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LIMERICK GENERATING STATION

EMERGENCY PLAN PROCEDURE INDEX

PROCEDURE NUMBER	REV. NO.	TITLE	DATE SIGNED BY SUPER.	DATE OF LAST PERIODIC REVIEW
EP-101	2	Classification of Emergencies	09/27/84	
EP-102	5	Unusual Event Response	10/10/84	
EP-103	5	Alert Response	10/18/84	
EP-104	5	Site Emergency Response	10/18/84	
EP-105	5	General Emergency Response	10/05/84	
EP-106	1	Written Summary Notification	06/08/84	
EP-110	3	Personnel Assembly and Accountability	10/15/84	
EP-120	1	Site Emergency Coordinator	06/08/84	
EP-201	1	Technical Support Center (TSC) Activation	06/08/84	
EP-202	2	Operations Support Center (OSC) Activation	09/25/84	
EP-203	2	Emergency Operations Facility (EOF) Activation	09/27/84	
EP-208	3	Security Team Activation	10/05/84	
EP-210	1	Dose Assessment Team	06/08/84	
EP-220		CANCELLED		
EP-221	1	Personnel Dosimetry, Bioassay, and Respiratory Protection Group	06/08/84	
EP-222	2	Field Survey Group	07/17/84	
EP-230	3	Chemistry Sampling and Analysis Team Activation	07/20/84	
EP-231	4	Operation of Post-Accident Sampling Systems (PASS)	08/07/84	
EP-232		CANCELLED		
EP-233	3	Retrieving and Changing Sample Filters and Cartridges from the Containment Leak Detector During Emergencies	07/20/84	

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LIMERICK GENERATING STATION

EMERGENCY PLAN PROCEDURE INDEX

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EP-235	3	Obtaining Reactor Water Samples from Sample Sinks Following Accident Conditions	07/20/84	
EP-236	3	Obtaining Cooling Tower Blowdown Line Water Samples Following Radioactive Liquid Release after Accident Conditions	08/07/84	
EP-237	3	Obtaining the Iodine/ Particulate and/or Gas Samples from the North Vent Wide Range Gas Monitor (WRGM)	07/20/84	
EP-238	3	Obtaining Liquid Radwaste Samples from Radwaste Sample Sink Following Accident Conditions	07/20/84	
EP-240	2	Obtaining Off-Gas Samples from the Air Ejector/Holdup Pipe Discharge Sample Station	06/08/84	
EP-241	4	Sample Preparation and Handling of Highly Radioactive Liquid Samples	10/04/84	
EP-242	3	Sample Preparation and Handling of Highly Radioactive Particulate Filters and Iodine Cartridges	07/20/84	
EP-243	4	Sample Preparation and Handling of Highly Radioactive Gas Samples	08/06/84	
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EP-250	1	Personnel Safety Team Activation	06/08/84	

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EMERGENCY PLAN PROCEDURE INDEX

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EP-254	1	Vehicle and Evacuee Control Group	06/08/84	
EP-255	1	Vehicle Decontamination	06/08/84	
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EP-272	2	Philadelphia Electric Company Officials Phone List	10/17/84	
EP-273	2	Limerick Station Supervision Call List	10/04/84	
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EP-276	3	Fire and Damage Team Phone List	10/18/84	
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EP-279	2	Emergency Operations Facility (EOF) Group Phone List	10/05/84	
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EMERGENCY PLAN PROCEDURE INDEX

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EP-305	2	Site Evacuation	09/25/84	
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EP-307	1	Reception and Orientation of Support Personnel	06/08/84	
EP-312	0	Radioactive Liquid Release	11/30/83	
EP-313	1	Distribution of Thyroid Blocking Tablets	06/08/84	
EP-315	1	Calculation of Offsite Doses During a Radiological Emergency Using RMMS in the Manual Mode	11/14/84	
EP-316	1	Cumulative Population and Near Real-Time Emergency Dose Calculations for Airborne Releases Manual Method	07/24/84	
EP-317	1	Determination of Protective Action Recommendations	10/17/84	
EP-318	0	Liquid Release Dose Calculations Method for Drinking Water	11/30/83	
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EP-325	1	Use of Containment Dose Rates to Estimate Release Source Term	10/17/84	
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EMERGENCY PLAN PROCEDURE INDEX

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EP-410	1	Recovery Phase Implementation	06/08/84	
EP-500	1	Review and Revision of Emergency Plan	06/08/84	

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PHILADELPHIA ELECTRIC COMPANY
LIMERICK GENERATING STATION
EMERGENCY PLAN IMPLEMENTING PROCEDURE

EP-315 CALCULATION OF OFFSITE DOSES DURING A RADIOLOGICAL EMERGENCY USING RMMS IN THE MANUAL MODE

1.0 PURPOSE

The purpose of this procedure is to provide guidelines to RMMS operators and dose assessment personnel who are using RMMS to calculate offsite doses during a potential or actual radiological emergency.

The manual mode of RMMS will allow the operator to bypass the use of real time radiation and meteorological data, enabling him to enter data of his own choosing.

Operation of RMMS in the manual mode is useful for investigating offsite doses during Emergency Plan exercises and in the event that radiation or meteorological data are unavailable in the real time mode.

2.0 RESPONSIBILITIES

2.1 It is the responsibility of the Shift Technical Advisor in the control room, assigned to RMMS, to initiate dose calculations if there is an indication that a radiological release in excess of instantaneous Technical Specifications limits has occurred.

2.2 It is the responsibility of the Shift Technical Advisor in the Control Room to obtain (from Chemistry sampling) the most recent isotopic analysis of the gaseous effluent for the South and North vents.

2.3 It is the responsibility of the Shift Superintendent to evaluate the dose results, declare the appropriate EAL based on releases, and assist the Emergency Director in making PAG recommendations if warranted.

2.4 It is the responsibility of the Dose Assessment Team Leader (upon activation of the TSC) to initiate and direct dose calculations, evaluate the results, and assist the Emergency Director with EAL declarations and PAG recommendations.

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2.5 It is the responsibility of the RM-11 Operator in the TSC to provide radiation release data to the RM-21A Operator and the Dose Assessment Team Leader.

2.6 It is the responsibility of the RM-21A Operator in the TSC to enter radiation release data and meteorological data and generate offsite dose estimates.

2.7 It is the responsibility of the Field Survey Group Leader in the TSC to direct field survey squads to locations in the plume in order to acquire data which will augment and enhance the offsite dose estimates.

2.8 It is the responsibility of the Calculator in the TSC to assist the RM-21A Operator with data entry problems and to periodically update the Dose Assessment Status Board Keeper and Meteorological Status Board Keeper with information.

2.9 It is the responsibility of the Dose Assessment Team Leader in the EOF to initiate and direct the offsite dose calculations when the EOF is activated and assist the Site Emergency Coordinator with EAL declarations and PAG recommendations.

2.10 It is the responsibility of the RM-21A Operator in the EOF to enter radiation release data and meteorological data and generate offsite dose estimates.

2.11 It is the responsibility of the Field Survey Group Leader in the EOF to direct field survey squads to locations in the plume in order to acquire data which will augment and enhance the offsite dose estimates.

2.12 It is the responsibility of the Calculator in the EOF to assist the RM-21A Operator with data entry problems, and periodically update the Dose Assessment Status Board Keeper with information.

3.0 APPENDICES

None

4.0 PREREQUISITES

4.1 Obtain the most recent isotopic analysis of the gaseous effluent from Chemistry sampling for both the South and North vents.

5.0 SPECIAL EQUIPMENT

5.1 RM-21A consoles and hardcopy units

5.2 RM-11 consoles and printers

6.0 SYMPTOMS

6.1 An indication that a radiological release in excess of instantaneous Technical Specifications limits has or may occur.

7.0 ACTION LEVEL

None

8.0 PRECAUTIONS

None

9.0 PROCEDURE

9.1 Control Room Operations

9.1.1 Upon receiving an indication that a gaseous release in excess of instantaneous technical specifications may have occurred, the control room operator shall first acknowledge the alarm on the RM-11 console, and request that an offsite dose calculation be initiated to evaluate the release.

9.1.2 The following channels will provide an indication of a potential technical specification release if in a blinking red state and audibly alarming:

9.1.2.1 North Vent

Wide Range Gas Monitor

Channel 4TE076

Particulate, Iodine, Noble Gas Monitors

Channel 2IE075

Channel 5IE075

Channel 3GE075

Channel 6GE075

9.1.2.2 South Vent - Unit 1

Particulate, Iodine, Noble Gas Monitors

Channel 2IE185

Channel 5IE185

Channel 3GE185

Chanel 6GE185

9.1.2.3 South Vent - Unit 2

Particulate, Iodine, Noble Gas Monitors

Channel 2IE285

Channel 5IE285

Channel 3GE285

Channel 6GE285

9.1.3 The control room Shift Technical Advisor assigned to the RM-21A will logon to the system using the appropriate username and password, select option 6 (Emergency Dose Calculations) from the Primary Option Menu, then option 3 (Class A Dose Model) from the secondary menu.

9.1.4 The RM-21A operator will choose ACRISO Run Control Parameter Menu option 3, All Manual Mode.

9.1.5 The operator will respond "yes" to reviewing the run control table and verify the table matches the example exactly in Attachment 1. If not he will edit the table.

9.1.6 THE OPERATOR SHOULD GENERATE A HARDCOPY OF THIS AND ALL OTHER DATA DISPLAYS FOR FUTURE REFERENCE.

9.1.7 The operator shall complete the following mandatory steps:

9.1.7.1 Enter Time of Reactor Trip or Scram. If the Reactor has not tripped or scramed enter the start time of the release.

9.1.7.2 Enter Time of Release. Enter the Start Time of the release or the beginning of the period to be evaluated. This time must be later than or equal to the Time of Reactor Trip.

NOTE

EASTERN STANDARD TIME (EST) IS USED BY RMMS. EST IS EQUAL TO DAYLIGHT SAVINGS TIME MINUS 1 HOUR.

9.1.7.3 Enter the Remaining Duration of Release. The operator must request that the Shift Supervisor provide him with an estimated duration of release. If the duration cannot be estimated with confidence, enter 2 hours.

NOTE

THE REMAINING DURATION OF RELEASE IS USED IN THE EAL TABLE WHICH PROVIDES THE OPERATOR WITH INFORMATION REGARDING CLASSIFICATION OF AN EMERGENCY BASED ON RADIOLOGICAL RELEASES. IT IS ALSO USED IN THE PAG SUMMARY DISPLAY TO PROVIDE GUIDANCE ON WHEN PAGS MAY BE EXCEEDED.

9.1.8 The operator shall respond to the following additional prompts:

9.1.8.1 Enter the Isotopic Release Data for selected release point by selecting option 3 as follows:

A. Enter the isotope(s) listed on the Chemistry Analysis Report.

NOTE

(uCi/cc) x (CFM, Flow Vent) x 472 = (uCi/sec). REMEMBER TO RETAIN A HARD COPY OF ALL DISPLAYS.

9.1.8.2 Enter the Vent Flow Rate (CFM)

Obtain this value from the top of any channel trend display associated with the release point of interest. (Indicated as process flow rate N. on the trend display).

NOTE

IF OFFSITE POWER HAS BEEN LOST, CHOOSE PROCESS FLOW RATE "A" ON THE TREND DISPLAY.

9.1.8.3 Enter the Meteorological Data

Obtain the data from the Meteorological Data-Logger and enter the sensor which corresponds to the prompt. Refer to the cross reference attached to the RM-21A console for the correct sensor input.

NOTE

IF METEOROLOGICAL DATA IS UNAVAILABLE THE OPERATOR SHALL ATTEMPT TO OBTAIN THE DATA FROM THE FOLLOWING SOURCES (LISTED IN ORDER OF PREFERENCE):

1. CONTROL ROOM STRIP CHART RECORDERS
2. PBAPS CONTROL OPERATOR [redacted] REQUEST TOWER 2, 75' WIND SPEED AND DIRECTION, 300' - 30' DELTA T FOR STABILITY DETERMINATION
3. NATIONAL WEATHER SERVICE [redacted]

9.1.9 The operator shall review the following displays for accuracy and generate a hardcopy for his records. If the information shown on the displays is incorrect, he should enter R to Restart his data entry.

9.1.9.1 Meteorological Data Summary

Verify that the dates and times of the release are correct. Verify that the meteorological data are correct. Generate hardcopy.

9.1.9.2 Release Summary

Verify that the isotopic release data and vent flow data are correct. Generate hardcopy.

9.1.10 The operator shall then review the Site Boundary Emergency Action Level Display for the current action level, generate a hardcopy and inform the shift superintendent of the action level.

****Repeat (9.1.3) through (9.1.10) for each release point.

9.1.11 The operator shall generate the following displays and obtain a hardcopy of each if a current action level of unusual event or greater is obtained:

9.1.11.1 X/Q Display.

9.1.11.2 Projected Dose Summary.

9.1.11.3 Summary Report.

9.1.12 The RM-21A Operator should repeat the steps in 9.1.7 to 9.1.11 if any following condition is observed:

9.1.12.1 A new high alarm (red, blinking, audible) is indicated on the RM-11 display console from any channel described in 9.1.2.

9.1.12.2 An upward trend is observed in any channel described in 9.1.2 while it is in the high alarm state.

9.1.12.3 An EAL value described on either the RM-11 or RM-21A operator aid card is met or exceeded.

NOTE

AT THIS TIME, IT IS THE DISCRETION OF SSM TO TERMINATE THE PROCEDURE OR INSTRUCT THE STA TO PERFORM PERIODIC DOSE ASSESSMENT CALCULATIONS (AND/OR) IMPLEMENT THE NEXT STEP OF THIS PROCEDURE (9.1.13).

9.1.13 Dose assessment turnover to the TSC

Upon activation of the TSC, the RM-21A Operator in Control Room shall contact the Dose Assessment Team Leader, (extension [redacted]) and provide the following information if an EAL based on a release has been determined.

9.1.13.1 Time of Reactor Trip or Scram

9.1.13.2 Time of Release

9.1.13.3 Estimated Duration of Release

9.1.13.4 Wind Direction

9.1.13.5 Location of Peak X/Q

9.1.13.6 Time to Reach Peak X/Q

9.1.13.7 Location and Value of Peak Whole Body Gamma Dose Rate

9.1.13.8 Location and Value of Peak Thyroid Dose Rate

9.1.13.9 Whole Body Gamma Dose Rate at 2, 5 and 10 Miles

9.1.13.10 Phone number where the RM-21A operator in the Control Room can be contacted.

9.2 TSC Operations

9.2.1 Upon turnover of dose assessment from the Control Room to the TSC, the Dose Assessment Team Leader shall do the following:

9.2.1.1 Brief team members on plant and release status.

9.2.1.2 Assign personnel as RM-21A Operator, RM-11 Operator, Calculator, Field Survey Group Leader.

9.2.1.3 Initiate and direct dose calculations using RMMS.

9.2.1.4 Review dose model inputs (Meteorological Data Summary and Release Summary Displays) for accuracy.

9.2.1.5 Evaluate dose model results (Summary Report and Projected Dose Summary) against Whole Body Gamma and Thyroid Inhalation PAGs.

9.2.1.6 Periodically brief the Emergency Director on offsite dose results and assist him with PAG recommendations if conditions are warranted.

9.2.1.7 Direct the Field Survey Group Leader to dispatch Field Survey Squads to areas within the plume (using chi/Q plot and Whole Body Gamma, Inhalation Thyroid prints and plots)

in order to augment and enhance the offsite dose projections.

9.2.1.8 Periodically update the BRP on plant conditions, meteorology, and actual or potential releases.

9.2.2 The RM-11 Operator shall perform the following:

9.2.2.1 Continuously assess radiological trends from the Drywell High Range Radiation Monitors and plant effluent monitors and inform the Calculator as conditions change.

9.2.2.2 Update the Calculator and Dose Assessment Team Leader on an approximately 15 minute basis, with information from the affected radiation effluent monitors unless otherwise directed by the Dose Assessment Team Leader.

9.2.2.3 Inform the Dose Assessment Team Leader immediately in the event that any EAL condition specified on the operator aid card has been reached or exceeded.

9.2.3 The Calculator shall perform the following:

9.2.3.1 Obtain approximately every 15 minutes, the effluent release data from the RM-11 operator.

9.2.3.2 Perform, as requested by the Dose Assessment Team Leader, EP-325 for input to the RMMS dose model.

9.2.3.3 Select and calculate, as directed by the Dose Assessment Team Leader, isotopic breakdowns of the source term for input to the RMMS dose model.

9.2.3.4 Note on the dose model output cover sheet, the time of the calculations and assumptions used.

9.2.3.5 Update dose trending sheets as required.

9.2.3.6 Review Dose Model Results for key information. Immediately, inform the Dose Assessment Team Leader if dose model results indicate PAG levels may be met or exceeded.

9.2.3.7 Update the status board keepers with the requested information.

9.2.4 The RM-21A Operator shall perform the following:

9.2.4.1 Logon to the RM-21A system using the appropriate user name and password.

9.2.4.2 Obtain meteorological data for the period of interest by selecting option 4 (Meteorological Data Collection and Processing) from the Primary Option Menu, then option 3 (Meteorological Data Processing), then option 3 (Review Current Averages) or option 4 (Meteorological Data Averages) if the evaluation is to be done with historical meteorological data. Respond to the prompts as displayed and generate a hardcopy to transcribe the sensor names into RMMS inputs.

NOTE

THE RM-21A OPERATOR SHOULD EVALUATE THE METEOROLOGICAL DATA FOR CHANGES EVERY 15 MINUTES OR AS DIRECTED BY THE DOSE ASSESSMENT TEAM LEADER.

9.2.4.3 Return to the Primary Option Menu and select option 6 (Emergency Dose Calculations), then option 3 (Class A Dose Model) from the secondary menu.

9.2.4.4 The RM-21A Operator will choose ACRISO Run Control Parameter Menu option 3 (All Manual Mode).

9.2.4.5 The Operator will respond "yes" to reviewing the Run Control Table and verify the table matches exactly the example in Attachment 1. If not, he will edit the table.

NOTE

THE OPERATOR SHOULD GENERATE A HARDCOPY OF THIS AND ALL REQUESTED DATA DISPLAYS FOR FUTURE REFERENCE.

9.2.4.6 The Operator shall complete the following mandatory steps:

A. Enter the Time of Reactor Trip or Scram.

This prompt is chiefly used for decaying default accident isotopic spectra or isotopic data collected at the source, (e.g., P.A.S.S. or containment air sample) to the time of release. If the isotopic data provided to the operator is data obtained from the release point, enter the time of release. Also, if exact isotopic composition of the release is unknown, enter the time of release.

B. Enter Time of Release

Enter the start time of the release. If release has begun, enter the beginning of the period to be evaluated. This time must be later than, or equal to the Time of Reactor Trip.

NOTE

EASTERN STANDARD TIME (EST) IS USED BY RMMS. EST IS EQUAL TO DAYLIGHT SAVINGS TIME MINUS 1 HOUR.

C. Enter Remaining Duration of Release

The Operator must request that the Dose Assessment Team Leader provide him with an estimated duration of release. If the duration cannot be estimated with confidence, enter 2 hours.

NOTE

THE REMAINING DURATION OF RELEASE IS USED IN THE EAL TABLE WHICH PROVIDES THE OPERATOR WITH INFORMATION REGARDING CLASSIFICATION OF AN EMERGENCY BASED ON RADIOLOGICAL RELEASES. IT IS ALSO USED IN THE PAG SUMMARY DISPLAY TO PROVIDE GUIDANCE ON WHEN PAGS MAY BE EXCEEDED.

9.2.4.7 The Operator shall respond to the following additional prompts. Radiation effluent data shall be obtained from the Calculator. Meteorological data shall be obtained from the RM-21A console for the period of interest.

A. Enter the Isotopic Release Data for the release point of interest by selecting

option 3 or as otherwise directed by the Dose Assessment Team Leader:

1. For Noble Gases, choose gaseous isotope 8, Kr-88, and enter the gross isotopic release rate(s) provided by the Calculator.

2. For Iodines, the operator should select isotopes 34 and 35, I-131 and I-133 respectively, and enter the isotopic release rate(s) provided by the Calculator.

B. Enter the Vent Flow Rate (CFM)

Enter the flow rate provided by the Calculator.

C. Enter the Meteorological Data

Enter the Meteorological Data obtained from the RM-21 console for the time period of interest.

NOTE

IF METEOROLOGICAL DATA IS UNAVAILABLE, THE OPERATOR SHALL ATTEMPT TO OBTAIN THE DATA FROM THE FOLLOWING SOURCES (LISTED IN ORDER OF PREFERENCE):

1. Control Room Strip Chart Recorders

2. PBAPS Control Operator (ext. [redacted] Request Tower 2, 75' wind speed and direction, 300'-30' delta T for stability determination

3. National Weather Service [redacted]

9.2.4.8 The operator shall review the following displays for accuracy and generate hardcopy for his records. If the information shown on the displays is incorrect, he should enter R to restart this data entry.

A. Meteorological Data Summary

Verify the dates and times of the release are correct. Verify the

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meteorological data is correct. Generate hardcopy.

B. Release Summary

Verify the isotopic release data and vent flow data are as entered. Generate hardcopy.

9.2.4.9 The operator shall then review the Site Boundary Emergency Action Level Display for the current action level, generate a hardcopy and inform the Dose Assessment Team Leader of the action level.

9.2.4.10 The operator shall generate the following displays and obtain a hardcopy of each if a current action level of unusual event or greater is obtained or as directed by the Dose Assessment Team Leader:

A. X/Q Display

B. Skin Isopleth

C. Gamma Isopleth

D. Inhalation Thyroid Isopleth

E. Projected Dose Summary

F. Summary Report

9.2.4.11 The operator should repeat steps 6.2.4.1 through 6.2.4.10 if any of the following occur:

A. Meteorology changes significantly.

B. New isotopic data is made available.

C. An upward trend is observed in any effluent channel of interest.

D. An EAL value described on either the RM-11 or RM-21A operator aid card is met or exceeded.

E. As directed by the Dose Assessment Team Leader.

9.2.5 The Field Survey Group Leader shall do the following:

9.2.5.1 Assign drivers and technicians to Field Survey Squads.

9.2.5.2 Assist the Dose Assessment Team Leader in briefing squad members on plume dimen ns, location of peak Chi/Q, and dose rates, initial instructions, and potential sample locations.

9.2.5.3 Dispatch Field Survey Squads to positions near or within the plume and coordinate their activities.

9.2.5.4 Receive periodic updates on dose rates and meteorological conditions from the Dose Assessment Team Leader via the RMMS Chi/Q Gamma Whole Body, and Inhalation Thyroid prints and plots.

9.2.5.5 Instruct the Field Survey Clerk to record Field Survey Squad data.

9.2.5.6 Update the Dose Assessment Team Leader with actual exposure rates and concentrations at the designated sample locations.

9.3 EOF Operations

9.3.1 Upon turnover of dose assessment from the TSC to the EOF, the Dose Assessment Team Leader shall do the following:

9.3.1.1 Assign personnel as RM-21A Operator Calculator, and Field Survey Group Leader.

9.3.1.2 Periodically brief team members on the status of plant, radiological, and meteorological parameters.

9.3.1.3 Initiate and direct dose calculations using RMMS.

9.3.1.4 Review dose model inputs (Meteorological Data Summary and Release Summary Displays) for accuracy.

9.3.1.5 Evaluate dose model results (Summary Report and Projected Dose Summary) against Whole Body Gamma and Thyroid Inhalation PAGs.

9.3.1.6 Periodically brief the Emergency Director on offsite dose results and assist him with PAG recommendations if conditions are warranted.

9.3.1.7 Direct the Field Survey Group Leader to dispatch Field Survey Squads to areas within the plume (using chi/Q plot and Whole Body Gamma, Inhalation Thyroid prints and plots). In order to augment and enhance the offsite dose projections.

9.3.1.8 Periodically update the BRP on plant conditions, meteorology, and actual or potential releases.

9.3.2 The Calculator shall perform the following:

9.3.2.1 Obtain (approximately every 15 minutes) the effluent release data and meteorological data from the RM-21A operator.

9.3.2.2 Perform, as requested by the Dose Assessment Team Leader, EP-325 for input to the RMMS dose model.

9.3.2.3 Select and calculate, as directed by the Dose Assessment Team Leader, isotopic breakdowns of the source term as input to the RMMS dose model.

9.3.2.4 Note on the dose model output cover sheet, the time of the calculations and the assumptions used.

9.3.2.5 Update dose trending sheets as required.

9.3.2.6 Review dose model results for key information. Immediately inform the Dose Assessment Team Leader if dose model results indicate PAG levels are being met or exceeded.

9.3.2.7 Update the status board keeper with the appropriate information.

9.3.3 The RM-21A Operator shall perform the following:

9.3.3.1 Logon to the RM-21A system using the appropriate username, password and following method:

A. Lift phone receiver from cradle and pull the left switch hook into a full upward position.

B. When a dial tone is present, dial 1-326-9510. One ring followed by a tone should be heard.

C. Press the switch hook down to the first notch. This engages the RM-21A terminal (Textronics 4014) to the VAX Computer.

D. Logon to the RM-21A system using the appropriate username and password.

9.3.3.2 Obtain meteorological data for the period of interest by selecting option 4 (Meteorological Data Collection and Processing) from the Primary Option Menu, then option 3 (Meteorological Data Processing), then option 3 (Review Current Averages) or option 4 (Meteorological Data Averages) if the evaluation is to be done on historical meteorological data. Respond to the prompts as displayed and generate a hardcopy to transcribe the sensor names into RMMS inputs.

9.3.3.3 Return to the Primary Option Menu and select option 6 (Emergency Dose Calculations) then option 3 (Class A Dose Model) from the secondary menu.

9.3.3.4 The RM-21A Operator will choose ACRISO Run Control Parameter Menu option 3 (All Manual Mode).

NOTE

THE RM-21A OPERATOR SHOULD EVALUATE THE METEOROLOGICAL DATA FOR SIGNIFICANT CHANGES EVERY 15 MINUTES OR AS DIRECTED BY THE DOSE ASSESSMENT TEAM LEADER.

9.3.3.5 The Operator will respond "YES" to reviewing the Run Control Table and verify the table matches exactly the example in Attachment 1. If not he will edit the table.

NOTE

THE OPERATOR SHOULD GENERATE A HARDCOPY OF THIS AND ALL REQUESTED DATA DISPLAYS FOR FUTURE REFERENCE.

9.3.3.6 The operator shall complete the following mandatory steps:

A. Enter time of Reactor Trip or Scram.

This prompt is chiefly used for decaying default accident isotopic spectra and isotopic data collected at the source, (e.g. P.A.S.S. or Containment Air Sample) to the time of release. If the isotopic data provided to the operator is from the release point, enter the time of release. Also, if exact isotopic composition of the release is unknown, enter the time of release.

B. Enter time of release.

Enter the start time of the release or, if release has begun, enter the beginning of the period to be evaluated. This time must be later than, or equal to the Time of Reactor Trip.

NOTE

EASTERN STANDARD TIME (EST) IS USED BY RMMS. EST IS EQUAL TO DAYLIGHT SAVINGS TIME MINUS 1 HOUR.

C. Enter remaining duration of release

The operator must request that the Dose Assessment Team Leader provide him with an estimated duration of release. If the duration cannot be estimated with confidence, enter 2 hours.

NOTE

THE REMAINING DURATION OF RELEASE IS USED IN THE EAL TABLE DISPLAY WHICH PROVIDES THE OPERATOR WITH INFORMATION REGARDING CLASSIFICATION OF AN EMERGENCY BASED ON RADIOLOGICAL RELEASES. IT IS ALSO USED IN THE PAG SUMMARY DISPLAY TO PROVIDE GUIDANCE ON WHEN PAGS MAY BE EXCEEDED.

9.3.3.7 The operator shall respond to the following additional prompts. Radiation effluent data and meteorological data shall be obtained from the RM-21A console for the period of interest.

A. Enter the Isotopic Release Data for the release point of interest by selecting

option 3 as follows or as otherwise directed by the Dose Assessment Team Leader:

1. For noble gases, choose gaseous isotope 8, Kr-88, and enter the gross isotopic release rate(s) provided by the Calculator.

2. For iodines, the operator should select isotopes 34 and 35, I-131 and I-133 respectively and enter the isotopic release rate(s) provided by the Calculator.

B. Enter the Vent Flow Rate (CFM)

C. Enter the Meteorological Data

Enter the Meteorological Data obtained from the RM-21 Console for the time period of interest.

NOTE

IF METEOROLOGICAL DATA IS UNAVAILABLE, THE OPERATOR SHALL ATTEMPT TO OBTAIN THE DATA FROM THE FOLLOWING SOURCES (LISTED IN ORDER OF PREFERENCE)

1. Control Room Strip Chart Recorders

2. PBAPS Control Operator [redacted] Request Tower 2,75' wind speed and direction, 300'-30' T for stability determination.

3. National Weather Service [redacted]

9.3.3.8 The operator shall review the following displays for accuracy and generate hardcopy for his records. If the information shown on the displays is incorrect, he should enter R to restart his data entry.

Meteorological Data Summary

Verify the dates and times of the release are correct. Verify the meteorological data is correct. Generate hardcopy.

B. Release Summary

Verify the isotopic release data and vent flow data are as entered. Generate hardcopy.

9.3.3.9 The operator shall then review the Site Boundary Emergency Action Level Display for the current action level, generate a hardcopy and inform the Dose Assessment Team Leader of the action level.

9.3.3.10 The operator shall generate the following displays and obtain a hardcopy of each if a current action level of unusual event or greater is obtained or as directed by the Dose Assessment Team Leader.

A. X/Q Display

B. Skin Isopleth

C. Gamma Isopleth

D. Inhalation Thyroid Isopleth

E. Projected Dose Summary

F. Summary Report

9.3.3.11 The operator should repeat steps A through J if any of the following occur:

A. Meteorology changes significantly.

B. New isotopic data is made available.

C. An upward trend is observed in any effluent channel of interest

D. An EAL value described on either the RM-11 or RM-21A operator aid card is met or exceeded.

E. As directed by the Dose Assessment Team Leader.

9.3.4 The Field Survey Group Leader shall do the following:

9.3.4.1 Assign drivers and technicians to Field Survey Squads.

9.3.4.2 Assist in The Dose Assessment Team Leader in briefing squad members on plume dimensions, location of peak Chi/Q, and dose rates, initial instructions, and potential sample locations.

9.3.4.3 Dispatch Field Survey Squads to positions near or within the plume and coordinate their activities.

9.3.4.4 Receive periodic updates on dose rates and meteorological conditions from the Dose Assessment Team Leader via the RMMS Chi/Q Gamma Whole Body, and Inhalation Thyroid prints and plots.

9.3.4.5 Instruct the Field Survey Clerk to record Field Survey Squad data.

9.3.4.6 Update the Dose Assessment Team Leader with actual exposure rates and concentrations at the designated sample locations.

10.0 REFERENCES

None

ATTACHMENT 1

Site: Limerick
Unit: U1
USER: HPI
Date: 7/10/84 18:11

ACRISO RUN CONTROL TABLE 3

ITEM	DESCRIPTION	CURRENT SELECTION
1	Meteorlogical Data	Manual Entry
2	Data File Type	15-Min Workspace
3	Q Data Source	Manual Q File Data
4	Vent Flow Data	Manual Entry
5	Maximum Downwind Distance (Miles)	10.0
6	Output Media	Plot
7	Background Map Selectors	Cities Rivers, Lakes and Ocean Roads State Boundaries Counties Text
8	Report Options	X/Q Isopleth Depleted X/Q Isopleth Skin Isopleth Gamma Isopleth Inhal. Thyroid Isopleth Milk Thyroid Isopleth Project Gamma & Thyroid Summary Report Project Dose Summary Point of Interest Print
9	Release Point for X/Q Output	1
10	Isopleth Contour Spacing	1,1,1,2,2,2,2
11	Gamma Dose Calculation	Semi-Infinite
12	Off-site Gamma Dose Adjustment Factor	1.00
13	Off-site Iodine Adjustment Factor	1.00
14	Active Release Points	1, 2
15	Title Change	Dose Calc--All Manual 15-Min Data

SELECT OPTIONS

E -- Edit
P -- Print

ENTER OPTION SELECTION (E or P)