorological data must be entered on the blue highlighted time line.

c. Enter met data on the time step for the beginning of the release.

d. Select "OK" at the bottom of the met spreadsheet.

**CAUTION**

Only one monitor per release point (i.e., stack low or stack high range monitor) shall be entered.

e. Enter the applicable monitor/flow data on the same time step as in "Met Data."

f. Select "OK" at the bottom of the Met and Vent Flow spreadsheet.

g. Select "Event Tree" at the bottom of the page.

h. Using the pull down boxes, select the type of accident and associated conditions for the same time step as in the Met and Vent Flow spreadsheets.

i. Select "OK."

j. Ensure the "Event Tree" is appropriate.

k. Select the "Next" down arrow.

l. Set "Data and Time" of trip by using one of the following methods:

- Select by clicking in the associated time window using the thumb wheels.
- Select "At Current Time" and manually adjust, as necessary.

2.5.16 IF the calculation mode is "What If Based Upon LOCA in Containment," perform the following:

a. Ensure "Data Source" is set to Manual Entry on the spreadsheet.

b. Select "OK."

c. Complete the "Event Tree" by using the pull down boxes to set the type of accident and associated conditions.

d. Enter containment leak rate as a percent as shown in Table 1

| Table 1 Design Basis Leak Rate | |
|---|---|
| Unit | %/Day |
| MP2 | 0.5 |
| MP3 | 0.3 |

e. Select either day or hour, as appropriate for the selected leak rate.

f. Select "OK."

g. Select "New" on the spreadsheet control menu.

h. Select "OK" on the warning dialog box.

**CAUTION**

All required meteorological data must be entered on the blue highlighted time line.

i. Select "Met Data" on the time step for the beginning of the release.

j. Select "OK" at the bottom of the met spreadsheet.

**CAUTION**

Only one monitor per release point shall be entered. The lower of the two containment monitors must be chosen. If it is not already chosen, only one release elevation must be selected.

k. Enter the applicable containment monitor reading.

l. Select the "Next" down arrow.

2.5.17 IF the calculation mode is "Back Calculation from Field Data," perform the following:

a. Select the appropriate release height (ground or elevated).

b. Enter closed window field monitoring reading near the plume centerline in mR/hr.

c. Enter the distance from the release point in miles.

d. Select "OK."

e. Complete the "Event Tree" by using the pull down boxes to select the type of accident and associated conditions.

f. Select "OK."

g. Select "New" on the spreadsheet control menu.

**CAUTION**

All required meteorological data must be entered on the blue highlighted time line.

h. Enter met data on the time step for the beginning of the release.

i. Select "OK" at the bottom of the met spreadsheet.

j. Select the "Next" down arrow.

**CAUTION**

"Start of Release" defaults to the time step of input for the first non-zero rad monitoring reading.

2.5.18 IF known, set "Remaining Duration."

2.5.19 IF "Remaining Duration" is *not* known, set 2 hours as the default.

2.5.20 Select "Start Calc."

2.5.21 Upon completion of calculations, ensure the projected time is set to 12 hours.

2.5.22 Under "Special Reports" select "State."

2.5.23 Select "Confirm."

2.5.24 Select "Printer" icon.

2.5.25 Select "OK."

2.5.26 IF acceptable results are obtained, submit the "State Report" to the MRDA.

2.5.27 Select "X" in the upper right corner to close the "State Report" window.

2.5.28 Under "Special Reports" select "Met/Rad Summary."

2.5.29 Select "Confirm."

2.5.30 Ensure time is set to current time step.

2.5.31 Select "Print" icon.

2.5.32 Select "OK."

2.5.33 Select "X" in upper right corner to close "Met/Rad Summary" window.

2.5.34 Ensure the following options are selected at the bottom of the screen:

- TEDE
- Integrated Dose
- Graphic

2.5.35 Select "Confirm."

2.5.36 Select the "Printer" icon.

2.5.37 Ensure the following options are selected at the bottom of the screen:

- CDE Thyroid
- Integrated Dose
- Graphic

2.5.38 Select "Confirm."

2.5.39 Select the "Printer" icon.

2.5.40 Ensure the following options are selected at the bottom of the screen:

- Special Report
- RMP

2.5.41 Select "Confirm."

2.5.42 Select the "Printer" icon.

2.5.43 Document the run by placing copies of the following in the Computer Run notebook:

- State Report
- Special Report/Rad Met Summary
- RMP
- TEDE Integrated 12 hour Graphic
- CDE Thyroid Integrated 12 hour Graphic

2.5.44 Select "End Run" to complete.

2.5.45 Select appropriate option to perform the following:

a. Run the next time step

b. Exit the program

2.5.46 Refer To Section 2.4, "EOF IDA Dose Calculations," and perform IDA calculations.

2.5.47 Using IDA release rate results, perform ADAM run to determine DDE dose rates and iodine concentrations.

2.5.48 Verify input information on ADAM input summary sheet and initial sheet.

2.5.49 Ensure RDAT member performs an independent review of ADAM inputs.

2.5.50 Compare ADAM results to field team measurements and discuss results with the MRDA.

2.5.51 IF IDA release rates need to be revised, Go To step 2.5.46.

## 2.6 Calculating Thyroid CDE From a Field Air Sample

2.6.1 Obtain air sample data from the FTDC or Designee.

2.6.2 Refer To EPI-FAP10-004, "Thyroid CDE Calculation Based on Field Air Sample Worksheet," and record the following:

- Location
- Time of sample
- Field air sample results (ccpm)

2.6.3 Determine the appropriate calculation method based on time since reactor shutdown and the I-131 Dose Equivalent Concentration.

2.6.4 IF the air sample was analyzed by gamma analysis, determine I-131 DEQ.

2.6.5 Calculate thyroid CDE for 1 hour of inhalation.

2.6.6 Notify the MRDA of the results.

## 3. SUMMARY OF CHANGES

### 3.1 Revision 001

3.1.1 Incorporated previously approved change 1 and change 2 to revision 000.

3.1.2 Modified step 2.1.1.b by adding a condition to clarify that a release must be from the site stack.

3.1.3 Added information to step 2.1.2 to clarify that the user must go to Section 2.6 if calculating thyroid CDE from field air samples.

3.1.4 Added information to step 2.4.4 to clarify that wind speeds and delta temperatures must be entered on the Meteorology screen in metric units.

3.1.5 Added Table 1 to step 2.5.16 to identify the design basis leak rate for containment.

3.1.6 Added EBFS, SLCRS, and WRGM to Attachment 1, "Definitions."

3.1.7 Modified Attachment 3, Data Sources," as follows:

3.1.8 Deleted met data for Unit 1 and Unit 2.

3.1.9 Added references to MP2 WRGM and MP2 WRGM flow.

3.1.10 Added MP3 SLCRS, normal monitor, extended monitor, and flow to monitor data.

3.1.11 Corrected default flow rates for MP2 and MP3 on Attachment 4, "Reference Information."

3.1.12 Added note to Attachment 4, "Reference Information," to clarify that the default flow rate for MP2 was set at 12,000 cfm for consistency between Unit 2 and Unit 3.

3.1.13 Changed references in EPI-FAP10-001, "IDA Data Input Information," from stack gas radiation, radiation HI RNG, and flow rate to MP2 WRGM and MP3 SLCRS.

3.1.14 Added references to MP2 WRGM and MP3 SLCRS and corrected exposure time in EPI-FAP10-002, "Midas Input Information."

3.1.15 Performed Writer's Guide and minor editorial corrections throughout procedure.

### 3.2 Revision 001-01

3.2.1 Deleted step on accessing OFIS from mainframe computer. OFIS is not available from mainframe.

### 3.3 Revision 002

3.3.1 Removed reference to EPUG 07. Procedure no longer exists.

3.3.2 Changed reference to Unit 3 meteorology data.

3.3.3 Changed location of note for step 2.3.6.

3.3.4 This revision satisfies ARs 01000341-12, 02006246-01, 02007262

# Attachment 1
# Definitions and Abbreviations

(Sheet 1 of 1)

**Definitions**

Committed Dose Equivalent (CDE) - The dose equivalent to an individual organ or tissue that will be received from an intake of radioactive material during the 50 year period following the intake.

Committed Effective Dose Equivalent (CEDE) - the sum of the products of the CDEs and their weighting factors. The weighting factors account for the relative sensitivities of different organs to radiation.

Deep Dose Equivalent (DDE) - External exposure at a 1 cm tissue depth.

Fumigation Potential - Seashore meteorology conditions can combine infrequently to create an atmospheric downdraft called a fumigation that converts elevated releases to ground level.

Mixed Mode Release - A release at a level of, or above, but lower than twice the height of adjacent solid structures.

Radiation Monitoring Points (RMP) - Set of site-specific monitoring locations.

Total Effective Dose Equivalent (TEDE) - The sum of the DDE and the CEDE.

**Abbreviations**

CDE - Committed Dose Equivalent

CEDE - Committed Effective Dose Equivalent

DCF - Dose Conversion Factor

DDE - Deep Dose Equivalent

EBFS - Enclosure Building Filtration System (MP2)

IDA - Initial Dose Assessment computer program

IPZ - Ingestion Pathway Zone

MIDAS - Meteorological Information and Dose Assessment System

MRDA - Manager of Radiological Dose Assessment

PAR - Protective Action Recommendation

RASCAL - Radiological Assessment System for Consequence Analysis. The dose assessment model used by the NRC.

RDAT - Radiological Dose Assessment Team

SLCRS - Supplementary Leak and Collection Removal System (MP3)

WRGM - Wide Range Gas Monitor (MP2)

# Attachment 2
# Responsibilities

(Sheet 1 of 1)

Manager of Radiological Dose Assessment (MRDA) - Responsible for determining when the Emergency Operations Facility will assume offsite dose assessment responsibilities from the Control Room and for performing IDA dose calculations as necessary.

Radiological Assessment Engineer (RAE) - Responsible for performing the appropriate calculations.

On-Shift Chemistry Technician - Responsible for performing initial dose assessment if available until relieved by the MRDA.

# Attachment 3
# Data Sources

(Sheet 1 of 2)

| UNIT 1 - Monitor Data | | | | | |
|---|---|---|---|---|---|
| | | Primary Source | | Backup Source | |
| Data | Units | Obtain From | Label | Obtain From | Label |
| MP1 Spent Fuel Pool Island (Area Rad Monitor) | mR/hr | Control Room Panel | RM-SFPI-01 | Remote Location | RM-SFPI-01 |

| UNIT 2 - Monitor Data | | | | | |
|---|---|---|---|---|---|
| | | Primary Source | | Backup Source | |
| Data | Units | Obtain From | Label | Obtain From | Label |
| MP2 WRGM (Site Stack) | µCi/cc | Unit 2 OFIS (A10) | R8169 or RU1 | Control Room Panel | RM-8169 |
| MP2 WRGM Flow (Site Stack) | SCFM | Unit 2 OFIS (A10) | F8169 | Control Room Panel | FC-8169 |
| MP2 Vent Monitor | cpm | Unit 2 OFIS (A10) | R8132B | Control Room panel | PT.2: r 8132B |
| MP2 KAMAN Mid or High Range Vent Monitor | µCi/cc | Unit 2 OFIS (A10) | RIC8168 | Control Room panel | RIC 8168 |
| MP2 Vent Flow | CFM | Control Room panel | PT.3: F 8412 | None Available | |
| MP2 Steam Line Monitors | | | | | |
| 4299A | R/hr | Unit 2 OFIS (A10) | R4299A | Control Room Panel | R 4299A |
| 4299B | R/hr | Unit 2 OFIS (A10) | R4299B | Control Room Panel | R 4299B |
| 4299C | R/hr | Unit 2 OFIS (A10) | R4299C | Control Room Panel | R 4299C |

# Attachment 3
# Data Sources

(Sheet 2 of 2)

| UNIT 3 - Monitor Data | | | | | |
|---|---|---|---|---|---|
| | | Primary Source | | Backup Source | |
| Data | Units | Obtain From | Label | Obtain From | Label |
| MP3 SLCRS Normal Monitor (Site Stack) | µCi/cc | Unit 3 OFIS (A10) | CVHVR19B | Control Room Remote Indicating Panel | HVR19B |
| MP3 SLCRS Extended Monitor (Site Stack) | µCi/cc | Unit 3 OFIS (A10) | CVHVR19A1 | Control Room Remote Indicating Panel | HVR19A |
| MP3 SLCRS Flow(Site Stack) | SCFM | Unit 3 OFIS (A10) | CVFE19 | Rad Monitor Console | |
| MP3 KAMAN Normal Range Vent Monitor | µCi/cc | Unit 3 OFIS (A10) | CVHVR10B | Control Room panel | RIC-5A3HVR*RIY10B |
| MP3 KAMAN Mid or High Range Stack Monitor | µCi/cc | Unit 3 OFIS (A10) | CVHVR10A1 | Control Room panel | RIC-4A3HVR*RIY10A |
| MP3 Vent Flow | CFM | Unit 3 OFIS (A10) | CVFE10 | KAMAN Computer | RE10 process flow |
| MP3 Steam Line Monitors | | | | | |
| RE 75 | µCi/cc | Unit 3 OFIS (A10) | CVMSS75 | KAMAN Computer | MSS75 |
| RE 76 | µCi/cc | Unit 3 OFIS (A10) | CVMSS76 | KAMAN Computer | MSS76 |
| RE 77 | µCi/cc | Unit 3 OFIS (A10) | CVMSS77 | KAMAN Computer | MSS77 |
| RE 78 | µCi/cc | Unit 3 OFIS (A10) | CVMSS78 | KAMAN Computer | MSS78 |
| **Met Data** | | | | | |
| | | Primary Source | | Backup Source | |
| Data | Units | Obtain From | Label | Obtain From | Label |
| WS033 | mph | Unit 3 OFIS (A11) | CVWS033MPH | Unit 3 PPC | CVWS033MPH |
| WS142 | mph | Unit 3 OFIS (A11) | CVWS142MPH | Unit 3 PPC | CVWS142MPH |
| WS374 | mph | Unit 3 OFIS (A11) | CVWS374MPH | Unit 3 PPC | CVWS374MPH |
| DT142 | °F | Unit 3 OFIS (A11) | CVDT142F | Unit 3 PPC | CVDT142F |
| DT374 | °F | Unit 3 OFIS (A11) | CVDT374F | Unit 3 PPC | CVDT374 |
| WD033 | deg from | Unit 3 OFIS (A11) | CVWD033 | Unit 3 PPC | CVWD033 |
| WD142 | deg from | Unit 3 OFIS (A11) | CVWD142 | Unit 3 PPC | CVWD142 |
| WD374 | deg from | Unit 3 OFIS (A11) | CVWD374 | Unit 3 PPC | CVWD374 |

# Attachment 4
# Reference Information



**Mnemonic Definitions:**

AT = Ambient Temperature

DT = Differential in Temperature (to determine stability class)

WS = Wind Speed

WD = Wind Direction (listed as the direction the wind is from)

**Conversion Formulas:**

°C = 5/9 (°F - 32)

Δ °C = Δ °F x 0.556

m/sec = mph x 0.447

**DT 142**

| Differential Temperature (°F) | Stability Class |
|---|---|
| DT ≤ -1.25 | A |
| -1.25 < DT ≤ -1.10 | B |
| -1.10 < DT ≤ -0.90 | C |
| -0.90 < DT ≤ -0.36 | D |
| -0.36 < DT ≤ +0.72 | E |
| +0.72 < DT | F |

**DT 374**

| Differential Temperature (°F) | Stability Class |
|---|---|
| DT ≤ -3.6 | A |
| -3.6 < DT ≤ -3.3 | B |
| -3.3 < DT ≤ -2.9 | C |
| -2.9 < DT ≤ -1.1 | D |
| -1.1 < DT ≤ +2.7 | E |
| +2.7 < DT | F |

**Default Flow Rates**

| MP2 | MP3 |
|---|---|
| Site Stack.....12,000 cfm* | Site Stack ..... 12,000 cfm |
| Vent .....64,000 cfm | SLCRS ..... 12,000 cfm |
| Safety.....6,000 cfm per | Vent..... 210,000 cfm |
| Dump.....7,375 cfm | Safety ..... 6,000 cfm per |
| Terry .....550 cfm | Dump..... 3,500 cfm |
| EBFS.....11,000 cfm | Terry..... 1,200 cfm |

*Set at 12,000 cfm for consistency between Unit 2 and Unit 3.

# Attachment 4
# Reference Information



Wind Directions and Distances to Nearest Land and Site Boundary

| | | | MP1, MP2, Ground & MP2 Mixed | | MP3 Ground & Mixed | | MP1 Stack | |
|---|---|---|---|---|---|---|---|---|
| Wind Direction (From) | Downwind Direction | Downwind Sector | Nearest Land | Nearest Site Boundary | Nearest Land | Nearest Site Boundary | Nearest Land | Nearest Site Boundary |
| 169°-191° | 349°-011° | A (N) | 1,138 m | 1,138 m | 924 m | 924 m | 1,695 m | 1,695 m |
| 192°-213° | 012°-033° | B (NNE) | 997 m | 997 m | 1,550 m | 1,550 m | 813 m | 813 m |
| 214°-236° | 034°-056° | C (NE) | 620 m | 620 m | 841 m | 841 m | 496 m | 496 m |
| 237°-258° | 057°-078° | D (ENE) | 1,070 m | 620 m | 602 m | 602 m | 1,101 m | 496 m |
| 259°-281° | 079°-101° | E (E) | 1,600 m | 620 m | 1,300 m | 602 m | 1,410 m | 496 m |
| 282°-303° | 102°-123° | F (ESE) | 1,900 m | 620 m | 1,690 m | 602 m | 1,640 m | 496 m |
| 304°-326° | 124°-146° | G (SE) | 31,700 m | 620 m | 33,000 m | 602 m | 31,700 m | 496 m |
| 327°-348° | 147°-168° | H (SSE) | 12,390 m | 620 m | 22,200 m | 631 m | 12,390 m | 496 m |
| 349°-011° | 169°-191° | J (S) | 11,800 m | 620 m | 16,100 m | 602 m | 11,800 m | 496 m |
| 012°-033° | 192°-213° | K (SSW) | 13,030 m | 620 m | 18,300 m | 602 m | 13,030 m | 496 m |
| 034°-056° | 214°-236° | L (SW) | 3,430 m | 620 m | 3,380 m | 602 m | 3,660 m | 496 m |
| 057°-078° | 237°-258° | M(WSW) | 3,100 m | 620 m | 3,050 m | 602 m | 3,270 m | 496 m |
| 079°-101° | 259°-281° | N (W) | 2,830 m | 620 m | 2,700 m | 602 m | 3,050 m | 496 m |
| 102°-123° | 282°-303° | P (WNW) | 2,550 m | 620 m | 2,310 m | 602 m | 2,660 m | 649 m |
| 124°-146° | 304°-326° | Q (NW) | 1,930 m | 620 m | 684 m | 602 m | 997 m | 710 m |
| 147°-168° | 327°-348° | R (NNW) | 915 m | 915 m | 694 m | 694 m | 1,029 m | 1,029 m |

NOTES

1. Meter - m
2. Nearest site boundary is given as 620 m from the MP2 stack for water sectors (D through Q).
3. Nearest site boundary is given as 602 m from the MP3 ventilation vent for water sectors (D-G and J-Q).
4. Nearest site boundary is given as 496 m from the site stack for water sectors (D through N).

# Attachment 4
# Reference Information



Stability Dependent X•μ/Q Values per Release Height

**Site Stack 374' Release**

| Distance Miles | Stability Class | | | | | |
|---|---|---|---|---|---|---|
| | A | B | C | D | E | F |
| 0.3 | 1.7E-5* | 6.8E-6 | 3.4E-7 | 1.6E-12 | 1.0E-20 | < 1.0E-20 |
| 0.5 | 6.6E-6 | 1.3E-5* | 5.4E-6 | 1.9E-8 | 1.5E-12 | 1.0E-20 |
| 1 | 1.4E-6 | 6.6E-6 | 9.9E-6* | 2.1E-6 | 8.9E-8 | 1.1E-11 |
| 2 | 7.4E-7 | 1.9E-6 | 4.8E-6 | 5.3E-6* | 1.8E-6 | 3.7E-8 |
| 3 | 5.2E-7 | 8.9E-7 | 2.6E-6 | 5.3E-6 | 3.1E-6 | 2.5E-7 |
| 4 | 4.0E-7 | 5.0E-7 | 1.6E-6 | 4.2E-6 | 3.5E-6* | 5.6E-7 |
| 5 | 3.3E-7 | 4.3E-7 | 1.1E-6 | 3.4E-6 | 3.5E-6 | 8.4E-6 |
| 10 | 1.7E-7 | 2.3E-7 | 3.1E-7 | 1.6E-6 | 2.5E-6 | 1.4E-5* |

**MP Rooftop Release**

| Distance Miles | Stability Class | | | | | |
|---|---|---|---|---|---|---|
| | A | B | C | D | E | F |
| 0.3 | 2.3E-5* | 5.0E-5* | 5.2E-5* | 1.3E-5 | 9.1E-7 | 1.4E-10 |
| 0.5 | 6.9E-6 | 2.7E-5 | 4.4E-5 | 3.6E-5* | 1.2E-5 | 2.5E-7 |
| 1 | 1.4E-6 | 7.7E-6 | 1.8E-5 | 3.4E-5 | 3.5E-5* | 1.4E-5 |
| 2 | 7.4E-7 | 2.0E-6 | 5.7E-6 | 1.7E-5 | 2.6E-5 | 2.6E-5* |
| 3 | 5.2E-7 | 9.0E-7 | 2.8E-6 | 1.0E-5 | 1.8E-5 | 2.4E-5 |
| 4 | 4.0E-7 | 5.1E-7 | 1.7E-6 | 6.9E-6 | 1.3E-5 | 2.0E-5 |
| 5 | 3.3E-7 | 4.3E-7 | 1.1E-6 | 5.1E-6 | 1.0E-5 | 1.7E-5 |
| 10 | 1.7E-7 | 2.3E-7 | 3.2E-7 | 1.9E-6 | 4.5E-6 | 9.0E-6 |

**MP Ground Release**

| Distance Miles | Stability Class | | | | | |
|---|---|---|---|---|---|---|
| | A | B | C | D | E | F |
| 0.3 | 2.5E-5* | 7.3E-5* | 1.4E-4* | 2.6E-4* | 3.7E-4* | 4.9E-4* |
| 0.5 | 7.0E-6 | 3.1E-5 | 6.6E-5 | 1.5E-4 | 2.5E-4 | 3.8E-4 |
| 1 | 1.4E-6 | 8.0E-6 | 2.0E-5 | 5.8E-5 | 1.1E-4 | 2.0E-4 |
| 2 | 7.5E-7 | 2.0E-6 | 5.9E-6 | 2.1E-5 | 4.3E-5 | 9.1E-5 |
| 3 | 5.2E-7 | 9.0E-7 | 2.8E-6 | 1.2E-5 | 2.5E-5 | 5.6E-5 |
| 4 | 4.0E-7 | 5.1E-7 | 1.7E-6 | 7.6E-6 | 1.7E-5 | 3.9E-5 |
| 5 | 3.3E-7 | 4.3E-7 | 1.1E-7 | 5.5E-6 | 1.3E-5 | 3.0E-5 |
| 10 | 1.7E-7 | 2.3E-7 | 3.2E-8 | 2.0E-6 | 5.1E-6 | 1.3E-5 |

*Denotes location of maximum concentration.

Docket Nos. 50-245
50-336
50-423
B18791

Attachment 2

Millstone Power Station, Unit Nos. 1, 2 and 3

Emergency Procedures Implementing (EPI) Functional Administrative Procedure (FAP)
MP-26-EPI-FAP10-001, "IDA - Data Input Information"
Major Revision 1

08/20/02
Approval Date

09/03/02
Effective Date

# Procedure Action Request

| Document No.: MP-26-EPI-FAP10 | Writer: Tom Gilbert | Rev. No. 002 | Minor Rev. 00 |
|---|---|---|---|

Title: Dose Assessment

**For New Documents** Document is QA ☐ DH Title:

☒ Revision ☐ Minor Revision ☐ Cleanup Revision ☒ Biennial Review
☐ Cancel ☐ Void (Do Not Use) ☐ Expire ☐ Superceded By:

Comments: ☐ Administrative Correction FLS: _____

CR-02-10587

Includes FAP10-001, Rev. 001

| Reviews | | Print | Sign | Date | Department |
|---|---|---|---|---|---|
| | ☐ | | | | |
| | ☐ | | | | |
| | ☐ | | | | |
| Writer's Guide | ☒ | Barbara Oliver | Barbara Oliver | 10/3/02 | NPD |
| RCD | ☒ | Tom Gilbert | [signature] | 10/7/02 | EPD |
| Environmental Screen | ☒ | Tom Gilbert | [signature] | 10/7/02 | EPD |
| Licensing Basis (50.59 Screen Req. ☐ Yes ☒ No) 50.54 Q | ☒ | Tom Gilbert | [signature] | 10/7/02 | EPD |
| Tech Independent | ☒ | Tom Rickey | Tom Rickey | 10/8/02 | EPD |

| Validation | ☒ None ☐ Field - Use MP-05-DC-SAP01-004 ☐ Simulated Performance - Use MP-05-DC-SAP01-004 ☐ Table Top and Walk-through ☐ Comparison | | | |
|---|---|---|---|---|
| (minimum of two) | Print | Sign | Date | Dept |
| Coordinator | Tom Gilbert | [signature] | 10/8/02 | EPD |
| Member | Per MP-05-DC-FAP01.1 no validation required step 2.5.2 | | | |

**Training:** ☒ None ☐ Nuclear Training ☐ Briefing ☐ Familiarization

☐ **SQR Review and Approval**

Approval ☒ Disapproval ☐

Mark Birch 10-9-02
(1) SQR Sign/Date

Patrick Luckey 10/9/02
(2) Department Head Approval Sign

☐ **SORC Review and Approval**

(1) Department Head Sign/Date

(2) SORC Meeting Number

(3) SORC Approval Sign

☐ **Department Head Review and Approval**

(1) Department Head Approval Sign

**Approval Date:** 10/9/02 **Effective Date:** 10/14/02

10/9/02
Approval Date

10/14/02
Effective Date

# IDA - Data Input Information

## Part 1. Accident Parameters (circle as appropriate)

A. Unit Affected: Unit 2 Unit 3

B. Accident Type: LOCA SGTR Fuel Drop

C. Damage State: Coolant Clad

D. Containment Sprays Initiated: YES NO

E. Rx Shutdown: Date: _____ Time: _____
MM/DD/YY HH:MM

Note: If fuel drop accident, enter most recent refueling date and time.

F. Estimated Duration: _____ hours (default = 2 hours)

G. Is there an unmonitored release? YES / NO If yes, _____ mR/hr
Max. Field team reading "closed window"

H. Refer To Part 3, "Release Pathways, Flow and Monitors" Column A, and circle all appropriate pathways, filter status, and number of safeties, as applicable.

## Part 2. Meteorology

| Description | Data Values | Units<br>OFIS Points |
|---|---|---|
| Wind Speed (33 feet) | | MPH<br>CVWS033MPH |
| Wind Speed (142 feet) | | MPH<br>CVWS142MPH |
| Wind Speed (374 feet) | | MPH<br>CVWS374MPH |
| Wind Direction (33 feet) | | ° from<br>CVWD033 |
| Wind Direction (142 feet) | | ° from<br>CVWD142 |
| Wind Direction (374 feet) | | ° from<br>CVWD374 |
| Delta Temp. (142 feet) | | °F<br>CVDT142F |
| Delta Temp. (374 feet) | | °F<br>CVDT374F |

# IDA - Data Input Information

**Part 3. Release Pathways, Flow, and Monitors (circle all that are appropriate)**

| A | B | C | D |
|---|---|---|---|
| **Release Pathway/Monitors** | **OFIS Designation** | **Reading** | **Units** |
| **Unmonitored Ground Release Path (33')** | Field Team Reading | | CW mR/hr |
| **Site Stack (374')** | | | |
| (Filtered, Unfiltered) | Unmonitored | | mR/hr |
| MP2 WRGM | R8169 or RU1 | | µCi/cc |
| MP2 WRGM Flow | F8169 | | SCFM |
| MP3 SLCRS Normal | CVHVR19B | | µCi/cc |
| MP3 SLCRS Extended | CVHVR19A1 | | µCi/cc |
| MP3 SLCRS Flow | CVFE19 | | SCFM |
| **MP2 Vent (142')** | | | |
| (Unfiltered) | Unmonitored | | mR/hr |
| Unit 2 Vent Gas | R8132B | | CPM |
| Unit 2 Vent Rad Monitor | RIC8168 | | µCi/cc |
| Vent Flow Rate | None (panel -PT 3:F 8412) | | CFM |
| **MP2 Safeties (142')** | | | |
| (How Many? _____) | Unmonitored | | mR/hr |
| Main Steam Line 4299A | R4299A | | R/hr |
| Main Steam Line 4299C | R4299C | | R/hr |
| **MP2 Relief Valves (Dumps) (142')** | Unmonitored | | mR/hr |
| Main Steam Line 4299B | R4299B | | R/hr |
| Main Steam Line 4299C | R4299C | | R/hr |
| **MP2 Aux Feed (Terry Turbine) (142')** | Unmonitored | | mR/hr |
| Main Steam Line 4299A | R4299A | | R/hr |
| Main Steam Line 4299B | R4299B | | R/hr |
| Main Steam Line 4299C | R4299C | | R/hr |
| **MP3 Vent (142')** | | | |
| (Filtered, Unfiltered) | Unmonitored | | mR/hr |
| Vent. Vent Normal Range | CVHVR10B | | µCi/cc |
| Vent. Vent Ext Range | CVHVR10A1 | | µCi/cc |
| Ventilation Vent Air Flow | CVFE10 | | CFM |
| **MP3 Safeties (142')**<br>(How Many? _____)<br>Main Steam Lines RE75-78 | Unmonitored<br>(Highest of)<br>CVMSS75, 76, 77, or 78 | | mR/hr<br><br>µCi/cc |
| **MP3 Relief Valves (Dumps) (142')**<br>Main Steam Lines RE75-78 | Unmonitored<br>(Highest of)<br>CVMSS75, 76, 77, or 78 | | mR/hr<br>µCi/cc |
| **MP3 Aux Feed (Terry Turbine) (142')**<br>Main Steam Line RE79 | Unmonitored<br>CVMSS79 | | mR/hr<br>µCi/cc |

Prepared by: _____ _____ _____
Signature Print Date/Time

Reviewed by: _____ _____ _____
Signature Print Date/Time

Docket Nos. 50-245
50-336
50-423
B18791

Attachment 3

Millstone Power Station, Unit Nos. 1, 2 and 3

Emergency Procedures Implementing (EPI) Functional Administrative Procedure (FAP)
MP-26-EPI-FAP15-013, "EOF Air Handling and High Radiation Filtration System"
Major Revision 0, Minor Revision 1

08/20/02
Approval Date

09/03/02
Effective Date

# Procedure Action Request

| Document No.: MP-26-EPI-FAP15-013 | Writer: T. Dembek | Rev. No. 000 | Minor Rev. 01 |
|---|---|---|---|

Title: EOF Air Handling and High Radiation Filtration System

**For New Documents** Document is QA ☐ DH Title:

☐ Revision ☒ Minor Revision ☐ Cleanup Revision ☐ Biennial Review

☐ Cancel ☐ Void (Do Not Use) ☐ Expire ☐ Superceded By:

Comments: ☐ Administrative Correction FLS: _____

CR 02-07902; AR 02005466-02

| Reviews | | Print | Sign | Date | Department |
|---|---|---|---|---|---|
| | ☐ | | | | |
| | ☐ | | | | |
| | ☐ | | | | |
| RCD | ☒ | K.R. Burgess | KR Burgess | 10/1/02 | EPD |
| E-Plan-50.54(q) | ☒ | K. R. Burgess | KR Burgess | 10/1/02 | EPD |
| Environmental Screen | ☒ | K. R. Burgess | KR Burgess | 10/1/02 | EPD |
| Licensing Basis (50.59 Screen Req ☐ Yes ☐ No) | ☐ | | | | |
| Tech Independent | ☒ | M. White | M White | 10/1/02 | EPD |

**Validation** KB 10/1/02 ☒ None ☒ Field - Use MP-05-DC-SAP01-004 ☐ Simulated Performance - Use MP-05-DC-SAP01-004 ☐ Table Top and Walk-through ☐ Comparison

| (minimum of two) | Print | Sign | Date | Dept |
|---|---|---|---|---|
| Coordinator | THOMAS DEMBEK | T Dembek | 10/2/02 | EPD |
| Member | PAUL PRICHARD | P Prichard | 10-3-02 | NTD |

**Training:** ☒ None ☐ Nuclear Training ☐ Briefing ☐ Familiarization

☒ **SQR Review and Approval**

Approval ☒ Disapproval ☐

M White 10/1/02
(1) SQR Sign/Date

Peter A Lusby
(2) Department Head Approval Sign

☐ **SORC Review and Approval**

N/A
(1) Department Head Sign/Date

(2) SORC Meeting Number

(3) SORC Approval Sign

☐ **Department Head Review and Approval**

(1) Department Head Approval Sign

**Approval Date:** 10/9/02 **Effective Date:** 10/14/02

10/9/02
Approval Date

10/14/02
Effective Date

# EOF Air Handling and High Radiation Filtration System

## Section A: System Activation

☐ 1. Refer To Section C, "System Panel," and verify Air Handling and High Radiation Filtration System operating in normal mode, as follows:

- "NORMAL HVAC CONDITIONS" indicator light is lit.
- IF the "NORMAL HVAC CONDITION" indicator light is *not* lit, perform the following:
  a) Set the "POWER" switch to "ON."
  b) Press "START" button.
- Ensure 2, 3, 4, 5 dampers are in the "NORMAL" position.
- IF the EOF is activated during Off Normal Hours, set the "NITE OVERRIDE" switch to "OVERRIDE."

☐ 2. IF directed by the MRDA, activate the High Radiation Filtration (HRF) System, as follows: (1)

a) Before activating "HRF" system, notify the appropriate individuals in accordance with the front of the alarm panel.

b) Depress black vent valve located outside of each inner airlock door.

c) Close all inner and outer airlock doors.

d) Obtain key for Simplex Fire Alarm Panel in mechanical room from EOF key board.

e) Set "HI RADIATION" switch to "HI RADN."

**NOTE**

This will also activate a trouble light on the annunciator panel in the Security Office.

(1)

f) Acknowledge applicable zones normally on the Simplex Fire Protection Panel.

g) Verify the following:

1) Dampers 2, 3, 4, and 5 are in the high radiation position and fan 4 is rotating.

2) Airlock door inflatable gaskets have inflated and local door pressure gauges indicate between 15 to 20 psig.

3) "GREEN" airlock door indicator light, located at each airlock door, is lit for all airlock doors that have been closed.

h) IF a "RED" airlock door indicator is lit, close the associated air lock door.

i) IF Alarm 10-"Door System Low Pressure" on the Simplex Fire Protection Panel is activated, acknowledge and reset the alarm (1)

☐ 3. IF EOF alarm systems activate during High Radiation Filtration System activation, determine cause of alarms and request corrective assistance, as necessary.

☐ 4. IF loss of normal AC power occurs, reactivate the Air Handling and High Radiation Filtration System when backup power to the EOF is obtained and perform the following:

a) Verify one of the following conditions has occurred:

- Normal AC power has been restored.
- EOF emergency diesel generator is running.

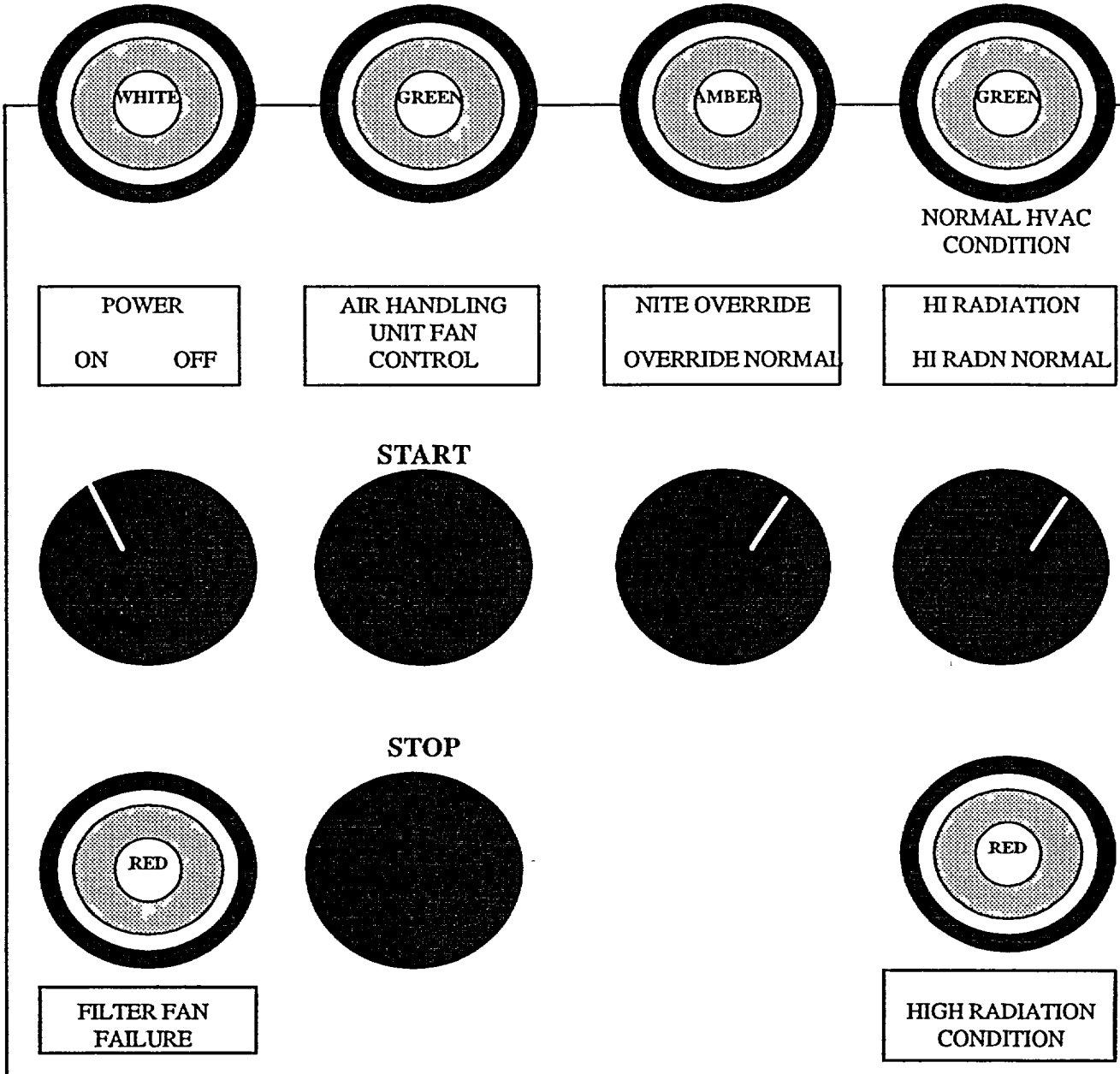
b) Press "START" button.

c) Verify dampers 2, 3, 4, and 5 are in the high radiation position and fan 4 is rotating.

**Section B: System Deactivation**

- ☐ 1. Set "HI RADIATION" switch to "NORMAL" and allow approximately 15 to 30 seconds for filtration dampers to deposition.
- ☐ 2. Verify dampers 2, 3, 4, and 5 are in the "NORMAL" position.
- ☐ 3. At the Simplex EOF Fire Alarm Panel, press the "RESET" button to clear zones.
- ☐ 4. Return Simplex Panel Return key to key box.
- ☐ 5. Notify to CAS/SAS in accordance with the instructions on the front of alarm panel. (1)

## Section C: High Radiation Filtration System Panel



## Section D: System Parameters

| System Component | System Status | | |
|---|---|---|---|
| | DAY 0500 to 1700 | NITE 1700 to 0500 | HI RADIATION |
| POWER | ON | ON | ON |
| FAN #1 (Air Hand Unit) | ON | ON | ON |
| FAN #2 (Intake) | ON | OFF | ON |
| FAN #3 (Exhaust) | ON | OFF | ON |
| D-2 | OPEN | CLOSED | CLOSED |
| D-3, 4, 5 | CLOSED | CLOSED | OPEN |
| FAN #4 | OFF | OFF | ON |
| FILTER HEATER | OFF | OFF | ON |
| HTG. SETPOINT | 68° | 55° | 68° |
| CLG. SETPOINT | 78° | OFF | 78° |
| * Approximate times - system may be overridden. | | | |

Docket Nos. 50-245
50-336
50-423
B18791

Attachment 4

Millstone Power Station, Unit Nos. 1, 2 and 3

Emergency Procedures Administrative (EPA) Functional Administrative Procedure (FAP)
MP-26-EPA-FAP01, "Management Program for Maintaining Emergency Preparedness"
Major Revision 0, Minor Revision 1

02/13/02
Approval Date

02/14/02
Effective Date

# Document Action Request

SPG # 020813-124800

A

Initiated By: Paul Blasioli Date: 08/13/2002 Department EP Ext 0417

Document No MP-26-EPA-FAP01 Rev. No: 000 Minor Rev No. 01

Title: **Management Program for Maintaining Emergency Preparedness**

B

For New Documents only → ☐ QA RI Title

**Reason for Request** (attach commitments,CR's,AR's,OEs etc)

Remove unit-specific designators for MTSC, TSC-EE, TSC-ME, and MOSC.

AR020004439-10/02004440-10

**Select One if performing a change** *See MP-05-DC-SAP01 sect 2.3 to determine type of change*

Continued ☒

C

☐ Intent Change (SQR Independent, RCD, ENV Screen Required (Other reviews may be required See MP-05-DC-FAP 01 1 Att 3 ☐ Edit Corr ☒ Non-Intent Change (Only Tech IR,SQR IR and Env signature Required)

D

**Editorial Correction Approval**

/
Plant Mngt Staff Member - Approval / Date

**TPC Interim Approval**

/
(1) Plant Mngt Staff Member Print/Sign/Date

/
(2) SM/SRO/CFH on Unit Print/Sign/Date

E

**Procedure Request/Feedback Disposition**

Priority: ☒ Perform Now ☐ Perform Later - See Comments

Activity: ☐ Revision ☒ Minor Revision (See DC-GDL01 for guidance) ☐ Cleanup Rev ☐ Biennial Review ☐ Cancellation ☐ Supercedure

☐ TPC ☐ OTC ☐ Place In Void

| Reviews continued ☐ | | Print | Sign | Date | SQR Qualified Yes | SQR Qualified No | Dept. | If Comments |
|---|---|---|---|---|---|---|---|---|
| | ☐ | | | | ☐ | ☐ | | ☐ |
| | ☐ | | | | ☐ | ☐ | | ☐ |
| | ☐ | | | | ☐ | ☐ | | ☐ |
| 50.54(Q) | ☑ | Mark White / Tom Rigney | Tom Rigney | 8/14/8-1302 | ☑ | ☐ | EPD | ☐ |
| Env Screen | ☑ | Kathy Burgess | Kathy Burgess | 8/13/02 | ☑ | ☐ | EPD | ☐ |
| Licensing Basis | ☐ | | | | | | | ☐ |
| Tech Independent | ☑ | Patti Luckey | Patti Luckey | 8/19/02 | | | EPD | ☐ |

G

An NRRL update was required ? ☒ Yes

H

1. ☒ SQR Program Final Review and Appproval

Approval ☒ Disapproval ☐

Kathy Burgess 8/13/02
SQR Qualified Independent Reviewer / Date

Paul A. Blasioli
Department Head/Responsible Individual

8/20/02
Approval Date

☐ SORC

Final review and Approval ☒ RI/DH (Ref Mans GDL's Handbook)

DH/RI Sign

Meeting No.

SORC Signature

DH / RI Signature

Approval Date

I

Effective Date 10/25/02

**Functional Administrative Procedure**

Millstone Station

# Management Program for Maintaining Emergency Preparedness

## MP-26-EPA-FAP01

## Rev. 000-01

Approval Date: 8/20/02

Effective Date: 10/25/02

STOP THINK ACT REVIEW

TABLE OF CONTENTS

## 1. PURPOSE

### 1.1 Objective

This procedure describes sources of information, responsibilities, organization, and actions necessary to maintain the Millstone Station Emergency Plan.

### 1.2 Applicability

This procedure is applicable to Station Emergency Response Organization (SERO) Position Owners, Station Management, SERO station personnel, and Emergency Preparedness Department (EPD) individuals who support/administer the Millstone Station Emergency Plan.

### 1.3 Supporting Documents

1.3.1 TQ 1, "Personnel Qualification and Training"

1.3.2 NTP 7.212, "Training Program Description"

1.3.3 RPM 4.8.5, "Emergency Radiological Equipment Maintenance and Inspection."

1.3.4 OA 8, "Ownership, Maintenance, and Housekeeping of Site Buildings and Facilities and Equipment"

1.3.5 QAP, MP-02-OST-BAP01, "Quality Assurance Program Topical Report"

1.3.6 MP-05-DC-SAP01, "Administration of Manuals, Procedures, Guidelines, Handbooks, and Forms"

1.3.7 MP-26-EPA-REF04, "Offsite Programs"

1.3.8 Developmental Documents

a. Millstone Station Emergency Plan

b. NUREG-0654, Revision 1, "Criteria for Preparation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants"

c. NUREG-0737, "Clarification of TMI Action Plan Requirements, Supplement 1, Requirements for Emergency Response Capability"

d. MP-28-MET-PRG, "Meteorological Monitoring"

e. EP 6-year objective schedule

f. SERO Training Qualification Record (TQR)

## 1.4 Discussion

MP-26-EPA-FAP01, "Management Program for Maintaining Emergency Preparedness," provides instructions and information for the Station Emergency Response Organization (SERO). The roles and responsibilities for the Emergency Preparedness Department (EPD) are defined. SERO position owners and station management actions are specified to ensure an effective SERO is maintained. The procedure also establishes the method for adding and removing individuals from SERO. Clarification and instructions are provided for SERO on-call, subject to call and on shift position requirements.

Additional personnel may be required to support the SERO in an emergency. These personnel are integrated into the organization as required by SERO Position Owners.

Station personnel may also be required to participate in station evacuation drills. Advance notification will be provided via station information notices.

Department requirements for drills, exercises, and maintaining emergency response facilities (ERFs) are discussed.

## 2. INSTRUCTIONS

### 2.1 Responsibilities of the Manager, Emergency Preparedness Department (EPD) for Maintaining Emergency Preparedness

The Manager, EPD, has overall responsibility for the Nuclear Emergency Preparedness Program and is the Chair of the Emergency Preparedness Curriculum Advisory Committee. Responsibilities are defined below and in the Millstone Station Emergency Plan.

2.1.1 Ensure the maintenance and readiness of the on-site emergency response facilities and equipment.

2.1.2 Maintain the Station Emergency Plan and implementing procedures.

2.1.3 Prepare and conduct Emergency Preparedness drills and exercises.

2.1.4 Ensure training of offsite emergency response personnel.

2.1.5 Review the development of Emergency Preparedness training curriculum.

2.1.6 Assist station management to ensure effective Millstone Station Emergency Plan implementation.

2.1.7 Collect and review additional EP-related information such as severe accident management research, NRC regulations, and industry research for incorporation into the EP Program.

2.1.8 Coordinate with offsite agencies and local officials to ensure the offsite Emergency Preparedness Program is maintained and areas of responsibility are effectively carried out.

2.1.9 Coordinate license, state and local emergency plans and procedures.

2.1.10 Ensure station personnel correct identified emergency preparedness conditions adverse to quality and areas for improvement.

## 2.2 Responsibilities of the Supervisor, Emergency Preparedness Department (EPD), for Maintaining Emergency Preparedness

2.2.1 Respond to emergency preparedness audits and evaluations.

2.2.2 Implement SERO on-call schedules.

2.2.3 Assign personnel to develop and conduct station emergency preparedness drills and exercises.

2.2.4 Ensure biennial review of station procedures in accordance with the QAP, MP-02-OST-BAP01, "Quality Assurance Program Topical Report," and MP-05-DC-SAP01, "Administration of Manuals, Procedures, Guidelines, Handbooks, and Forms," and review additional changes for impact on the Millstone Station Emergency Plan.

2.2.5 Coordinate the development and distribution of emergency preparedness documents.

2.2.6 Establish SERO Position Owners and reference in Attachment 4, "SERO Qualification and Reporting Location (3)."

2.2.7 Routinely provide SERO qualification status to SERO Position Owners.

2.2.8 Routinely provide a list of personal information on SERO to SERO Position Owners for verification.

2.2.9 Review the development of emergency preparedness training curriculum.

2.2.10 Refer To Attachment 2, "Summary of Department Responsibilities for Facilities, Equipment, and Material Maintenance," and ensure responsible position owners maintain emergency response in a state of readiness at all times.

2.2.11 Refer To Training Qualification Record (TQR) for each specific position, and coordinate completion of qualifications for each new SERO member.

2.2.12 Maintain Millstone Station Emergency Plan in accordance with regulatory requirements.

2.2.13 Refer To Attachment 5, "Roles and Responsibilities for Emergency Preparedness Dose Assessment," and ensure responsibilities are carried out.

2.2.14 Ensure training of offsite emergency response personnel.

2.2.15 Coordinate with offsite agencies and local officials in accordance with MP-26-EPA-REF04, "Offsite Programs," to ensure the offsite Emergency Preparedness Program is maintained and areas of responsibility are effectively carried out.

## 2.3 Responsibilities of the Emergency Preparedness Specialists for Maintaining Emergency Preparedness

2.3.1 Develop and conduct the station emergency preparedness drills and exercises.

2.3.2 Biennially review the Emergency Plan Implementing procedures for changes and revise.

2.3.3 Annually identify changes to the Millstone Station Emergency Plan and revise.

2.3.4 Develop SERO staffing qualification reports.

2.3.5 Maintain the SERO database.

2.3.6 Provide technical review of Emergency Preparedness Training lesson material.

2.3.7 Perform emergency preparedness facility surveillances to ensure Emergency Response Facility (ERF) readiness.

2.3.8 Prepare drill participant comment responses following comment resolution and coordinate the issuance of responses to both onsite and offsite organizations.

2.3.9 Conduct training of offsite emergency response personnel.

2.3.10 Refer To MP-26-EPA-REF04, "Offsite Programs," and coordinate with offsite agencies and local officials to ensure the offsite Emergency Preparedness Program is carried out.

## 2.4 SERO Position Owner Actions for Maintaining Emergency Preparedness

**NOTE**

Minimum staffing is two persons in any position in order to support extended event periods with at least two shifts (12 hours each). It is recommended that for on-call and subject-to-call positions, a fifth individual be qualified to quickly fill any unexpected team vacancies.

*SERO Position Owners*

2.4.1 Maintain a "4 team" rotation for SERO duty (i.e., red, white, blue, gold).

2.4.2 IF vacancies exist, ensure weekly rotation coverage is provided by remaining position holders during reduced staffing periods, and perform the following:

a. Coordinate with the following to fill existing or potential vacancies:

- Team DSEO
- Emergency Preparedness Department
- EP Training

2.4.3 WHEN choosing a new SERO position holder, consider the following:

a. Review normal position/title against the associated emergency position.

b. Ensure potential candidate has additional prerequisite knowledge/skills for the position.

c. Determine if "upper" management is required to fill the position (i.e., VP, Director, Manager).

d. IF position requires plant/system knowledge (ADTS, TIC, CRDC), determine if SRO license/certification (past or present) is required.

2.4.4 Refer To the SERO TQRs and initiate the position specific TQR.

2.4.5 Ensure adequate station support is provided for emergency preparedness functions (i.e., drill support, controller, exercise development, etc.).

2.4.6 To initiate removal of SERO personnel, Refer To and complete MP-26-EPA-FAP01-001, "SERO Removal Form,"

2.4.7 Refer to Attachment 4, "SERO Qualifications and Reporting Location," and review for assigned SERO position owners.

## 2.5 Station Management Actions for Maintaining Emergency Preparedness

*Directors*

2.5.1 Ensure personnel are provided to support emergency preparedness activities.

2.5.2 Refer To Attachment 2, "Summary of Department Responsibilities for Facilities, Equipment, and Material Maintenance," and provide a point of contact to the Manager, EPD, for listed organizations.

*Managers and Supervisors*

2.5.3 Ensure personnel within reporting chain who are assigned to SERO maintain their SERO qualifications.

2.5.4 Refer To Attachment 2, "Summary of Department Responsibilities for Facilities, Equipment, and Material Maintenance," and perform the following:

a. Assign personnel to perform applicable SERO functions as requested.

b. Verify actions are scheduled and documented as complete via one of the following:

- AITTS
- PMMS
- Automated work order
- Completion of inventory from RPM 4.8.5, "Emergency Radiological Equipment Maintenance and Inspection." (copy to EPD)

c. At least once each quarter and after each use, verify emergency equipment and instruments are operationally available.

d. Prior to conducting work in the Emergency Response Facility, notify the Emergency Preparedness Department and the Unit 3 Control Room.

2.5.5 Ensure personnel are briefed on extent of drill participation.

**NOTE**

A SERO vacancy could occur when an individual leaves the company, training qualifications lapse, or an individual is unable to meet the requirements of the position.

2.5.6 IF a SERO vacancy occurs, notify the following:

- SERO Position Owner
- Manager, EP

2.5.7 Provide personnel to participate in emergency response scenario development, drills, and exercises.

2.5.8 Maintain SERO on-call independent rotation schedules for the following positions:

- Electricians
- Mechanics
- RMTs
- GES
- I&C Technicians

2.5.9 Refer To MP-26-EPA-FAP01-001, "SERO Removal Form," and complete all information including the following:

- Individual being removed
- Replacement named to fill vacancy
- Approval and concurrences, as appropriate

*Team DSEO*

2.5.10 Monitor team activities including the following:

- Training attendance and continuing training
- Drill schedules
- Drill and exercise participation

2.5.11 Resolve SERO staffing issues.

*NFSA*

2.5.12 Refer To Attachment 5, "Roles & Responsibilities for Emergency Preparedness Dose Assessment," and ensure areas of responsibility are performed.

*RDAC*

2.5.13 Refer To and implement Attachment 6, "Radiological Dose Assessment Committee."

## 2.6 SERO Personnel

**NOTE**

If an emergency event occurs, pagers will display the following:

- Affected unit
- NRC classification
- State posture code
- Major EAL heading

*On-Call and Subject to Call SERO Members*

2.6.1 Refer To Attachment 4, "SERO Qualifications and Reporting Location," and maintain qualifications and proficiency for initial qualification of emergency response duties as follows:

- Refer To the SERO position specific TQR and complete the required SERO Training.
- Maintain "Fitness for Duty" program requirements.
- Maintain station access required by assigned position.
- Maintain job specific requirements including license or certification, as appropriate.

2.6.2 Maintain qualifications and proficiency for annual requalification by performing one of the following:

**NOTE**

Exceptions to participation in drills may be made by Team DSEO in consultation with EP Management on a case-by-case basis.

- Perform as the designated responder (not a called-in back-up) in at least one drill annually in accordance with Attachment 4, "SERO Qualifications and Reporting Location."
- Perform as one of the following for related position in at least one drill annually:
  - Designated responder
  - Drill controller
  - Evaluator
  - Position coach or mentor

2.6.3 Refer To Attachment 4, "SERO Qualifications and Reporting Location," and identify reporting location.

2.6.4 IF pager fails to operate properly, obtain a replacement from one of the following:

- During normal working hours, request Manager, EPD, provide replacement pager.
- After normal working hours, request Security Shift Supervisor provide replacement pager from NAP Security Office.

2.6.5 NOTIFY Manager, EPD, of any changes to the following:

- Work extension
- Pager number
- Home phone number
- Employment status

2.6.6 Refer To Attachment 4, "SERO Qualifications and Reporting Location," and NTP 7.212, "Training Program Description," and maintain job specific and SERO qualifications current.

## 2.7 On-Call Positions

**NOTE**

Weekly on-call duty assignment turnover will be completed on Tuesday by 10:00 A. M.

*On-Call and On-Duty SERO Positions*

2.7.1 Perform the following while on-call and on-duty:

- Ensure pagers are on at all times and worn or in the immediate vicinity to be heard.
- Comply with the fitness for duty policies.
- Remain within appropriate plant proximity to ensure facility activation within 60 minutes from pager notification.

**NOTE**

Once the ERFs are staffed and operational, SERO members shall not call back into the Emergency Notification and Response System (ENRS).

- Promptly acknowledge initial pager activation.
- WHEN indicating your ETA, identify a realistic time to report to your designated ERF based upon your current location.
- IF notification is received of an emergency event AND you are not successful in acknowledging initial pager activation, report directly to designated emergency response facility and dial into ENRS.
- IF you are the designated on-call on-duty responder, report to your facility even if ENRS did not accept you or states that the position has been filled.

2.7.2 IF *not* available for duty, perform the following:

a. Contact another qualified individual and transfer duty to the individual, ensuring an understanding of the exact date and time of relief.

b. IF *not* able to obtain a replacement, perform the following:

- During normal working hours, contact SERO Team DSEO.
- After normal working hours, notify the Unit 3 Control Room Shift Technician.

**NOTE**

1. For open positions, the caller will be instructed to report. For filled positions, subsequent callers should remain available.
2. Once you have contacted the call-in system and the line is ringing, your call is in the queue. Do not hang up until the call is completed and ENRS instructs you to hang up.
3. If a position is not acknowledged, the ENRS will automatically page and dial the home telephone number of all personnel assigned to a position until the position is filled.
4. You will be asked to enter a realistic ETA. If you cannot report to your ERF within 60 minutes of notification, *do not* accept the position.

*On-Call and Not On-Duty SERO Positions*

2.7.3 IF on-call and *not* on-duty, perform the following:

a. Ensure pagers are on at all times and worn or in the immediate vicinity to be heard.

b. IF fit for duty AND within appropriate plant proximity to ensure facility activation within 60 minutes from pager notification, promptly acknowledge initial pager activations.

c. IF *not* fit for duty and contacted by the MOR, comply with the instructions provided.

d. IF a real event notification is received (not a test, drill, or exercise), dial the toll-free telephone number and comply with the instructions provided.

1) Enter individual identification (PIN) code.

2) IF position is open, listen to the information and respond appropriately.

3) IF position has been filled, remain available to respond.

4) WHEN calling into ENRS, wait for ENRS instruction. *Do not* hang up.

e. IF a real event notification is received (not a test, drill, or exercise) AND acknowledgement can *not* be made via telephone, report to assigned emergency response facility.

**NOTE**

If Unit Event codes are received, the ENRS is not available to provide any information to callers. MP-26-EPA-FAP01-002 provides information on unit event backup codes.

f. IF a unit event code (e.g., ID 101, 201, 301) is received, immediately report to assigned emergency response facility.

## 2.8 Subject to Call Positions

**NOTE**

1. Subject to call pager positions are assigned to teams only for training and drill scheduling purposes.
2. The approximate 10 minute wait to acknowledge pager activations is to allow for initial calls by minimum staffing responders to access the system.
3. Once the ERFs are staffed and operational, SERO members shall not call back into the ENRS.

2.8.1 IF fit for duty AND able to respond to your reporting location, acknowledge initial pager activations after waiting approximately 10 minutes.

**NOTE**

1. Subject to call position holders are expected to staff their position as soon as possible.
2. If a position is vacant, the DSEO may elect to fill the position by appointment until a fully qualified individual is available.

2.8.2 IF *not* fit for duty and contacted by the MOR, comply with the instructions provided.

**NOTE**

For open positions, the caller will be instructed to report. For filled positions, subsequent callers will be informed that the position is filled. SERO members should remain available.

2.8.3 Using SERO call-in card, dial the toll-free telephone number and comply with the instructions provided.

## 2.9 On-Shift Positions

2.9.1 Refer To Attachment 4, "SERO Qualifications and Reporting Location (3)," and identify reporting location.

*Shift Technician and Station Duty Officer*

2.9.2 WHEN notified of an Unusual Event or higher, report to affected unit control room.

*All On-shift SERO Positions*

2.9.3 WHEN notified of an Alert, Site Area Emergency, or General Emergency, report to the designated reporting location.

## 2.10 SERO Assembly Areas

2.10.1 IF an Alert or higher classification has been declared during normal business hours, perform the following:

- IF on-call AND on duty, report to your designated Emergency Response Facility.
- IF on-shift AND *not* on duty (i.e., off-duty ROs, COs, PEOs, etc.), report to the OSC Assembly Area (AA) in Bldg 475 cafeteria.
- On-call and not on duty
  - IF response is within the Protected Area (PA) (i.e., mechanics, electricians, MRCA, etc.), report to the OSC AA in Bldg 475 cafeteria.
  - IF response is outside the PA (i.e., DSEO, ADEOF, MOR, etc.), report to the Simulator Building Foyer.
- Subject to call
  - IF response is within the PA, report to the OSC AA in Bldg 475 cafeteria.
  - IF response is outside the PA, report to the Simulator Building foyer.

2.10.2 IF an Alert or higher classification has been declared during the off-hours, perform the following:

- IF on-shift AND not on duty, report to the OSC AA in Bldg 475 cafeteria.
- IF reporting from off-site, report to your designated Emergency Response Facility (i.e., TSC, EOF, affected unit control room, etc.).

## 2.11 Drills and Exercises

**NOTE**

1. Drills provide a training opportunity to enhance and maintain effective emergency response capabilities.
2. Major objectives of the Millstone Station Emergency Plan are exercised annually. Exercises differ from drills in that the primary result of an exercise is a critical assessment of emergency response capability.
3. In order to fully evaluate SERO performance capability, back-up staffing (e.g., trainees) will normally not be allowed during evaluated drills or exercises.
4. "Hands-On/OJT" drills will be conducted when it is determined that additional training or experience will enhance an individual, selected group, facility staff or the SERO's ability to respond to emergency conditions. This training evaluation may take the form of a walkthrough or a tabletop discussion of an evolution or operation. This type of training evaluation is distinct from those described in Section 2.11.1 because the focus is limited and will generally not include an integrated response.
5. Actual emergency plan activations may be credited in place of selected drills if the Manager, EPD, deems it appropriate. Generally an Alert or higher level emergency may be substituted for a drill. Such events may also replace an exercise with NRC approval.

*Manager, EP*

2.11.1 Refer To the EP 6 year objectives schedule and conduct the following drills and tests, as appropriate:

- Health Physics Drills
- Radiological Monitoring Drills
- Medical Emergency Drills
- Communication Tests
- Emergency Preparedness Training Drills
- Exercises
- Off-site Public Alerting Siren Tests
- Off-hour and Unannounced Drills
- Assembly and Accountability Drills

2.11.2 Request drill support from other departments, as applicable.

2.11.3 Ensure Protective Services Department conducts fire and security drills.

2.11.4 Conduct formal critique after each of the following:

- Drill
- Exercise

## 2.12 Emergency Response Facilities (ERFs) and Equipment

**NOTE**

1. Each ERF has equipment in place to perform functions assigned in the Millstone Station Emergency Plan. The Manager, EPD, is authorized to perform unannounced, periodic walk-through inspections of ERFs.
2. Additional facility and equipment responsibilities are detailed in OA-8, "Ownership, Maintenance, and Housekeeping of Site Buildings and Facilities, and Equipment," and MP-26-EPA-FAP05, "EP Facility Maintenance."

*Station Personnel*

2.12.1 Refer To Attachment 2, "Summary of Department Responsibilities for Facilities, Equipment, and Material Maintenance," and ensure facilities are maintained, as assigned.

2.12.2 Perform equipment check or maintenance at required intervals and after each use.

2.12.3 Provide documentation of completed activities to the Manager, EP.

2.12.4 Promptly report problems to the Manager, EP.

2.12.5 IF alteration or modification of ERF or equipment is required, notify the Manager, EPD, before alteration or modification is performed.

*Unit Chemistry Technicians and RAE*

2.12.6 Refer To Attachment 3, "Documentation of Testing of Dose Assessment Computer Program," and test dose assessment computer program.

## 2.13 Severe Accident Management

*Manager, EP*

2.13.1 Develop Severe Accident Management (SAM) documents, ensuring Unit Operations Department and Nuclear Fuel Engineering Support provides technical expertise.

2.13.2 Conduct SAM Guideline (SAM-G) drills as part of the schedule 6-year objective for each operating unit, including the following:

- Test and evaluate the unit SAM response capabilities.
- Develop a drill scenario to challenge the development of multiple SAM strategies.
- Refer To MP-26-EPA-FAP03, "Drill and Exercise Manual," and include drill core objectives.

2.13.3 Ensure SAM-G training is conducted every 2 years for continuing training.

## 3. SUMMARY OF CHANGES

### 3.1 Revision 000-01

3.1.1 Deleted bullet "Chemistry Drills" from Section 2.11, Drills and Exercises.

3.1.2 Removed unit-specific designators for the MTSC, TSC-ME, TSC-EE, and MOSC in Attachment 4, "SERO Qualifications and Reporting Location."

### 3.2 Revision 000

3.2.1 This documents contains information previously contained in EPAP 1.15.

3.2.2 Added Section 2.2, "Responsibilities of Supervisor, Emergency Preparedness (EP), for Maintaining Emergency Preparedness."

3.2.3 Added Section 2.3, "Responsibilities of the Emergency Preparedness Specialists for Maintaining Emergency Preparedness."

# Attachment 1
# Emergency Preparedness Abbreviations and Definitions

(Sheet 1 of 1)

1. ADEOF - Assistant Director Emergency Operations Facility
2. ADTS - Assistant Director Technical Support
3. AMRDA - Assistant Manager of Radiological Dose Assessment
4. EPD - Emergency Preparedness Department
5. ERC - External Resources Coordinator
6. ERDS - Emergency Response Data System
7. IDA - Initial Dose Assessment
8. MIDAS - Meteorological Information and Dose Assessment Model
9. NFSA - Nuclear Fuels and Safety Analysis
10. RAE - Radiological Assessment Engineer
11. RDAC - Radiological Dose Assessment Committee
12. RES - Radiological Engineering Section
13. SAM-G - Severe Accident Management Guidelines
14. Millstone Station Emergency Plan: The Millstone Station Emergency Plan contains requirements and organizational responsibilities and serves as the license commitment document for emergency preparedness.
15. Emergency Plan Administrative (EPA)/Functional Administrative Procedure (FAP): Procedures that implement the Station Emergency Plan.

# Attachment 2
# Summary of Department Responsibilities for Facilities, Equipment, and Material Maintenance

(Sheet 1 of 4)

| Organization | Item | Task | Freq[1] | Reference |
|---|---|---|---|---|
| Northeast Generation Services (GTS) | Public Alerting System | Inspect and Conduct Testing | Q, A | MP-26-EPA-FAP08<br>MP-26-EPA-FAP09 |
| Chemistry | EOF Multi Channel Analyzer | Inspect and Conduct Testing | AN | RPM; ANSI |
| Computer Services | ERF Computer Hardware, Software, and Connections | Maintenance, Surveillance, and Control | AN | Help Desk<br>DC 11<br>MP-26-EPA-FAP05 |
| Telecommunication Services | Pagers, Radios, ENRS | General Support and Testing | AN | |
| Document Administration | FSAR, Tech Specs, Aperture Cards | Maintain Control Copies in ERFs | AN | GRITS |
| Document Administration | Unit - Specific Procedures | Maintain Control Copies in EOF | AN | Passport |
| Document Administration | EOF and TSC Aperture Card Readers | Update and Check | Q | NDM 04 |
| U-3 Operations | SERO Notification System | Test and Maintain | M | MP-26-EPA-FAP05<br>C-OP 606 |
| Emergency Preparedness | ERF Phone and Fax Equipment | Perform Operability Check | Q | MP-26-EPA-FAP05 |
| Emergency Preparedness | ERF Radios | Perform Operability Check | Q | MP-26-EPA-FAP05 |
| Emergency Preparedness | ERF Support Equipment, Furniture, and Supplies | Maintain and Conduct Inventories | Q, AEU | MP-26-EPA-FAP05 |
| Emergency Preparedness | ERF Communications | Surveillance | M | MP-26-EPA-FAP05 |

## Attachment 2
## Summary of Department Responsibilities for Facilities, Equipment, and Material Maintenance

(Sheet 2 of 4)

| Organization | Item | Task | Freq[1] | Reference |
|---|---|---|---|---|
| Health Physics Support | Emergency Response HP Supplies and Equipment | Maintenance, Surveillance, and Calibration | Q, AEU | RPM 4.8.5 |
| Health Physics Support (Respiratory Protection) | Respiratory Protection Equipment | Maintenance | Q | RPM 2.3.5 |
| Motor Pool | RMT Vehicles | Mechanical and Operational Inspection and Maintenance | Q | |
| RAE, Chemistry Technicians | ERF Dose Assessment Computers | Check Operability | W,M | MP-26-EPA-FAP01 MP-26-EPA-FAP10 |
| Document Administration | Unit - Specific Procedures | Maintain Control Copies in TSC | AN | Passport |
| Document Administration /EPD | Emergency Preparedness FAPs | Maintain Document Distribution and Control; Audit | AN | Passport |
| Unit 2 I&C | Meteorological Equipment | Inspect, Calibrate, and Confirm Operability | Q | C-SP-400.2 |
| Protective Services | Station Page and Evacuation Siren | Monitor Outside Speakers when Units Conduct Test. | M/Q | C-SP 600.1 |
| Protective Services | CR/Security Hot Links | Phone Checks | D | Security Procedure |
| Site Facilities | Emergency Response Facilities | Building Services (Janitorial, Plumbing, Lighting) | AN | OA 8 |
| Emergency Preparedness | Millstone EPlan Resource Book | Update | Q | MP-26-EPA-REF08B |

# Attachment 2
## Summary of Department Responsibilities for Facilities, Equipment, and Material Maintenance

(Sheet 3 of 4)

| Organization | Item | Task | Freq[1] | Reference |
|---|---|---|---|---|
| I&C; SAB | Radiation Monitors | Maintenance and Calibration; Documentation | | |
| U-2 Operations | Meteorological Tower Generator | Test[2] | M | C-SP 600.12 |
| U-2 Operations | U-1 PA Speakers | Test | M | C-SP 600.1 |
| Station Maintenance | Emergency Operations Facility | Electrical and Mechanical Maintenance of HVAC | Q | Vendor Support Provided |
| U-2 Operations | EOF Airlock | Test[2] | Q | SP 2678C |
| U-2 Operations | EOF Emergency Diesel Generator | Test[2] Operation | M | SP 2678B OP 2399A |
| U-2 Operations | EOF Fire Detection System | Test[2] Operation | Q | SP 2678D OP 2399B |
| U-2 Operations | EOF Vent (RAD) Filter Systems | Test[2] | R | SP 2678A |
| U-2 Operations | U-2 PA Speakers and Evacuation Alarms | Test | M | C-SP 600.1 |
| Station Maintenance | Technical Support Center (TSC) | Electrical and Mechanical Maintenance of HVAC | Q | AWO on 3TS-3900J |
| Station Maintenance | Technical Support Center (TSC) | Emergency Lights | Q | MP 3780AE |
| U-3 Operations | TSC Emergency Power (TSC) | Test[2] | Q | SP 3666.2 |
| U-3 Operations | TSC Vent (RAD) Filter System | Test[2] | R | SP 3666.1 |
| U-3 Operations | U-3 PA Speakers and Evacuation Alarms | Test | M | C-SP 600.1 |

## Attachment 2
## Summary of Department Responsibilities for Facilities, Equipment, and Material Maintenance



| Organization | Item | Task | Freq[1] | Reference |
|---|---|---|---|---|
| Unit Engineering (U-2, 3) | Drawings | Maintain Control Copies in ERFs. | AN | Master Control Index |
| Unit Operations (U-2, 3) | Radio Communications (Waterford, State, Tri-Town) | Test[2] | D | C-SP 600.3 |
| Unit Operations (U-3) | Radiopaging ENRS Daily/Weekly Test | Test[2] | D, W | C-OP 608 |
| Unit Operations (U-3) | Radiopaging ENRS Monthly Test | Test[2] | M | C-OP 606 |
| IT | ERDS, OFIS | General Support and Testing | Q | MP-26-EPA-FAP05<br>MP-26-EPA-GDL05 |

### NOTE

1. D = Daily, W = Weekly, M = Monthly, Q = Quarterly, R = Refuel Outage, A = Annual (not to exceed 25% of surveillance period) AN = As Necessary, AEU = After Each Use. All are also as required by drills, audits, revisions, etc.
2. Maintenance, repair, and test follow up is passed to applicable Unit Maintenance Departments.

# Attachment 3
# Documentation of Testing of Dose Assessment Computer

(Sheet 1 of 1)

**NOTE**

MIDAS is installed in the EOF and IDA is installed in the control rooms. MIDAS, IDA, and other approved dose assessment models such as RASCAL may also be installed on computers in the EOF, TSC, or other ERFs.

Radiological Assessment Engineer (RAE)

1. Monthly, VERIFY operability of the Emergency Operations Facility dose assessment computer program and printer and ENSURE results match test case.
2. COMPLETE surveillance log.
3. IF test results are *not* satisfactory, NOTIFY EPD.

Unit Chemistry Technicians

Unit 3

1. Monthly, VERIFY operability of the Technical Support Center Initial Dose Assessment computer and ENSURE results match test case.

Unit 2 and 3

2. Weekly, VERIFY operability of control room initial dose assessment computer program and printer and ENSURE results match test case.
3. COMPLETE surveillance log.
4. IF test results are not satisfactory, NOTIFY EPD.

# Attachment 4
# SERO Qualifications and Reporting Location (3)

(Sheet 1 of 8)

| Position | Code | CAT | LOC | RESP | RAD | SERO Position Owners | Drill Requirements | |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | Annual Requal Yes/No | Initial (4) Drill/OJT/ Walk-Thru (5) |
| Assistant Director Emergency Operations Facility | ADEOF | OC | EOF | No | No | Director, Nuclear Safety and Licensing | Yes | Drill |
| Assistant Manager of Radiological Dose Assessment | AMRDA | STC | EOF | No | No | Manager, Radiological Protection and Chemistry | Yes | Drill |
| Accident Management Team Thermal and Hydraulic Engineer | AMT/TH | STC | TSC/OSC | No | Yes | Manager, Nuclear Fuel Engineering | Yes | OJT |
| Accident Management Team Lead | AMTL | STC | TSC/OSC | No | Yes | Manager, Nuclear Fuel Engineering | Yes | OJT/SAM (8) |
| Accident Management Team Mechanical Engineer | AMTME | STC | TSC/OSC | No | Yes | Manager, Nuclear Fuel Engineering | Yes | OJT |
| Assistant Radiation Protection Supervisor | ARPS | OC | OSC AA | No | Yes | Manager, Radiological Protection and Chemistry | Yes | OJT |
| Director of Station Emergency Operations | DSEO | OC | EOF | No | No | Director, Operations and Maintenance | Yes | Drill |
| EOF Health Physics Technician | EOFHP | OC | EOF | Yes | Yes | Manager, Radiological Protection and Chemistry | Yes | Walk-Thru |
| EOF Shift Technician | EOFST | OC | EOF | Yes | Yes | Manager, Nuclear Operations | No | Walk-Thru |
| External Resource Coordinator | ERC | STC | EOF | No | No | SCM Site Manager | Yes | Walk-Thru |
| Executive Spokesperson | ES | OC | Media Cntr | No | No | Director, Nuclear Safety and Licensing | Yes | Walk-Thru |
| Fire Brigade/EMT | FB | OS | OSC AA | Yes | Yes | Manager, Nuclear Protection Services | No | Drill (6) |
| Field Team Data Coordinator | FTDC | STC | EOF | No | No | Manager, Radiological Protection and Chemistry | Yes | Walk-Thru |
| Generations Electrical Services Specialist | GES | OC | OSC AA | No | Yes | Manager, Nuclear Maintenance | No | Walk-Thru |

# SERO Qualifications and Reporting Location (3)

(Sheet 2 of 8)

| Position | Code | CAT | LOC | RESP | RAD | SERO Position Owners | Drill Requirements | |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | Annual Requal Yes/No | Initial (4) Drill/OJT/ Walk-Thru (5) |
| Meteorological Assistant | MET | STC | EOF | No | No | Manager, Radiological Protection and Chemistry | Yes | Walk-Thru |
| Manager of Operational Support Center | MOSC | OC(10) | TSC/OSC | No | Yes | Manager, Nuclear Maintenance | Yes | Drill |
| Manager of Resources | MOR | OC | EOF | No | No | SCM Site Manager | Yes | Drill |
| Manager of Security | MOS | STC | TSC/OSC | No | Yes | Manager, Nuclear Protection Services | Yes | Drill |
| Manager Public Information | MPI | OC | EOF | No | No | Manager, Emergency Preparedness | Yes | Drill |
| Manager Radiological Consequence Assessment | MRCA | OC | TSC/OSC | No | Yes | Manager, Radiological Protection and Chemistry | Yes | Drill |
| Manager of Technical Support Center | MTSC | OC(10) | TSC/OSC | No | Yes | Director, Nuclear Engineering | Yes | Drill |
| Nuclear News Manager | NNM | OC | Media Cntr | No | No | Director, Nuclear Safety and Licensing | Yes | Drill |
| CBETS Operator | CBETS | STC | OSC AA | No | Yes | Manager, Radiological Protection and Chemistry | Yes | Walk-Thru |
| Radiological Communicator | RADCOM | STC | EOF OSC AA | No | Yes | Manager, Radiological Protection and Chemistry | Yes | Walk-Thru |
| Radiological Assessment Engineer | RAE | STC | EOF | No | No | Manager, Nuclear Fuel Engineering | Yes | Drill |
| Radiological Monitoring Team 3 Lead | RMT3 | OC | EOF | Yes | Yes | Manager, Radiological Protection and Chemistry | Yes | Walk-Thru |
| Radiological Monitoring Team Driver* | RMTDRV | OC | EOF | Yes | Yes | Manager, Nuclear Oversight | Yes | Walk-Thru |
| Radiological Monitoring Team 4 Lead | RMT4 | OC | EOF | Yes | Yes | Manager, Radiological Protection and Chemistry | Yes | Walk-Thru |
| Radiological Monitoring Team Driver* | RMTDRV | OC | EOF | Yes | Yes | Manager, Nuclear Oversight | Yes | Walk-Thru |

* All RMT Drivers are in one group with three people on call at all times.

# SERO Qualifications and Reporting Location (3)

(Sheet 3 of 8)

| Position | Code | CAT | LOC | RESP | RAD | SERO Position Owners | Drill Requirements | |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | Annual Requal Yes/No | Initial (4) Drill/OJT/ Walk-Thru (5) |
| Radiological Monitoring Team 5 Lead | RMT5 | OC | EOF | Yes | Yes | Manager, Radiological Protection and Chemistry | Yes | Walk-Thru |
| Radiological Monitoring Team Driver* | RMTDRV | OC | EOF | Yes | Yes | Manager, Nuclear Oversight | Yes | Walk-Thru |
| NAP Radiological Monitoring Team | RMTA | OC | NAP | Yes | Yes | Manager, Radiological Protection and Chemistry | Yes | Walk-Thru |
| NAP Radiological Monitoring Team | RMTB | OC | NAP | Yes | Yes | Manager, Radiological Protection and Chemistry | Yes | Walk-Thru |
| SAP Radiological Monitoring Team | RMTC | OC | SAP | Yes | Yes | Manager, Radiological Protection and Chemistry | Yes | Walk-Thru |
| SAP Radiological Monitoring Team | RMTD | OC | SAP | Yes | Yes | Manager, Radiological Protection and Chemistry | Yes | Walk-Thru |
| Station Duty Officer | SDO | OS | CR | Yes | Yes | Manager, Nuclear Operations | No | OJT |
| Technical Support Center Electrical Engineer | TSCEE | OC(10) | TSC/OSC | No | Yes | Director, Nuclear Engineering | Yes | OJT |
| Technical Support Center Mechanical Engineer | TSCME | OC(10) | TSC/OSC | No | Yes | Director, Nuclear Engineering | Yes | OJT |
| Technical Support Center Reactor Engineer | TSCRE | OC | TSC/OSC | No | Yes | Manager, Nuclear Fuel Engineering | Yes | Walk-Thru |
| Technical Assistant | TA | STC | State EOC | No | No | Director, Nuclear Safety and Licensing | Yes | Walk-Thru |
| Chemistry Technician | CHEM TECH | OS | CR | Yes | Yes | Manager, Radiological Protection and Chemistry | No | Walk-Thru |

*All RMT Drivers are in one group with three people on call at all times.

# Attachment 4
# SERO Qualifications and Reporting Location (3)

(Sheet 4 of 8)

| Position | Code | CAT | LOC | RESP | RAD | SERO Position Owners | Drill Requirements | |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | Annual Requal Yes/No | Initial (4) Drill/OJT/ Walk-Thru (5) |
| RMT #1 | HPTECH | OS | CR | Yes | Yes | Manager, Radiological Protection and Chemistry | No | Walk-Thru |
| Unit 1 Technical Support Center Shift Manager | U1 TSCSM | STC | TSC/OSC | No | Yes | Manager, Nuclear Operations | No | OJT |
| Unit 2 Assistant Director Technical Support | U2ADTS | OC | TSC/OSC | No | Yes | Manager, Nuclear Operations | Yes | Drill |
| Unit 2 Control Room Data Coordinator | U2CRDC | STC | CR | No | Yes | Manager, Nuclear Training | Yes | Walk-Thru |
| Unit 2 Electrician | U2ELEC | OC | OSC AA | Yes | Yes | Manager, Nuclear Maintenance | No | Walk-Thru |
| Unit 2 Instrument & Control Operational Support Center | U2I&C OSC | STC | TSC/OSC | No | Yes | Manager, Nuclear Maintenance | Yes | Drill |
| Unit 2 Instrument & Control Technician | U2I&C TECH | OC | OSC AA | Yes | Yes | Manager, Nuclear Maintenance | No | Walk-Thru |
| Unit 2 Mechanic | U2MECH | OC | OSC AA | Yes | Yes | Manager, Nuclear Maintenance | No | Walk-Thru |
| Unit 2 Manager of Communications | U2MOC | OC | EOF | No | No | Manager, Nuclear Training | Yes | Walk-Thru |
| Unit 2 Operational Support Center Maintenance Assistant | U2 OSCMA | STC | TSC/OSC | No | Yes | Manager, Nuclear Maintenance | Yes | Drill |
| Unit 2 PEO | U2PEO | OS | CR | Yes | Yes | Manager, Nuclear Operations | (1) | (1) |
| Unit 2 Control Operator | U2CO | OS | CR | Yes | Yes | Manager, Nuclear Operations | (1) | (1) |
| Unit 2 STA | U2STA | OS | CR | Yes | Yes | Manager, Nuclear Operations | (1) | (1) |
| Unit 2 Technical Information Coordinator | U2TIC | OC | EOF | No | No | Manager, Nuclear Training | Yes | Walk-Thru |
| Unit 2 Technical Support Center Shift Manager | U2 TSCSM | STC | TSC/OSC | No | Yes | Manager, Nuclear Operations | No | OJT |

# Attachment 4
## SERO Qualifications and Reporting Location (3)

(Sheet 5 of 8)

| Position | Code | CAT | LOC | RESP | RAD | SERO Position Owners | Drill Requirements | |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | Annual Requal Yes/No | Initial (4) Drill/OJT/ Walk-Thru (5) |
| Unit 3 Assistant Director Technical Support | U3ADTS | OC | TSC/OSC | No | Yes | Manager, Nuclear Operations | Yes | Drill |
| Unit 3 Control Room Data Coordinator | U3CRDC | STC | CR | No | Yes | Manager, Nuclear Training | Yes | Walk-Thru |
| Unit 3 Electrician | U3ELEC | OC | OSC AA | Yes | Yes | Manager, Nuclear Maintenance | No | Walk-Thru |
| Unit 3 Instrument & Control Operational Support Center | U3I&C OSC | STC | TSC/OSC | No | Yes | Manager, Nuclear Maintenance | Yes | Drill |
| Unit 3 Instrument & Control Technician | U3I&C TECH | OC | OSC AA | Yes | Yes | Manager, Nuclear Maintenance | No | Walk-Thru |
| Unit 3 Mechanic | U3MECH | OC | OSC AA | Yes | Yes | Manager, Nuclear Maintenance | No | Walk-Thru |
| Unit 3 Manager of Communications | U3MOC | OC | EOF | No | No | Manager, Nuclear Training | Yes | Walk-Thru |
| Unit 3 Operational Support Center Maintenance Assistant | U3 OSCMA | STC | TSC/OSC | No | Yes | Manager, Nuclear Maintenance | Yes | Drill |
| Unit 3 PEO | U3PEO | OS | CR | Yes | Yes | Manager, Nuclear Operations | (1) | (1) |
| Unit 3 Control Operator | U3CO | OS | CR | Yes | Yes | Manager, Nuclear Operations | (1) | (1) |
| Unit 3 STA | U3STA | OS | CR | Yes | Yes | Manager, Nuclear Operations | (1) | (1) |
| Unit 3 Technical Information Coordinator | U3TIC | OC | EOF | No | No | Manager, Nuclear Training | Yes | Walk-Thru |
| Unit 3 Technical Support Center Shift Manager | U3 TSCSM | STC | TSC/OSC | No | Yes | Manager, Nuclear Operations | No | OJT |
| Unit 2 Unit Supervisor | U2US | OS | CR | Yes | Yes | Manager, Nuclear Operations | (1) | (1) |
| Unit 3 Unit Supervisor | U3US | OS | CR | Yes | Yes | Manager, Nuclear Operations | (1) | (1) |
| Security Guard | SECGRD | OS | POST | Yes | Yes | Manager, Nuclear Protection Services | No | (9) |

# Attachment 4
## SERO Qualifications and Reporting Location (3)

(Sheet 6 of 8)

| Position | Code | CAT | LOC | RESP | RAD | SERO Position Owners | Drill Requirements | |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | Annual Requal Yes/No | Initial (4) Drill/OJT/ Walk-Thru |
| Security Shift Supervisor | SSS | OS | CAS | No | Yes | Manager, Nuclear Protection Services | No | (9) |
| Manager Radiological Dose Assessment | MRDA | OC | EOF | No | No | Manager, Radiological Protection and Chemistry | Yes | Drill |
| Unit 3 Shift Technician | U3ST | OS | CR | Yes | Yes | Manager, Nuclear Operations | Yes | OJT |
| Unit 1 CFH/MCRO | CFH | OS | CR | Yes | Yes | Manager, Nuclear Operations | No | Walk-Thru |
| Unit 2 Shift Manager | U2SM | OS | CR | Yes | Yes | Manager, Nuclear Operations | (1) | (1) |
| Unit 3 Shift Manager | U3SM | OS | CR | Yes | Yes | Manager, Nuclear Operations | (1) | (1) |
| Alarm Station Supervisor | SECSUP | OS | CAS/SAS | Yes | Yes | Manager, Nuclear Protection Services | No | (9) |
| Regulatory Liaison (7) | RL | STC | EOF | No | No | Manager, Licensing | No | Walk-Thru |
| State Emergency Planning Liaison (7) | SEPL | STC | State EOC | No | No | Manager, Emergency Preparedness | No | Walk-Thru |
| Station Emergency Planning Representative (7) | SEPR | STC | EOF | No | No | Manager, Emergency Preparedness | No | Walk-Thru |
| Media Center Liaison (7) | MCL | STC | Media Center | No | No | Director, Nuclear Safety and Licensing | No | Walk-Thru |
| Rumor and Inquiry Control Liaison (7) | RICL | STC | Media Center | No | No | Director, Nuclear Safety and Licensing | No | Walk-Thru |
| Technical Briefer (7) | TB | STC | Media Center | No | No | Director, Nuclear Safety and Licensing | No | Walk-Thru |
| Radiological Briefer (7) | RB | STC | Media Center | No | No | Director, Nuclear Safety and Licensing | No | Walk-Thru |

# Attachment 4
## SERO Qualifications and Reporting Location (3)

(Sheet 8 of 8)

(1) Credit will be taken for drill completion when performed as part of Licensed Operator Initial Training (LOIT), Licensed Operator Requalification Training (LORT), Shift Technical Advisor (STA) Program, and Plant Equipment Operator (PEO) Training.
(2) Deleted
(3) Additional qualification requirements are contained in NTP 7.212.
(4) Participation in a drill may satisfy the walk-thru qualifications for initial training.
(5) Walk-thrus include use of any equipment, identification and location of reference materials, and a knowledge of the facility layout. Training, Emergency Planning, or job incumbents qualify for conducting walk-thrus.
(6) Tracked by Fire Training Department
(7) Supplemental positions
(8) SAM required for initial qualifications
(9) Security Guard, Security Shift Supervisor (SSS), and Alarm Security Supervisor training is provided by Protective Services personnel.
(10) One position is on call, a second position is subject to call. (1)

# Attachment 5
## Roles and Responsibilities For Emergency Preparedness Dose Assessment

(Sheet 1 of 2)

| Area | Manager, EPD | NFSA |
|---|---|---|
| **Emergency Plan (Includes Ingestion Pathway Plan)** | Manager, EPD, shall:<br>• Develop the Emergency Plan<br>• Ensure compliance to regulatory requirements<br>• Request technical support for input and review<br>• Process changes and obtain necessary approvals<br>• Perform necessary 50.54(q) reviews | NFSA shall:<br>• Provide radiological technical expertise requested<br>• Provide compliant support<br>• Support the review and approval process |
| **Radiological Dose Assessment Committee (RDAC)** | Manager, EPD, shall:<br>• Chair the committee<br>• Develop a charter<br>• Schedule meetings<br>• Develop meeting minutes for RDAC members and upper management<br>• Provide expertise specific to regulatory compliance<br>• Provide input and make contacts to benchmark against the industry<br>• Process change requests | NFSA shall:<br>• Co-chair the committee<br>• Provide input to charter<br>• Provide technical member(s) to the RDAC<br>• Develop technical justification for software / procedure changes<br>• Provide radiological expertise specific to subject matter |
| **Procedures** | Manager, EPD, shall:<br>• Maintain overall approval or veto of proposed procedures and changes<br>• Ensure compliance to regulatory requirements<br>• Maintain procedures current / schedule biennial reviews if required<br>• Process procedure change requests<br>• Process procedure typing requests<br>• Facilitate writer's guide review by Procedures Group<br>• Perform necessary 50.54(q) reviews<br>• Provide V&V support as necessary<br>• Facilitate scheduling of SORC by Procedures Group<br>• Set effective implementation dates | NFSA shall:<br>• Provide radiological technical content<br>• Write procedure steps<br>• Provide bases documents<br>• Lead V&V process<br>• Provide V&V input and approvals<br>• Support necessary 50.54(q) review<br>• Present technical changes to SORC for approval |

# Attachment 5
## Roles and Responsibilities For Emergency Preparedness Dose Assessment

(Sheet 2 of 2)

| Area | MANAGER, EPD | NFSA |
|---|---|---|
| **Tools and Software** | Manager, EPD, shall:<br>• Own required tools and software<br>• Budget new purchases<br>• Fund upgrades and revisions<br>• Ensure compliance to regulatory requirements and intent<br>• Obtain approvals for selected tools and software through RDAC (user) members before committing to a solution, purchase, or change<br>• Own Quality Software (QS) and associated documentation | NFSA shall:<br>• Produce requirements document specifying needs, acceptance criteria and process bids<br>• Recommend the selection of tools and software through the RDAC<br>• Develop internal software (as necessary or as appropriate)<br>• Provide development support<br>• Provide testing<br>• Provide QS documentation<br>• Provide overall radiological technical support |
| **Scenario Development** | Manager, EPD, shall:<br>• Define scenario radiological package requirements (Memo of Understanding)<br>• Develop overall scenario<br>• Provide long-range schedule to allow support resource planning<br>• Define deliverable date for completed package<br>• Provide sufficient lead time as defined in the Memo of Understanding for radiological package development | NFSA shall:<br>• Provide an experienced technical lead to develop radiological data packages<br>• Provide support to scenario development meetings<br>• Produce radiological data packages fully meeting Memo of Understanding expectations<br>• Provide completed radiological data package by the defined deliverable date |

# Attachment 6
## Radiological Dose Assessment Committee

(Sheet 1 of 1)

1. **Purpose:**

   Ensure a regulatory compliant, effective dose assessment capability is maintained at Millstone facilities.

2. **Membership:**

   The following functions shall be represented as members of this committee:

   - Emergency Preparedness - Manager, EPD - Chairperson
   - Radiological Engineering - Supervisor, Radiological Engineering - Co-chairperson
   - Station Health Physics
   - Training - EPD Training, Chem/HP training, as available
   - Computer Support - Information Technology, as available
   - Station Chemistry - as available
   - State Department Environmental Protection - as available
   - Environmental Services - as available

3. **Responsibilities:**

   This committee is responsible to provide the technical, regulatory based review and recommendations for all changes to calculations methodologies, procedures, software or other tools as applicable to performing the function of off-site dose assessment during emergency situations.

4. **Meetings:**

   This committee shall meet as necessary to review functional status. Meeting notes shall be published and maintained on file in the Emergency Preparedness Department.

5. **Authority:**

   This committee will forward recommended assignments to the Manager, EPD, to assign work to the appropriate organization in order to maintain the full capability of emergency dose assessment. The assigned members shall be sufficiently conversant in the issues to have acceptance authority for their respective organizations.

6. **Disposition of Issues:**

   Issues identified shall be dispositioned through the use of the AITTS assignments. Where disagreement of assignment exist, this issue shall be raised to EPD and NFE management for disposition.