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

Subject: Docket No. 50-482: Changes to Wolf Creek Generating Station (WCGS)
Radiological Emergency Response Plan Implementing Procedures

Gentlemen:

In accordance with 10 CFR 50, Appendix E, enclosed are revisions to Wolf Creek Generating Station (WCGS) Radiological Emergency Response Plan implementing procedures and forms. The following is a list of the specific enclosures.

PROCEDURES

Effective October 26, 2001

- EPP 06-002, Revision 6
CORRECTED COPY

Effective November 1, 2001

- EPP 06-012, Revision 5
CORRECTED COPY

If you have any questions concerning this submittal, please contact me at (620) 364-4112, or Mr. Tony Harris at (620) 364-4038.

Very truly yours,

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BTM/rlr

Enclosures

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A045



EPP 06-002

TECHNICAL SUPPORT CENTER OPERATIONS

Responsible Manager

MANAGER RESOURCE PROTECTION

Revision Number	6
Use Category	Reference
Administrative Controls Procedure	No
Infrequently Performed Procedure	No
Program Number	06

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Revision: 6	TECHNICAL SUPPORT CENTER OPERATIONS	EPP 06-002
Reference Use		Page 1 of 29

TABLE OF CONTENTS

<u>SECTION</u>	<u>TITLE</u>	<u>PAGE</u>
1.0	PURPOSE	2
2.0	SCOPE	2
3.0	REFERENCES AND COMMITMENTS	2
4.0	DEFINITIONS	3
5.0	RESPONSIBILITIES	4
6.0	PRECAUTIONS/LIMITATIONS	5
7.0	PROCEDURE	6
7.1	Facility Activation	6
7.2	Facility Deactivation	6
7.3	Site Emergency Manager	7
7.4	TSC Operations Coordinator	9
7.5	TSC Administrative Coordinator	10
7.6	TSC Radiological Coordinator	10
7.7	TSC Facility Technician	12
7.8	Maintenance Coordinator	13
7.9	Engineering Coordinator	14
7.10	TSC Operations Recorder	14
7.11	TSC Administrative Assistant	14
7.12	TSC Team Director	16
7.13	TSC Team Communicators	17
7.14	TSC Emergency Notification System (ENS) Communicator	17
7.15	Engineering Team	18
7.16	Emergency Response Team	18
7.17	Maintenance Assistant	19
7.18	Maintenance Planner	19
7.19	Warehouse Support	19
7.20	Security Coordinator	20
8.0	INITIAL ACTIONS	20
9.0	SUBSEQUENT ACTIONS	20
10.0	RECORDS	20
11.0	FORMS	20
ATTACHMENT A	HEPA FILTRATION AND IODINE MONITORING OPERATIONS	21
ATTACHMENT B	OSC RELOCATION SUPPLIES AND EQUIPMENT	23
ATTACHMENT C	TSC DIESEL OPERATIONS	24
ATTACHMENT D	EMERGENCY RESPONSE DATA SYSTEM (ERDS) OPERATIONS	27
ATTACHMENT E	POSITIONS REQUIRED FOR AUGMENTATION	28
FIGURE 1	TSC ORGANIZATION	29

Revision: 6	TECHNICAL SUPPORT CENTER OPERATIONS	EPP 06-002
Reference Use		Page 2 of 29

1.0 PURPOSE

- 1.1 This procedure provides guidelines for the activation of the Technical Support Center (TSC), and the responsibilities and guidance for Emergency Response Organization (ERO) personnel assigned to the TSC.

2.0 SCOPE

- 2.1 This procedure is implemented following the declaration of an Alert or higher emergency classification. The Shift Manager may request the Site Emergency Manager to activate the TSC during a Notification of Unusual Event.
- 2.2 This procedure provides direction for positions assigned to the Operations Support Center (OSC) also. Since the OSC is housed in the TSC, for the purpose of this procedure the OSC is part of the TSC.

3.0 REFERENCES AND COMMITMENTS

3.1 References

- 3.1.1 Code of Federal Regulations 10 CFR 20
- 3.1.2 RADIOLOGICAL EMERGENCY TELEPHONE DIRECTORY (RETD)
- 3.1.3 RADIOLOGICAL EMERGENCY RESPONSE PLAN (RERP)
- 3.1.4 PIR 2000-3534, TSC Diesel Generator failed to satisfy the requirements of STN KAT-001.

3.2 Commitments

- 3.2.1 Deleted
- 3.2.2 RCMS 91-142, Failure to Establish and Maintain Habitability in the Emergency Response Facilities
- 3.2.3 RCMS 92-188, Timely Notification of an Emergency and Timely Activation of the TSC and OSC
- 3.2.4 RCMS 97-067, Maintain Priority Board Information Up-To-Date
- 3.2.5 RCMS 97-066, DED To Inform Personnel Of Information Needed To Escalate Classification

Revision: 6	TECHNICAL SUPPORT CENTER OPERATIONS	EPP 06-002
Reference Use		Page 3 of 29

4.0 DEFINITIONS

4.1 Callout

4.1.1 The methodology which is implemented to provide proper staffing of the ERO.

4.2 Emergency Action Levels (EALs)

4.2.1 Specific parameters or conditions that may be used as thresholds for declaring a particular emergency classification.

4.3 Emergency Classification

4.3.1 A system used to define the severity of emergencies into one of four categories based upon projected or confirmed emergency action levels. Classifications listed in order of increasing severity are as follows:

- o Notification of Unusual Event
- o Alert
- o Site Area Emergency
- o General Emergency

4.4 Emergency Conditions

4.4.1 Situations occurring which cause or may threaten to cause radiological hazards affecting the health and safety of employees or the public, or which may result in damage to property.

4.5 Facility Activation

4.5.1 A facility is considered activated when the designated positions are present, the Emergency Manager determines the facility is ready to activate, and declares the facility activated.

4.6 Habitability

4.6.1 Habitable - Radiological / environmental conditions within the facility are not challenged. There are no stay time restrictions for environmental or radiological circumstances.

4.6.2 Degraded - Conditions within the facility do not meet normal facility conditions. This could be due to radiological, environmental, or equipment conditions which may cause some type of hardship for personnel working in the facility.

Revision: 6	TECHNICAL SUPPORT CENTER OPERATIONS	EPP 06-002
Reference Use		Page 4 of 29

4.7 Operations Support Center (OSC)

- 4.7.1 A staging area located in the TSC for emergency teams to support the emergency response effort.

4.8 Records

- 4.8.1 Documents such as calculation worksheets, computer printouts, forms, logs, memos, checklists, or any paper used to record data or information during an emergency, drill or exercise which may be used for event reconstruction.

4.9 Technical Support Center (TSC)

- 4.9.1 The TSC serves as a center outside of the Control Room that acts in support of the command-and-control function and houses the OSC organization. Plant status and diagnostic information are available at this location for use by technical and management personnel in support of control room command-and-control functions.

5.0 RESPONSIBILITIES

5.1 Site Emergency Manager

- 5.1.1 Coordinate and direct on-site emergency response.
- 5.1.2 Classify/terminate the emergency in accordance with the Emergency Action Levels (EALs).
- 5.1.3 Approve radiation exposure greater than the limits of 10CFR20 for on-site ERO personnel.
- 5.1.4 Establish priorities for accident mitigation and emergency repair.
- 5.1.5 Declare the TSC activated and establish priorities for TSC personnel.
- 5.1.6 Approve Emergency Notifications and Protective Action Recommendations until the EOF is activated.

5.2 TSC Operations Coordinator

- 5.2.1 Coordinate overall emergency response activities with the Control Room staff.

5.3 TSC Administrative Coordinator

- 5.3.1 Provide support for TSC personnel as needed and direction for the TSC Administrative Assistants.

Revision: 6	TECHNICAL SUPPORT CENTER OPERATIONS	EPP 06-002
Reference Use		Page 5 of 29

5.4 TSC Radiological Coordinator

- 5.4.1 Provide direction for radiological conditions associated with activities controlled by the TSC.

5.5 TSC Facility Technician

- 5.5.1 Perform radiological duties in the TSC as directed.

5.6 Maintenance Coordinator

- 5.6.1 Determine the need for and appoint members to Emergency Response Teams.

5.7 Engineering Coordinator

- 5.7.1 Directs the assessment and evaluation tasks of the Engineering Team.

6.0 PRECAUTIONS/LIMITATIONS

- 6.1 The assigned Site Emergency Manager will assume command-and-control functions and will be the top line manager responsible for the emergency until the EOF is activated. TSC activation will be performed as soon as practical and within the times as stated in the following: **[Commitment Step 3.2.3]**

- 6.1.1 During off-normal working hours, it is the goal to activate the TSC within 75 minutes of a declaration of an Alert or higher classification.

- 6.1.2 During normal working hours, it is the goal to activate the TSC within 30 minutes of a declaration of an Alert or higher classification.

- 6.2 Personnel entering the TSC may be required to perform a whole body frisk at a designated frisking station.

- 6.3 Teams dispatched from on-site locations may not require an HP Technician as part of the team. However, approval must be obtained from the TSC Radiological Coordinator prior to leaving for the initial and each additional destination.

- 6.4 Facility evacuation should be considered if there is an actual or projected dose greater than or equal to 5 REM TEDE, unless the Site Emergency Manager authorizes exposures up to 25 REM.

- 6.5 Personnel in the TSC may be directed to relocate to another suitable location in the event emergency conditions preclude activation or warrant evacuation of the TSC.

- 6.6 Emergency Response Data System (ERDS) must be activated within 60 minutes of a declaration of an Alert or higher emergency.

Revision: 6	TECHNICAL SUPPORT CENTER OPERATIONS	EPP 06-002
Reference Use		Page 6 of 29

7.0 PROCEDURE

7.1 Facility Activation

7.1.1 Upon notification of an Alert or higher emergency or at the discretion of the Shift Manager during an NUE, assigned ERO team members report to and establish TSC operations as follows:

1. Insert ACAD badge into TSC card reader for accountability.
2. Obtain the position name tag for the assigned position from the TSC or OSC Staffing Board.
3. Print name and ACAD badge number on the Staffing Board where the position badge was located.
4. Proceed to assigned work station and commence with position functions as directed by this procedure.

7.1.2 Personnel should log/record significant emergency response information.

7.1.3 The TSC may be activated when the following positions are present and the Site Emergency Manager determines the facility is ready to activate:

- o Site Emergency Manager
- o TSC Operations Coordinator
- o TSC Administrative Coordinator
- o TSC Radiological Coordinator
- o Maintenance Coordinator

7.1.4 WHEN TSC equipment problems or failures are identified, THEN these problems or failures should be reported to the TSC Administrative Coordinator.

7.1.6 IF the TSC personnel are required to relocate, THEN refer to ATTACHMENT B, OSC RELOCATION SUPPLIES/EQUIPMENT, for a list of supplies to be considered for transport to the relocation area.

7.2 Facility Deactivation

7.2.1 The Site Emergency Manager should inform personnel in the TSC to deactivate.

Revision: 6	TECHNICAL SUPPORT CENTER OPERATIONS	EPP 06-002
Reference Use		Page 7 of 29

- 7.2.2 Each TSC position holder should transmit logs and any other documentation generated during the emergency to the TSC Administrative Coordinator.
- 7.2.3 The TSC Administrative Coordinator should transmit all documentation collected to Emergency Planning.
- 7.2.4 Each TSC position holder should evaluate the condition of equipment and supplies.
- 7.2.5 Each TSC position holder should return equipment and supplies to pre-activation status.
- 7.2.6 Each TSC position holder should report any deficiencies in facility equipment or supplies to the TSC Administrative Coordinator.
- 7.2.7 The TSC Administrative Coordinator should notify Emergency Planning of any damaged or missing facility equipment.

7.3 Site Emergency Manager

- 7.3.1 Obtain a turnover briefing from the Shift Manager. EPF 06-002-01, EMERGENCY MANAGERS TURNOVER SHEET, may be used as an aid for this turnover.
- 7.3.2 Ensure the following positions have been filled and are ready for TSC activation: **[Commitment Step 3.2.3]**
 - o TSC Operations Coordinator
 - o TSC Administrative Coordinator
 - o TSC Radiological Coordinator
 - o Maintenance Coordinator

Revision: 6	TECHNICAL SUPPORT CENTER OPERATIONS	EPP 06-002
Reference Use		Page 8 of 29

CAUTIONS

The following responsibilities are those of the Emergency Managers and may NOT be delegated. These responsibilities may be divided between the Site and Off-site Emergency Managers:

- o Emergency Classification
- o Protective action recommendations
- o Authorization for notification of off-site authorities
- o Authorization of Emergency Exposures on-site in excess of 10CFR20 Limits

- 7.3.3 Assume command-and-control of site emergency response activities from the Shift Manager.
 1. IF the EOF is not activated, THEN assume the Notification and Protective Action Recommendations duties until the EOF is activated.
 2. Inform the staff in the TSC you have assumed command-and-control and that the TSC is declared activated.
 3. Direct the TSC Administrative Coordinator to make a plant announcement that the TSC is activated and the name of the Site Emergency Manager.
- 7.3.4 Conduct initial and periodic briefings for the TSC staff focusing upon the highest priority items and key parameters which are likely to lead to an escalated emergency classification. **[Commitment Step 3.2.5]**
- 7.3.5 Assess plant conditions and evaluate the need to reclassify the emergency in accordance with EPP 06-005, EMERGENCY CLASSIFICATION.
 1. Direct the Control Room to make appropriate plant announcements for changing classifications.
 2. Direct the Control Room to initiate callout as necessary for the declared emergency.
- 7.3.6 Coordinate with the TSC Radiological Coordinator on the need to authorize exposure limits in excess of 10CFR20 limits, with NRC concurrence if practical, and the need to recommend ingestion of potassium iodide (KI).
- 7.3.7 Evaluate and authorize radiation exposure levels for site personnel.

Revision: 6	TECHNICAL SUPPORT CENTER OPERATIONS	EPP 06-002
Reference Use		Page 9 of 29

1. Approve exposures exceeding 2 REM (TEDE).
 2. Approve exposures in excess of 10 CFR 20 limits.
- 7.3.8 Ensure the Shift Manager is updated with status changes and decisions as they happen.
- 7.3.9 Coordinate shift relief for Control Room and TSC personnel with the EOF.
- 7.3.10 IF downgrading or terminating an emergency, THEN perform in accordance with EPP 06-008, RECOVERY OPERATIONS.
- 7.4 TSC Operations Coordinator
- 7.4.1 Ensure the normal power supply to the TSC is available. IF unavailable, THEN ensure the Diesel Generator is started in accordance with ATTACHMENT C, TSC DIESEL OPERATIONS.
- 7.4.2 Ensure the facility clock is synchronized with the Control Room clock.
- 7.4.3 Post the appropriate Emergency Classification sign.
- 7.4.4 Inform the Site Emergency Manager of readiness for TSC activation.
- 7.4.5 Coordinate overall emergency response activities with the Control Room staff.
- 7.4.6 Ensure HEPA Filtration and the Iodine Monitor are placed in service in accordance with ATTACHMENT A, HEPA FILTRATION AND IODINE MONITORING STARTUP, when an Alert or higher emergency has been declared.

NOTE

Emergency Response Data System (ERDS) must be activated within 60 minutes of the declaration of an Alert or higher emergency.

- 7.4.7 Ensure the Emergency Response Data System (ERDS) has been activated.
1. Instructions for initiating ERDS activation are contained in ATTACHMENT D, EMERGENCY RESPONSE DATA SYSTEM (ERDS) OPERATIONS.
- 7.4.8 Monitor plant conditions for changes which could affect the emergency classification and notify the Site Emergency Manager of the conditions.

Revision: 6	TECHNICAL SUPPORT CENTER OPERATIONS	EPP 06-002
Reference Use		Page 10 of 29

7.4.9 Evaluate actual or potential radiological releases based on plant conditions. Discuss evaluation with the Site Emergency Manager and TSC Radiological Coordinator.

7.5 TSC Administrative Coordinator

- 7.5.1 Ensure the Control Room is contacted for status of notifications.
- 7.5.2 Notify the Site Emergency Manager of readiness for TSC activation.
- 7.5.3 Ensure TSC accountability is being performed and maintained.
- 7.5.4 Ensure the State and County are notified that the TSC is activated and that the Site Emergency Manager has assumed command-and-control of the emergency.
- 7.5.5 Ensure Immediate and Follow-up Notifications are performed in accordance with EPP 06-007, EMERGENCY NOTIFICATIONS.
- 7.5.6 Ensure initial TSC staffing is adequate. IF staffing is not adequate, THEN call out additional personnel.
 - o For off-hours activation use the ADS report OR the NRECs report to evaluate staffing.
- 7.5.7 Make arrangements for shift relief and meals.
- 7.5.8 Ensure the TSC Administrative Assistants are briefed on Site Emergency Manager's updates and emergency status.
- 7.5.9 Ensure the Security Shift Lieutenant is briefed on plant and radiological conditions that may impact Security operations.
- 7.5.10 IF a Site Area or General Emergency has been declared, THEN determine from the Security Shift Lieutenant the status of an Exclusion Area Boundary evacuation.

7.6 TSC Radiological Coordinator

- 7.6.1 Obtain current radiological status and Protective Action Recommendations made.
- 7.6.2 Ensure the TSC Facility Technician and one other person to make a team are available. **[Commitment Step 3.2.3]**
- 7.6.3 Ensure facility habitability has been established.

Revision: 6	TECHNICAL SUPPORT CENTER OPERATIONS	EPP 06-002
Reference Use		Page 11 of 29

- 7.6.4 Notify the Site Emergency Manager of readiness for facility activation.
- 7.6.5 Ensure dosimetry devices are placed in the facility or issued to personnel as appropriate in accordance with EPP 06-013, EXPOSURE CONTROL AND PERSONNEL PROTECTION.
- 7.6.6 Ensure the Site Emergency Manager is briefed on radiological status for the development of Protective Action Recommendations.
- 7.6.7 Initiate surveys in accordance with EPP 06-011, EMERGENCY TEAM FORMATION AND CONTROL.
- 7.6.8 IF access is denied through the main entrance of the TSC, THEN advise the TSC Administrative Assistant to ensure the airlock door is closed and to move to the rear entrance of the TSC to maintain accountability.
- 7.6.9 Provide the Site Emergency Manager with an evaluation of the conditions potentially requiring personnel exposure in excess of 10 CFR 20 limits.
 - o IF time permits, THEN initiate EPF 06-013-01, EMERGENCY EXPOSURE AUTHORIZATION.
- 7.6.10 For actual or projected doses perform the following:
 - 1. IF an actual or projected dose in the facility is 5 REM TEDE, THEN inform the Site Emergency Manager of the need to evacuate the facility. [Commitment Step 3.2.2]
 - 2. IF projected thyroid dose is greater than or equal to 25 REM, THEN recommend the ingestion of KI in accordance with EPP 06-013, EXPOSURE CONTROL AND PERSONNEL PROTECTION.
- 7.6.11 Ensure Emergency Response Teams are informed of changing plant conditions, emergency classifications and protective action recommendations which may affect the team's ability to complete assigned activities.
- 7.6.12 Complete the following information on EPF 06-011-01, PLANT TEAM BRIEFING CHECKLIST, and transfer the form to the TSC Team Director.
 - o Plant Status
 - o Radiological Conditions
- 7.6.13 IF off-site medical assistance is needed, THEN ensure Health Physics support requirements are met.

Revision: 6	TECHNICAL SUPPORT CENTER OPERATIONS	EPP 06-002
Reference Use		Page 12 of 29

7.6.14 Assist in personnel evacuation by performing the following:

1. Dispatch an HP Technician to the Security Building to establish radiological control and conduct personnel monitoring, if required.
2. Inform Security Shift Lieutenant of appropriate radiological plant data and direction of the plume for dissemination to evacuating personnel.

7.7 TSC Facility Technician

7.7.1 Establish and maintain facility habitability.

1. IF readings greater than 100 cpm above background on the general area frisker or greater than background on the General Atomics iodine monitor are noted, THEN an air sample will be taken in accordance with RPP 02-210, RADIATION SURVEY METHODS.
2. IF the General Atomics iodine monitor at the TSC is inoperable during HEPA filter operation, THEN initiate portable iodine sampling at least hourly in accordance with RPP 02-210, RADIATION SURVEY METHODS.
3. Ensure all AIR LOCK DOORS are closed. [**Commitment Step 3.2.2**]
4. Position a frisker in the facility for habitability monitoring. IF the frisker alarms, THEN take an air sample of the TSC.
 - o Lead bricks are available for shielding.
5. Record the Iodine Monitor cpm reading in the Facility Technician log.
6. Record the Area Radiation Monitor mR/hr reading in the Facility Technician log.
 - o IF the area radiation monitor exceeds 20 mR/hr, THEN notify the TSC Radiological Coordinator.
7. IF a release is in progress OR as directed, THEN place a frisker at the facility entrance for personnel monitoring.

7.7.2 Inform the TSC Radiological Coordinator of all facility habitability surveys.

Revision: 6	TECHNICAL SUPPORT CENTER OPERATIONS	EPP 06-002
Reference Use		Page 13 of 29

7.7.3 Check the Ventilation Iodine Monitor hourly for proper operation.

- o IF inoperable, THEN initiate portable iodine sampling at least hourly.

7.7.4 Identify and label inoperable equipment.

7.7.5 Ensure 10 sets of 0-500 mR and 0-5 R dosimeters are functional and ready for use.

7.7.6 Determine dose margin and respirator qualifications of personnel assigned to Emergency Response Teams.

7.7.7 Ensure the logging in and analysis of all incoming radiological samples.

7.7.8 Review and document dosimetry results of emergency response activities in accordance with EPP 06-013, EXPOSURE CONTROL AND PERSONNEL PROTECTION.

7.7.9 Discuss the decontamination of on-site personnel with the TSC Radiological Coordinator.

1. Perform decontamination in accordance with RPP 02-310, PERSONNEL DECONTAMINATION.
2. Collect all RPP forms associated with the decontamination activity.

7.8 Maintenance Coordinator

7.8.1 Verify personnel are present and ready to perform Emergency Response Team tasks. [**Commitment Step 3.2.3**]

7.8.2 Provide the Site Emergency Manager with an assessment of pre-emergency maintenance activities.

7.8.3 Coordinate with the Site Emergency Manager to determine what information to list on the Priority Board and maintain the board up-to-date. [**Commitment Step 3.2.4**]

7.8.4 Obtain the status of and evaluate teams dispatched by the Control Room from the TSC Operations Recorder.

7.8.5 Direct the Maintenance Planners to develop a repair plan for equipment repair.

7.8.6 Determine the scope of Emergency Response Team activities to be performed.

7.8.7 Initiate EPP 06-011-01, PLANT TEAM BRIEFING CHECKLIST, and coordinate with Maintenance Assistant on field team assignment.

Revision: 6	TECHNICAL SUPPORT CENTER OPERATIONS	EPP 06-002
Reference Use		Page 14 of 29

7.8.8 Advise the Site Emergency Manager of Emergency Response Team status.

7.9 Engineering Coordinator

7.9.1 Coordinate and direct the efforts of the Engineering Team to technically assess plant status and the severity of the emergency conditions.

7.9.2 Direct accident assessment and mitigation activities to be performed in accordance with EPP 06-016, ACCIDENT ASSESSMENT AND MITIGATION.

7.9.3 Advise the TSC Operations Coordinator on technical matters relating to fuel integrity, plant systems, equipment, and instrumentation.

7.9.4 Support maintenance items assigned to Emergency Response Teams.

7.10 TSC Operations Recorder

7.10.1 Ensure NPIS is operable by verifying time and date in the upper right-hand corner are updating.

NOTES

- o The Operations Status Board has a goal of being updated at 15 minute intervals.

7.10.2 Maintain the Operations Status Board current by using NPIS Turn-On-Codes SB1 and SB2 OR with data obtained from the Operations Communicator on EPF 06-002-02, OPERATIONS STATUS.

1. Maintain a hard-copy of the NPIS printouts or completed EPF 06-002-02, OPERATIONS STATUS.

7.10.3 Monitor plant status for adverse trends and inform the TSC Operations Coordinator of changes in plant status which could affect the emergency classification.

7.10.4 Track procedure progress, list the procedure being performed by the Control Room.

7.10.5 WHEN transitions are made to the next procedure, THEN notify the TSC Operations Coordinator.

7.10.6 Communicate information, concerning emergency teams dispatched from the Control Room, directly to the TSC Maintenance Coordinator.

7.11 TSC Administrative Assistant

Revision: 6	TECHNICAL SUPPORT CENTER OPERATIONS	EPF 06-002
Reference Use		Page 15 of 29

- 7.11.1 Ensure the operability of phones and radios to be used for County and State notifications. Conduct an initial radio check with Coffey County and the State of Kansas.
- 7.11.2 Ensure the verification phone is plugged in and operable.
- 7.11.3 Maintain TSC accountability by performing the following:
 1. Maintain EPF 06-010-01, ACCOUNTABILITY LOG, OR ensure personnel entering or leaving the TSC use the card reader for tracking all persons not assigned to an Emergency Response Team.
 2. Ensure personnel entering and exiting the TSC close the airlock door. **[Commitment Step 3.2.2]**
 3. WHEN informed that access is being denied to the main entrance of the TSC, THEN ensure the airlock door is closed and relocate to the designated entrance to maintain accountability.
- 7.11.4 Provide assistance to the Site Emergency Manager by performing the following:
 1. Maintain a log book
 2. Maintain the TSC Sequence of Events and Protective Action Recommendation Board
 3. Answer the phone as needed
 4. Complete EPF 06-002-03, SEQUENCE OF EVENTS
- 7.11.5 Provide faxing and copying support by performing the following:
 1. Provide copies of EPF 06-007-01, WOLF CREEK GENERATING STATION EMERGENCY NOTIFICATION, to the TSC Emergency Notification System (ENS) Communicator and Onsite Public Information Coordinator.
 2. Provide copies of Radiological and Operations Status Boards information to the Onsite Public Information Coordinator.
 3. Ensure copies of all EPF 06-007-01, WOLF CREEK GENERATING STATION EMERGENCY NOTIFICATION, and EPF 06-002-03, SEQUENCE OF EVENTS, are provided to the EOF.

Revision: 6	TECHNICAL SUPPORT CENTER OPERATIONS	EPP 06-002
Reference Use		Page 16 of 29

7.11.6 Provide Off-site communications by performing the following:

1. Contact the Control Room Off-site Communicator to verify the status of notifications.
2. Verify that all information has been completed on Notification forms prior to transmitting.
3. Perform Emergency Notifications in accordance with EPP 06-007, EMERGENCY NOTIFICATIONS.
4. Conduct calls for off-site support as directed by the TSC Administrative Coordinator.
 - a. Unless the call for off-site support is to obtain assistance for a life threatening situation, do not interrupt the Immediate Notifications. Such calls shall be made coincidentally with Immediate Notifications.
 - b. Calls for immediate off-site support take precedence over Follow-up Notifications.

7.12 TSC Team Director

7.12.1 Assume control of all teams dispatched from the Control Room except on-shift Nuclear Station Operators.

1. On-shift Nuclear Station Operators remain under Control Room control and are not assigned a team identifier.

7.12.2 Assign each Emergency Response Team with a team identifier.

7.12.3 Inform the TSC Team Communicator of the formation of Emergency Response Teams.

7.12.4 Evaluate the need for Health Physics support for all dispatched teams.

1. Health Physics Technicians will provide the necessary radiological guidance for the task which the team will perform.
2. Health Physics Technicians should provide status updates to the Radiological Coordinator during the time the team is in the field.

7.12.5 Coordinate with the Maintenance Assistant to complete a brief for Emergency Response Teams.

Revision: 6	TECHNICAL SUPPORT CENTER OPERATIONS	EPP 06-002
Reference Use		Page 17 of 29

1. Consider areas to evacuate to, stay times, and possible hazards the team may encounter while performing their task.

7.13 TSC Team Communicators

- 7.13.1 Ensure that the radio is turned on and selected to the correct channel.
- 7.13.2 Establish and maintain communications with site Emergency Response Teams.
- 7.13.3 Verify team identification and membership when Emergency Response Teams establish radio communications.
- 7.13.4 Inform the teams of changes to plant status and emergency classifications.
- 7.13.5 Ensure all pertinent directions to the teams from the TSC Team Director are logged.

7.14 TSC Emergency Notification System (ENS) Communicator

- 7.14.1 Inform the TSC Operations Coordinator that ENS communications are ready to be established.
- 7.14.2 Establish and maintain continuous communications with the NRC via the ENS Emergency Telecommunications System (ETS) telephone. IF the NRC determines that continuous communications or contact with all facilities is not necessary, THEN communications may be terminated as directed by the NRC.
 1. Use of the ETS phone is in accordance with EPP 06-007, EMERGENCY NOTIFICATIONS.

Revision: 6	TECHNICAL SUPPORT CENTER OPERATIONS	EPP 06-002
Reference Use		Page 18 of 29

7.14.3 Provide the following information to the NRC:

- o Any further degradation in the level of safety of the plant or other worsening plant conditions
- o The results of ensuing evaluations or assessments of plant conditions
- o The effectiveness of response or protective measures taken
- o Any information related to plant behavior that is not understood

7.15 Engineering Team

- 7.15.1 The Engineering Team should monitor NPIS primary plant display for adverse trends.
- 7.15.2 The Engineering Team should assist with troubleshooting and restoration of equipment.
- 7.15.3 The Engineering Team should monitor on-site and off-site electric distribution and sources.
- 7.15.4 The Engineering Team should assess plant status and the severity of the emergency conditions in accordance with EPP 06-016, ACCIDENT ASSESSMENT AND MITIGATION.
- 7.15.5 Nuclear Engineer should assess the degree of fuel damage in accordance with EPP 06-017, CORE DAMAGE ASSESSMENT METHODOLOGY.

7.16 Emergency Response Team

- 7.16.1 Sign your name and position on the Task Board.
- 7.16.2 Obtain Protective clothing and stage in bag for readiness.
- 7.16.3 Obtain most recent dose update and respirator qualifications.
- 7.16.4 Perform operability checks on equipment and instruments before leaving the TSC.
- 7.16.5 WHEN Chemistry Technicians perform chemical sampling, THEN provide analysis results to the TSC Radiological Coordinator.
- 7.16.6 Immediately report major anomalies encountered in the plant to the TSC Team Communicator.

Revision: 6	TECHNICAL SUPPORT CENTER OPERATIONS	EPP 06-002
Reference Use		Page 19 of 29

7.16.7 Upon return to the TSC, report any anomalies to the TSC Team Director.

7.16.8 Track Emergency Response Team exposure in accordance with EPP 06-013, EXPOSURE CONTROL AND PERSONNEL PROTECTION.

7.16.9 Team formation and control is in accordance with EPP 06-011, EMERGENCY RESPONSE TEAM FORMATION AND CONTROL.

7.17 Maintenance Assistant

7.17.1 Assign personnel to Emergency Response Teams for equipment repair, surveys, or search and rescue.

7.17.2 Coordinate with the TSC Team Director and brief Emergency Response Teams on team objectives.

1. Complete EPF 06-011-01, PLANT TEAM BRIEFING CHECKLIST.

7.17.3 IF the team has a search and rescue mission, THEN include the following information in the briefing:

o Number and last known location(s) of missing individual(s)

o Possible physical condition of missing individual(s)

7.17.4 Brief the Maintenance Coordinator on the status of Emergency Response Teams.

7.17.5 Consider the necessity of conducting additional briefings of teams dispatched to additional locations once the team has left the TSC.

7.17.6 Debrief Emergency Response Teams in accordance with EPP 06-011, EMERGENCY TEAM FORMATION AND CONTROL.

7.18 Maintenance Planner

7.18.1 Assist in the briefing of Emergency Response Teams and provide maintenance support as appropriate to the Maintenance Coordinator.

7.18.2 Develop repair plans for equipment repairs as directed.

7.19 Warehouse Support

7.19.1 Locate and secure parts and equipment from the warehouse as directed.

Revision: 6	TECHNICAL SUPPORT CENTER OPERATIONS	EPP 06-002
Reference Use		Page 20 of 29

7.20 Security Coordinator

7.20.1 Ensure the safety of Security personnel is maintained by coordinating Security activities with activities of the TSC.

7.20.2 Provide coordination of activities including, but not limited to the following:

- o Emergency vehicle arrival
- o Search and rescue outside the PAB
- o Access to vital areas
- o EMT support
- o Activities concerning Security

8.0 INITIAL ACTIONS

8.1 None

9.0 SUBSEQUENT ACTIONS

9.1 None

10.0 RECORDS

10.1 Records generated by this procedure during an actual emergency are considered lifetime QA records and shall be forwarded to Emergency Planning at the termination of the emergency.

10.2 Records generated by this procedure during drills or exercises are considered non-QA records and shall be forwarded to Emergency Planning at the termination of the drill or exercise.

11.0 FORMS

11.1 EPF 06-002-01, EMERGENCY MANAGER TURNOVER SHEET

11.2 EPF 06-002-02, OPERATIONS STATUS

11.3 EPF 06-002-03, SEQUENCE OF EVENTS

- END -

Revision: 6	TECHNICAL SUPPORT CENTER OPERATIONS	EPP 06-002
Reference Use		Page 21 of 29

ATTACHMENT A
(Page 1 of 2)
HEPA FILTRATION AND IODINE MONITORING OPERATIONS

NOTES

- o The HEPA filtration startup panels are located in the northwest corner of the TSC Equipment Room.
- o The air handling heater switch is located on top of the HEPA unit directly in front of the Iodine Monitoring Control Panel.

A.1 HEPA FILTRATION STARTUP INSTRUCTIONS

- A.1.1 On Panel PB-1, Toggle the FILTER/NORMAL switch to FILTER.
1. Verify dampers D-1 and D-2 closed status lights indicate CLOSED.
 2. Verify damper D-3 open status light indicates OPEN.
 3. IF dampers D-1 and D-2 fail to close or D-3 fails to open, THEN use manual damper controls located in the ductwork to position the dampers. Damper D-1 is located in Janitor Supply Room. Dampers D-2 and D-3 are located in the TSC Equipment Room in the overhead above the Iodine Monitor.
- A.1.2 On Disconnect Box next to Panel PB-1, turn HEPA filtration FAN SWITCH to HAND position to start fan.
- A.1.3 Turn air handling heater to ON.

A.2 IODINE MONITORING STARTUP INSTRUCTIONS

- A.2.1 Ensure "PWR ON" indicator is lit.
- A.2.2 Close Purge valve.
- A.2.3 Verify inlet valve is throttled open.
- A.2.4 Press and hold START button.
1. Verify green "ON" light comes on.
 2. IF vacuum is not between 3" and 10" Hg on the vacuum gauge, THEN adjust the inlet valve to obtain between 3" to 10" Hg on the vacuum gauge.

Revision: 6	TECHNICAL SUPPORT CENTER OPERATIONS	EPP 06-002
Reference Use		Page 22 of 29

ATTACHMENT A

(Page 2 of 2)

HEPA FILTRATION AND IODINE MONITORING OPERATIONS

3. WHEN vacuum is between 3" to 10" Hg on the gauge, THEN release the "START" button.

A.2.5 Verify LIMIT light is extinguished.

A.2.6 Verify air flow is between 1.8 and 2.2 cfm.

A.3 HEPA FILTRATION SHUTDOWN INSTRUCTIONS

A.3.1 Turn air handling heater to OFF.

A.3.2 On Disconnect Box next to Panel PB-1, turn HEPA filtration FAN SWITCH to OFF position to secure fan.

A.3.3 On Panel PB-1, Toggle the FILTER/NORMAL switch to NORMAL.

1. Verify dampers D-1 and D-2 status lights indicate OPEN.
2. Verify damper D-3 status light indicates CLOSED.
3. IF damper D-1 fails to open, THEN ensure exhaust fan EXF-1 located in Janitor Supply Room is running.
4. IF damper D-2 fails to open or damper D-3 fails to close, THEN use manual damper controls located in the ductwork to position the dampers. Dampers D-2 and D-3 are located in the TSC Equipment Room in the overhead above the Iodine Monitor.

A.4 IODINE MONITORING SHUTDOWN INSTRUCTIONS

A.4.1 Secure the monitor by pushing and releasing the STOP button.

- END -

Revision: 6	TECHNICAL SUPPORT CENTER OPERATIONS	EPP 06-002
Reference Use		Page 23 of 29

ATTACHMENT B
(Page 1 of 1)
OSC RELOCATION SUPPLIES AND EQUIPMENT

- B.1 Air Samplers, Friskers, and Survey Meters for Portable Survey Instruments
- B.2 TLDs, SRD (PICs), Issue Logs, and Dosimeter Chargers for Personnel Dosimetry
- B.3 Emergency Procedures/Forms
- B.4 Protective Clothing and Tape
- B.5 Decontamination Kit
- B.6 First Aid and Medical Response Kits
- B.7 Communication Equipment
- B.8 Step Off Pads, Radiation Signal Ropes and Signs for Radiation Control Area Supplies
- B.9 SCBA and Full Face (spare cartridges) Respiratory Protection
- B.10 Zeolite Cartridges, Smears, and A/S Filters for Health Physics Survey Supplies
- B.11 KI Tablets
- B.12 Office Supplies, Flashlights, and Batteries

- END -

Revision: 6	TECHNICAL SUPPORT CENTER OPERATIONS	EPP 06-002
Reference Use		Page 24 of 29

ATTACHMENT C
(Page 1 of 3)
TSC DIESEL OPERATIONS

C.1 IF the normal power supply to the TSC is not available, THEN ensure the TSC diesel generator is started as follows:

C.1.1 Ensure EMERG GENERATOR INTAKE DAMPER D6 is OPEN OR that the damper actuator arm is loosened allow the damper to fall open.

NOTES

- o To prevent permanent cranking motor damage, do not crank the diesel for more than thirty seconds continuously. If the diesel does not start within the first thirty seconds, wait one to two minutes before re-cranking.
- o Frequency requirements apply only during steady-state conditions with the diesel under a constant load.

C.1.2 At the Diesel Control Panel, start the diesel generator by placing the MANUAL START toggle switch to the PERMISSIVE START position.

1. Verify the following parameters: (Reference 3.1.4)

- o Oil Pressure GREATER THAN 50 psig
- o Voltage 450 to 500 volts (all phases)
- o Frequency 58.8 Hz to 61.2 Hz

C.1.3 At the Main Distribution Panel, place breakers for circuits 1 through 14 OFF.

C.1.4 At the MANUAL TRANSFER SWITCH, place the MAIN breaker to OFF.

C.1.5 At the MANUAL TRANSFER SWITCH, place the D/GEN breaker to ON.

Revision: 6	TECHNICAL SUPPORT CENTER OPERATIONS	EPP 06-002
Reference Use		Page 25 of 29

ATTACHMENT C
(Page 2 of 3)
TSC DIESEL OPERATIONS

NOTES

- o Allow several seconds for generator load to stabilize before placing the next breaker to the ON position.
- o Machine voltage may be adjusted as necessary by use of rheostat adjacent to the diesel generator field breaker located on the D/G.
- o Diesel generator coolant temperature should be greater than or equal to 120 F prior to loading the diesel generator.

C.1.6 At the Main Distribution Panel, place breakers 1 through 14 to ON.

NOTE

Frequency requirements apply only during steady-state conditions with the diesel under a constant load.

.1.7 WHEN the diesel is operating under load, THEN the following parameters should be maintained.
(Reference 3.1.4)

- o Oil Pressure GREATER THAN 50 psig
- o Voltage 450 to 500 volts (all phases)
- o Frequency 58.8 Hz to 61.2 Hz

C.2 IF the TSC Diesel Generator is no longer needed, THEN shutdown the diesel generator as follows:

- C.2.1 At the Main Distribution Panel, place breakers for circuits 1 through 14 OFF.
- C.2.2 At the MANUAL TRANSFER SWITCH, place the D/GEN breaker to OFF.
- C.2.3 At the MANUAL TRANSFER SWITCH, place the MAIN breaker to ON.
- C.2.4 At the Main Distribution Panel, place breakers for circuits 1 through 14 to ON.

Revision: 6	TECHNICAL SUPPORT CENTER OPERATIONS	EPP 06-002
Reference Use		Page 26 of 29

ATTACHMENT C
(Page 3 of 3)
TSC DIESEL OPERATIONS

NOTE

The Diesel should be allowed to run unloaded for 3 to 5 minutes to cool down.

- C.2.5 At the Diesel Control Panel, stop the diesel by placing the MANUAL START toggle switch to OFF.
- C.2.6 Ensure the EMERG. GENERATOR INTAKE DAMPER D6 is closed.
- C.2.7 Notify the Control Room to perform STN KAT-001, TECHNICAL SUPPORT CENTER DIESEL GENERATOR OPERATION, to ensure the diesel is ready for operation.

- END -

Revision: 6	TECHNICAL SUPPORT CENTER OPERATIONS	EPP 06-002
Reference Use		Page 27 of 29

ATTACHMENT D
(Page 1 of 1)
EMERGENCY RESPONSE DATA SYSTEM (ERDS) OPERATIONS

D.1 ERDS Activation

D.1.1 In the TSC computer room, perform one of the following using the NPIS Computer:

- o Select the E-Plan Menu, then touch the ERDS block on the screen

OR

- o Type the Turn-On code "ERDS" and press the "Return/Enter" key

D.1.2 Follow the prompts until the ERDS is activated.

D.1.3 Notify the TSC Operations Coordinator that ERDS is activated.

D.2 ERDS Deactivation

D.2.1 IF directed by the NRC to deactivate ERDS, THEN press "F3" key and follow the prompts.

- END -

Revision: 6	TECHNICAL SUPPORT CENTER OPERATIONS	EPP 06-002
Reference Use		Page 28 of 29

ATTACHMENT E
(Page 1 of 1)
POSITIONS REQUIRED FOR AUGMENTATION

E.1 Augmentation

E.1.1 The following 25 positions are required to be filled within 60 minutes of the determination that augmentation is needed:

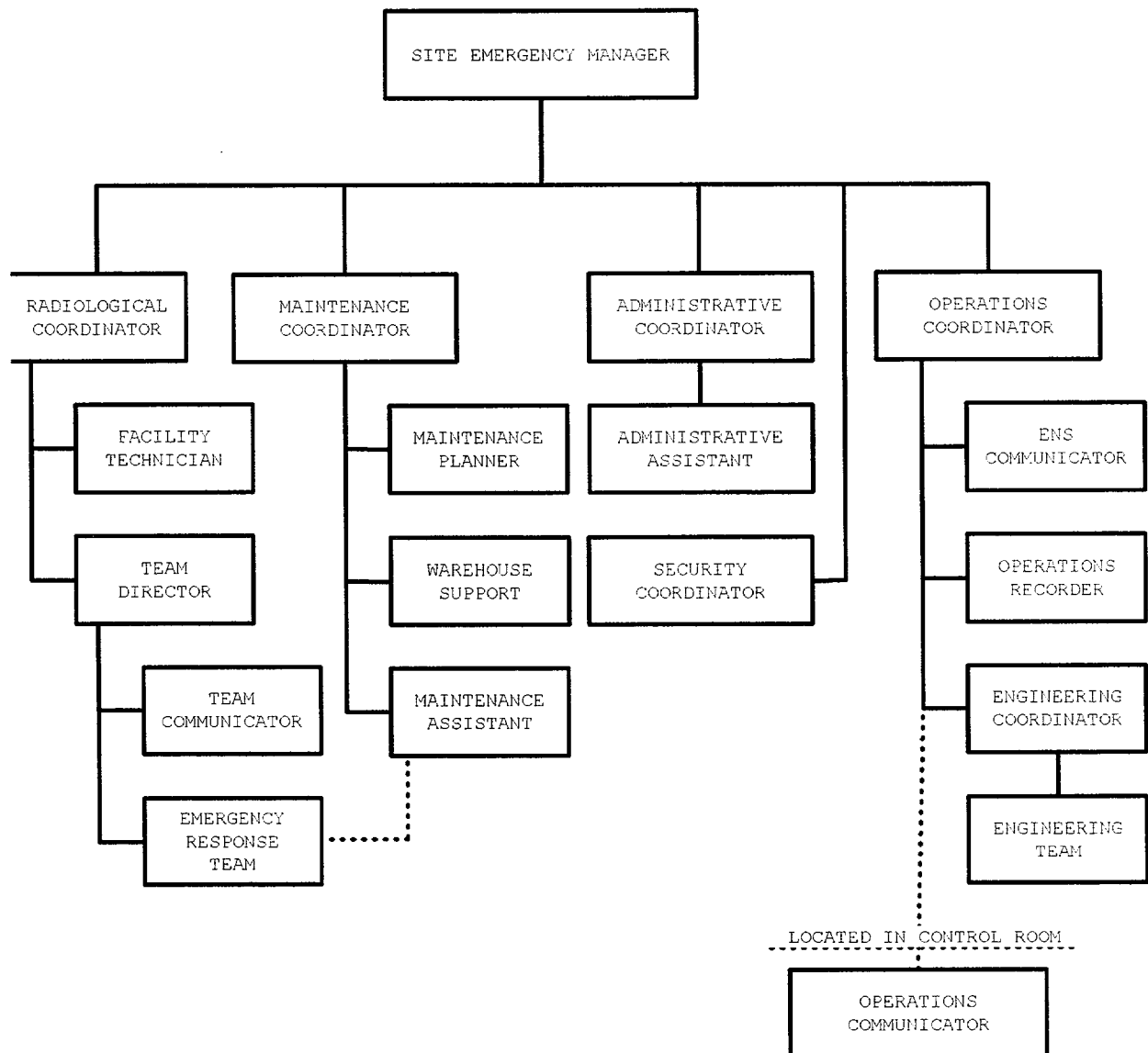
- 1 Radiological Coordinator
- 1 Chemistry Technician
- 1 Nuclear Engineer
- 1 Electrical Engineer
- 1 Mechanical Engineer
- 1 I&C Technician
- 2 Mechanical Maintenance
- 2 Electrical Maintenance
- 3 Communicators (Any combination from Administrative Assistant, ENS, or HPN positions to make three)
- 4 Off-site Health Physics Technicians
- 8 On-site Health Physics Technicians

E.1.2 The following 5 positions are required to be filled within 90 minutes of the determination that augmentation is needed:

- 1 Off-site Emergency Manager
- 1 Operations Coordinator
- 1 Radiological Coordinator
- 1 Administrative Coordinator
- 1 Facility Technician

- END -

FIGURE 1
TSC ORGANIZATION





EPP 06-012

DOSE ASSESSMENT

Responsible Manager

Manager Resource Protection

Revision Number	5
Use Category	Reference
Administrative Controls Procedure	No
Infrequently Performed Procedure	No
Program Number	06

DC2 10/26/2001

Revision: 5	DOSE ASSESSMENT	EPP 06-012
Reference Use		Page 1 of 18

TABLE OF CONTENTS

<u>SECTION</u>	<u>TITLE</u>	<u>PAGE</u>
1.0	PURPOSE	2
2.0	SCOPE	2
3.0	REFERENCES AND COMMITMENTS	2
4.0	DEFINITIONS	3
5.0	RESPONSIBILITIES	4
6.0	PRECAUTIONS/LIMITATIONS	5
7.0	PROCEDURE	6
7.1	Program Description	6
7.2	Program Use	9
7.3	Printer Use	14
8.0	INITIAL ACTIONS	15
9.0	SUBSEQUENT ACTIONS	15
10.0	RECORDS	15
11.0	FORMS	15
ATTACHMENT A	NPIS SCREEN DISPLAYS	16
ATTACHMENT B	RADIATION MONITOR INFORMATION	17

Revision: 5	DOSE ASSESSMENT	EPP 06-012
Reference Use		Page 2 of 18

1.0 PURPOSE

- 1.1 This procedure provides guidance for determining release rates and for estimating off-site dose to the Whole Body and Thyroid.

2.0 SCOPE

- 2.1 The estimated release rate, total release values, off-site dose rates, and integrated doses to the Whole Body and Thyroid, are used in conjunction with EPP 06-006, PROTECTIVE ACTION RECOMMENDATIONS, as one basis for determining off-site protective actions to be recommended to State and County Officials.

3.0 REFERENCES AND COMMITMENTS

3.1 References

- 3.1.1 CHS AX-G01, SAMPLING OF UNIT AND RADWASTE VENTS FOR RADIOACTIVE GAS AND TRITIUM
- 3.1.2 EPP 06-006, PROTECTIVE ACTION RECOMMENDATIONS
- 3.1.3 EPP 06-009, DRILLS AND EXERCISE REQUIREMENTS
- 3.1.4 EPP 06-011, EMERGENCY TEAM FORMATION AND CONTROL
- 3.1.5 EPP 06-013, EXPOSURE CONTROL AND PERSONNEL PROTECTION
- 3.1.6 Radiological Emergency Response Plan (RERP)
- 3.1.7 Regulatory Guide 1.109, Calculation Of Annual Doses To Man From Routine Release Of Reactor Effluents For The Purpose Of Evaluating Compliance With 10CFR50, Appendix I, (Rev. 1, October, 1977)
- 3.1.8 Regulatory Guide 1.111, Methods For Estimating Atmospheric Transport And Dispersion Of Gaseous Effluents In Routine Releases From Light Water Cooled Reactors, (Rev. 1, July 1977)
- 3.1.9 Regulatory Guide 1.145, Atmospheric Dispersion Models For Potential Accident Consequence Assessments At Nuclear Power Plants, (August, 1979)
- 3.1.10 Regulatory Guide 1.23, Meteorological Programs In Support Of Nuclear Power Plants, (September, 1980)
- 3.1.11 Regulatory Guide 1.4, Assumptions Used For Evaluating The Potential Radiological Consequences Of A Loss Of Coolant Accident For Pressurized Water Reactors, (Rev. 2, June 1974)

Revision: 5	DOSE ASSESSMENT	EPP 06-012
Reference Use		Page 3 of 18

3.2 Commitments

- 3.2.1 ITIP 00101 (SOER 83-02, Recommendation R12), Ensure Estimates Of Dose Can Be Made For Two-Phase Or Liquid Releases Though S/G Safety And Relief Valves.

4.0 DEFINITIONS

4.1 Emergency Planning Zone (EPZ)

- 4.1.1 The area around WCGS in which emergency preparedness planning is conducted. The plume exposure EPZ has a radius of approximately 10 miles. The ingestion exposure pathway EPZ has a radius of about 50 miles.

4.2 Exclusion Area

- 4.2.1 That area within a 1200-meter radius surrounding WCGS in which WCNOG has the authority to determine all activities including exclusion or removal of persons and property from the area.

4.3 Integrated Dose

- 4.3.1 The amount of ionizing radiation that has been received during a given period of time by a population or group.

4.4 Pasquill Atmospheric Stability Classifications

- 4.4.1 Are measures of the stability or instability of an air mass based upon the vertical temperature differential between two points.

4.5 Projected Dose

- 4.5.1 The amount of ionizing radiation that is likely to be received by a population or group if no protective action measures are implemented.

4.6 Projected Integrated Dose

- 4.6.1 The summation of the Integrated Dose (previous) and the Projected Dose (future).

4.7 Protective Actions

- 4.7.1 Those emergency measures taken to minimize or prevent radiological exposures to personnel.

4.8 Release Rate

- 4.8.1 The quantity of radioactive material released to the environment expressed in curies per second (Ci/sec).

Revision: 5	DOSE ASSESSMENT	EPP 06-012
Reference Use		Page 4 of 18

4.9 Source Term

4.9.1 The calculated quantity of radioactive material available for or being released to the environment.

4.10 X/Q

4.10.1 A factor based on meteorological dispersion characteristics which relates atmospheric radionuclide release rates to offsite air concentrations.

4.11 Nuclear Plant Instrument System (NPIS)

4.11.1 A plant monitoring tool designed to view critical systems and components during normal and accident conditions.

4.12 Dose Assessment Program

4.12.1 A computer program developed at Wolf Creek designed to use site-specific source terms in the performance of Dose Assessment during an accident condition.

5.0 RESPONSIBILITIES

5.1 Shift Manager

5.1.1 Prior to activation of the Emergency Operations Facility (EOF), assures the Shift Chemist implements this procedure.

5.2 Radiological Coordinator

5.2.1 IF vent monitor(s) are inoperable, THEN consider dispatching Plant Team(s) to collect appropriate samples.

5.3 Shift Chemist

5.3.1 At the declaration of an ALERT or higher emergency classification reports to the Control Room to perform emergency dose calculations in accordance with this procedure.

5.4 Dose Assessment Coordinator

5.4.2 Recommends that Offsite Monitoring Teams be dispatched to determine offsite dose rates in accordance with EPP 06-011, EMERGENCY TEAM FORMATION AND CONTROL.

5.4.3 Informs the appropriate TSC or EOF management of the dose rate and projected integrated TEDE and Thyroid doses.

Revision: 5	DOSE ASSESSMENT	EPP 06-012
Reference Use		Page 5 of 18

5.5 Dose Assessment Technician

5.5.1 Performs emergency dose calculations in accordance with this procedure.

6.0 PRECAUTIONS/LIMITATIONS

6.1 To confirm that the correct version of the Dose Assessment Program is in use, open the Dose Assessment Program, then click on 'Help' and 'Help About'. The correct version currently in use is Rev. 3.1.0. If the correct version is not loaded on your computer, it should be removed from your hard drive.

6.2 Offsite dose projection calculations should be performed at least once per hour during the first eight hours after the accident unless it is determined that releases of airborne radioactivity from the plant have been terminated.

NOTE

Use 15 minute MET data averages to determine if changes are in progress.

6.3 Offsite dose projection calculations may be updated anytime it is deemed necessary. Offsite dose projection calculations should be updated if any of the following conditions occur:

6.3.1 Release rate increases by more than 25 percent.

6.3.2 Wind direction changes by more than 22.5°.

6.3.3 Atmospheric stability classification changes.

6.3.4 Wind speed changes by more than 50 percent.

6.3.5 Prior to any planned releases.

6.4 IF a radiological release is already in progress before a dose assessment calculation is performed, THEN be sure to look at historical release data / trend on the NPIS to determine the maximum release rate, monitor readings, and meteorological conditions.

6.4.1 IF this is not done THEN an under estimation of an emergency dose projection can occur.

Revision: 5	DOSE ASSESSMENT	EPP 06-012
Reference Use		Page 6 of 18

7.0 PROCEDURE

7.1 Program Description

NOTES

- o Tab and Shift Tab key manipulations may be used to move through a Model Screen.
- o Commonly practiced window manipulations may also be used to move through the program.

7.1.1 The following models may be selected by selecting the appropriate tab in the upper right hand corner of the program window.

1. Release Rate Model
2. Design Basis Accident (DBA)
3. SG Tube Rupture
4. Radiation Monitoring System
5. Field Team Data

7.1.2 Information

1. Selection of the INFORMATION heading on the tool bar allows access to the following screens:
 - a. Dose Projection Report/Dose by Subzone
 - b. Source Term
2. The Dose Projection Report/Dose by Subzone and Model Screen are two separate program windows and can both be visible at the same time, subject to limitations of screen resolution, and size.
 - a. The Model Screen includes:
 - 1) MET data section
 - 2) Release data section
 - 3) Performed/Verified signature section
 - 4) Release start time
 - 5) Calculation result section:

Revision: 5	DOSE ASSESSMENT	EPP 06-012
Reference Use		Page 7 of 18

- a) Particulate, Noble Gas and Iodine release rates.
 - b) Projected Centerline Dose Segment - the results of the data entered above but not summed.
 - 6) PAR section which is based on the Projected Dose Segment as well as the summed doses.
 - a) Only evacuation recommended subzones are listed.
 - b. Dose Projection Report/Dose by Subzone Screen includes:
 - 1) Dose Rate to the Whole Body and Thyroid for Exclusion Area Boundary (EAB), 2, 5, and 10 miles in Roentgen per hour (R/hr).
 - 2) Plume arrival time in minutes for EAB, 2, 5, and 10 miles based on wind speed.
 - 3) Estimated hours until evacuation necessary for EAB, 1 R TEDE or 5R thyroid.
 - 4) A list of both TEDE and Thyroid Dose for each subzone.
- 3. The source term option allows manipulation of DCF information.
 - a. The source term enables the user to alter the distribution from the USAR Gap and default activities.
 - 1) Selection of the Activity heading on the source term screen tool bar allows the user to zero all activities for manual entry or to return to USAR Gap activities.
 - 2) Selection of the File heading on the source term screen tool bar allows for data file manipulation.

Revision: 5	DOSE ASSESSMENT	EPP 06-012
Reference Use		Page 8 of 18

NOTE

If the containment spray is selected, the program will inquire whether the spray has been on for 30 minutes or more. If the spray has been on for 30 minutes or more, the filtration factor will be utilized; if not, the filtration factor will not be applied.

b. Two additional nuclide distribution factors are available on the source term screen, HEPA filters and Containment Spray.

- 1) A "Y" entry in the HEPA Filter Box reduces the Iodine Activity 90%. That is, 10% of the Iodine activity is released to the public.
- 2) A "Y" entry in the Containment Spray Box reduces the Iodine Activity available for release by 75%. That is, 25% of the Iodine activity is released to the public.
- 3) If both HEPA Filter and Containment Spray are answered "Yes", the Iodine Activity used in the offsite dose projections is reduced to 2.5% of its original activity level.
- 4) Prior to performing real time calculations, the user must remember to check the source term screen values to ensure projection source term values are appropriate.

4. PARs selection from the Information Menu Bar provides information for review of Protective Action Recommendations.

NOTE

The notification form can only be printed if THE DOSE ASSESSMENT PROGRAM is running from the LAN.

5. The File Menu bar provides options to print the Notification form and calculation worksheet.

7.1.3 Data

1. Selection of Data from the Menu Bar allows selection of the following actions:
 - a. Sort Dose by Subzone

Revision: 5	DOSE ASSESSMENT	EPP 06-012
Reference Use		Page 9 of 18

b. Sum Dose

c. Perform Calculations

d. Long Range Calculations

2. The Sort Dose by Subzone and Sum Dose actions are self-explanatory.

7.1.4 Calculations

1. The offsite doses will be calculated using the data displayed on the Model Screen.

7.1.5 Long Range Calculations

1. The offsite doses, and farthest evacuation distance will be calculated using the data displayed on the Model Screen.

7.2 Program Use

7.2.1 The Dose Assessment Program will normally be operated from an Icon on the desktop. The program is also available at I:\Shared\EDCP\EDCP.EXE.

7.2.2 Select a Release Model from the tabs in the upper right hand corner of the program screen.

7.2.3 Dose calculations may now be performed. Menu items necessary for operation of the program are selected from the Menu Bar.

NOTE

On a total loss of offsite power, certain radiation monitors are still available. See ATTACHMENT B for more information.

7.2.4 Obtain the following information:

1. Plant Status
2. MET data
3. Process Monitor data
4. Effluent Flow rate data

-OR-

5. If no data is available perform a DESIGN BASIS RCS LOCA using:

Revision: 5	DOSE ASSESSMENT	EPP 06-012
Reference Use		Page 10 of 18

- a. DBA Release Rate
- b. Unfiltered Release Pathway
- c. Stability Class D for daytime or Stability Class F for night time

-OR-

- d. If the accident is deemed to be outside of Design Basis and is rapidly escalating, recommend to the Emergency Manager to use EPP 06-006, PROTECTIVE ACTION RECOMMENDATIONS.

7.2.5 Dose Assessment Program MET Information

1. Wind speed can be input as mph, kph, or mps by double-clicking within the box surrounding the input description until the appropriate description is displayed.
2. Projected release duration and time since reactor trip can both be input as hrs., mins., or days by double-clicking within the box surrounding the input description until the appropriate description is displayed.
3. A Stability Class-Wind Speed/Weather Conditions Help Screen is available by double-clicking within the stability class input field.
 - a. The user may generate a stability class by selecting the appropriate weather condition and inputting the proper wind speed.
 - b. The generated stability class is returned to the Model Screen by selecting FILE EXIT.

7.2.6 Dose Assessment Program Model Operations

1. Steps 7.2.7 through 7.2.11 contain information regarding data entry specific to each model

7.2.7 Option One, Release Rate Model

1. This model allows the user to input Gaseous and Iodine release rates in Ci/sec.
2. The following instructions may be useful in operating the Release Rate Model:
 - a. Gaseous Release Rate may be changed to Total Release Rate by double-clicking within the box surrounding the Gaseous Release Rate.

Revision: 5	DOSE ASSESSMENT	EPP 06-012
Reference Use		Page 11 of 18

- 1) Likewise, the display can be changed to Gaseous Release Rate from Total Release Rate by double-clicking within the box surrounding the total release rate.
- b. Iodine Release Rate may be changed to a ratio by double-clicking within the box surrounding the Iodine Release Rate.
 - 1) IF the ratio is known, THEN the value can be entered.
 - 2) If the ratio is unknown, a Help Screen may be displayed by double-clicking within the input field for the iodine ratio.
 - 3) Once the user selects the appropriate ratio from the list, FILE EXIT is used to return to the Model Page of the report.
 - 4) The display may be changed back to Iodine Release Rate by double-clicking within the box surrounding Iodine/Noble Gas Ratio.
- c. IF a leak rate (gal/min) and activity ($\mu\text{Ci/cc}$) is known or can be estimated, THEN the following calculation could be used to determine a release rate:

$$\left(\frac{\mu\text{Ci}}{\text{cc}}\right)\left(\frac{\text{gal}}{\text{min}}\right)\left(\frac{\text{min}}{60\text{s}}\right)\left(\frac{3.785\text{L}}{\text{gal}}\right)\left(\frac{1000\text{cc}}{\text{L}}\right)\left(\frac{\text{Ci}}{1\text{E}6\mu\text{Ci}}\right) = \frac{\text{Ci}}{\text{s}}$$

7.2.8 Option Two, Design Basis Accident (DBA) Model

1. This model allows the user to perform dose calculations based on USAR release rate data for various design accidents.
2. If this option is selected, the user may select from a list of nine DBAs:
 - a. Loss of Coolant
 - b. Main Steam Line Break
 - c. Loss of Offsite AC
 - d. Locked RCP Rotor
 - e. Waste Gas Decay Tank Rupture
 - f. CVCS Break

Revision: 5	DOSE ASSESSMENT	EPP 06-012
Reference Use		Page 12 of 18

- g. SG Tube Rupture
- h. Fuel Handling Accident
- i. Control Rod Ejection

NOTE

Use field team data whenever available to provide the most accurate dose estimations.

7.2.9 Option Three, Steam Generator Tube Rupture

1. The SG Tube Rupture Model allows the user to perform dose calculations based on a steam generator tube rupture utilizing steam flow and shine monitor readings.
2. The following instructions may be helpful when performing SG Tube Rupture calculations:
 - a. Steam generator monitor readings may be input in mR/hr for either a steaming steam generator or a full steam generator.
 - 1) The input description is changed by double-clicking within the box surrounding the input description.
 - 2) Steam generator flow may be input in lbm/hr, thousands of lbm/hr, gph or as a pressure entered by the user.
 - a) Gallons per hour (gph) should be selected if the steam generator is full of water. This option represents a two-phase or liquid release from the steam generator. **[Commitment Step 3.2.1]**
 - b) The input description is changed by double-clicking within the box surrounding the input description.
 - 3) A Steam Generator PORV/Auxiliary Feed Exhaust Help Screen is available by double-clicking either the steam generator monitoring readings or steam generator flow input field.
 - a) Once the Help Screen is completed, the user can return the averaged flow and monitor readings to the Main Screen by selecting FILE EXIT.

Revision: 5	DOSE ASSESSMENT	EPP 06-012
Reference Use		Page 13 of 18

7.2.10 Option Four, Radiation Monitoring System (RMS)

1. The RMS Model allows the user to input data from the unit and/or radwaste vent monitor as well as the vent flow rates to perform offsite dose calculations.
2. The following instructions may be helpful when performing RMS calculations:
 - a. Gaseous Activity - May be changed to Total Activity by double-clicking within the box surrounding Gaseous Activity.
 - 1) Likewise, if Total Activity is displayed it may be toggled back to Gaseous Activity by using the same technique.
 - b. Iodine Activity - May be changed to a ratio if necessary by entering the ratio value followed by double-clicking within the box surrounding the Iodine Activity. This is a toggle type of function and may be returned to an activity using the same technique.
 - 1) If the ratio is unknown, the value may be entered.
 - 2) If the ratio is unknown, once the display has been changed to a ratio input, double-clicking on the associated data field will access a Help Screen.
 - 3) Once the user selects the appropriate DBA ratio, FILE EXIT may be used to return the value to the Model Screen.
 - c. Vent Flow -- may be entered.
 - 1) A Help Screen is available by double-clicking the Vent Flow data box.
 - 2) Enter the fan status for each fan by entering the status and then pressing Enter.
 - 3) Select Vent Totals from the tool bar and total the flows required.
 - 4) Select FILE EXIT from the tool bar to forward the value to the Model Screen.

7.2.11 Option Five, Field Team Data Model

Revision: 5	DOSE ASSESSMENT	EPP 06-012
Reference Use		Page 14 of 18

1. This model allows the user to input field team dose rates, iodine concentration, particulate concentration and distance information to back calculate the plant release rate and then ultimately the down field doses.
2. The following instructions may be helpful when performing the Field Team dose calculations:

NOTE

The Particulate/Iodine ratio used throughout the Dose Assessment Program is 0.112. If the Particulate/Iodine ratio is selected, unless an entry is made, the value of 0.0 will be used. This option only pertains to the field team model.

- a. Field Team Iodine Concentration may be changed to Iodine/Noble Gas Ratio by double-clicking in the box surrounding Field Team Iodine Concentration. This is a toggle-type function and may be changed back to concentration input using the same technique. By selecting Iodine/Noble Gas Ratio the particulate field will change to Particulate/Iodine Ratio.
 - 1) If the ratio is known, the value may be entered.
 - 2) If the ratio is unknown, once the display has been changed to a ratio input, double-clicking on the associated data field will access a Help Screen.
 - 3) Once the user selects the appropriate ratio, FILE EXIT may be used to return the value to the Model Screen.
- b. Field Team Distance may be toggled between units of miles and kilometers by double-clicking in the box surrounding the Field Team Distance.

7.3 Printer Use

- 7.3.1 Selection of FILE and PRINT from the tool bar will allow the user to print to a Network printer.

Revision: 5	DOSE ASSESSMENT	EPP 06-012
Reference Use		Page 15 of 18

NOTE

There may be error messages received when printing the notification form. In most cases these are due to the PC configuration and not the Dose Assessment Program program. If the program does not abort, then you should get printed output.

7.3.2 The notification form will only print if the PC is connected to the LAN and the user is logged into a server.

8.0 INITIAL ACTIONS

8.1 None.

9.0 SUBSEQUENT ACTIONS

9.1 None.

10.0 RECORDS

10.1 Printouts associated with this procedure are considered records.

10.2 Records generated by this procedure during an actual emergency are considered lifetime QA records and shall be forwarded to Emergency Planning at the termination of the emergency.

10.3 Records generated by this procedure during a drill or exercise are considered non-QA records and shall be forwarded to Emergency Planning at the termination of the drill or exercise.

11.0 FORMS

11.1 None

- END -

Revision: 5	DOSE ASSESSMENT	EPP 06-012
Reference Use		Page 16 of 18

ATTACHMENT A
(Page 1 of 1)
NPIS SCREEN DISPLAYS

Group Menu - Touch Screen for E-Plan Menu
E-Plan Menu - Touch Screen for one of the following

- | | |
|---|---|
| <p>I STATUS BOARD</p> <p>1. RCS</p> <p>2. Steam Generators</p> <p> a) Levels</p> <p> b) Pressures</p> <p>3. ECCS</p> <p>4. Containment</p> <p> a) Pressure</p> <p> b) Temperature</p> <p> c) H₂ concentration</p> <p> d) CHARM R/hr</p> <p>Press F3 Key</p> <p>5. Critical Parameters</p> <p>6. To exit press Group Key</p> | <p>II AREA RAD</p> <p>1. Radiological Status</p> <p> a.) <u>MET</u> Data</p> <p> b) Radmonitors μCi/cc</p> <p>Press F2 Key</p> <p>2. Area Radmonitors mR/hr</p> <p> and CHARM R/hr</p> <p>3. To exit press F6 Key</p> |
| <p>III MET TOWER DATA</p> <p>1. Stability Class</p> <p>2. Wind Speed</p> <p>3. Wind Direction</p> <p>4. Vert Temp Difference °F</p> <p>NOTE: To change to °C type</p> <p> GD MET and press</p> <p> Enter Key</p> <p>5. To exit press Group Key</p> | <p>IV GROUP DISPLAY</p> <p>1. SGCHEM 1</p> <p>2. SGCHEM 2</p> <p>3. SGCHEM 3</p> <p>4. PORVMSIV, etc.</p> <p>NOTE: a) To trend press F4</p> <p> Key</p> <p> b) For the New Group</p> <p> Display press F5 Key</p> <p>5. To exit press Group Key</p> |

NOTE: Screen Display Color Code

RED - Alarm
YELLOW - Alert
GREEN - Normal
BLUE - Invalid Reading

- END -

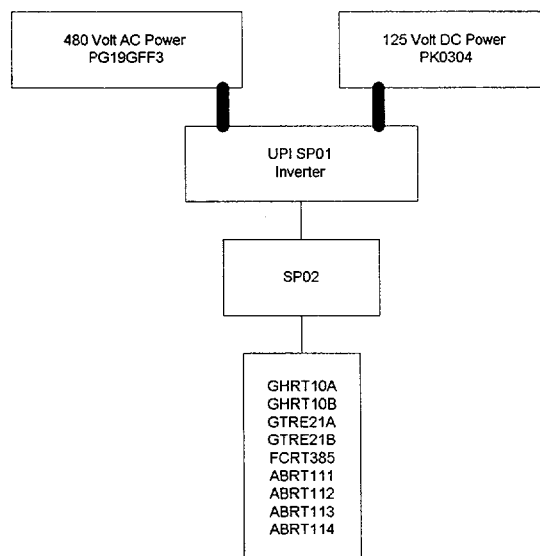
Revision: 5	DOSE ASSESSMENT	EPP 06-012
Reference Use		Page 17 of 18

ATTACHMENT B
(Page 1 of 2)
RADIATION MONITOR INFORMATION

On a total loss of off-site power the following radiation monitors remain operable:

GHRT 10A Radwaste Building Vent - Part & Iodine
 GHRT 10B Radwaste Building Cent - WRGM
 GTRE 21A Unit Vent - Part & Iodine
 GTRE 21B Unit Vent - WRGM
 FCRT 385 Aux. Feedwater Turbine Discharge Monitor
 ABRT 111 Steam Line "D" PORV Discharge Monitor
 ABRT 112 Steam Line "C" PORV Discharge Monitor
 ABRT 113 Steam Line "B" PORV Discharge Monitor
 ABRT 114 Steam Line "A" PORV Discharge Monitor

1. These monitors have as their normal AC power SP02 which is supplied by AC power supply PG19GFF3 (480 Volt AC). This feeds or goes from PG19GFF3 to SP01 Inverter [an UPI] to SP02 to monitors.



Revision: 5	DOSE ASSESSMENT	EPP 06-012
Reference Use		Page 18 of 18

ATTACHMENT B
(Page 2 of 2)
RADIATION MONITOR INFORMATION

2. The SP01 Inverter is also fed by a 125 volt DC power PK0304 [plant batteries]. In the event of a loss of offsite power occurs (PG19GFF3) then the inverter (UPI) SP01 still feeds the monitors via SP02.
3. If after a total loss of offsite power, the plant would regain one of the NB buses, then the radiation monitors that are fed from that bus would also be available if flow was restored to the monitor.

NOTE

The Chemistry Technicians may have to remind the Control Room to restore flow to these monitors.

4. If the RM-11 is not available the flow to these monitors will have to be done from their RM-23's. (The RM-11 is not powered by NB bus).

- END -