



**Nebraska Public Power District**  
*Nebraska's Energy Leader*

NLS2001120  
December 14, 2001

U.S. Nuclear Regulatory Commission  
Attention: Document Control Desk  
Washington, D.C. 20555-0001

**Subject:** Additional Information Related to NRC Inspection Report 50-298/01-09  
Cooper Nuclear Station  
NRC Docket No. 50-298, DPR-46

**Reference:** Letter to J. H. Swailes (NPPD) from Ken E. Brockman (USNRC) dated October 4, 2001, "Cooper Nuclear Station - NRC Inspection Report 50-298/01-09; Preliminary White Findings"

Gentlemen:

In the referenced letter, the Nuclear Regulatory Commission (NRC) cited apparent violations and provided the Nebraska Public Power District (NPPD) an opportunity to discuss its position regarding these issues during a Regulatory Conference. The NRC letter also provided an opportunity for NPPD to provide additional information prior to the conference to facilitate discussions between the NRC and NPPD. In that regard, the following enclosed documents are provided for your information:

Background Information

- Emergency Plan Implementing Procedure 5.7.6, Revision 31, which provided the instructions for automated notification system actuation during the June 25, 2001 event.
- Emergency Plan Implementing Procedure 5.7.9.1, Revision 3, which provided instructions for activation of the Alternate Emergency Operating Facility (EOF) during the June 25, 2001 event.
- Procedure Change Notice excerpts for Procedure 2.2.90, Revision 10, approved on February 20, 1992 and Procedure 5.3EMPWR, Revision 1, dated June 21, 2001.
- The Positional Instruction Manuals for the Emergency Director and the EOF Director during the June 25, 2001 event.

IEO1

New Information

- Reliability data for the EOF power supply.
- Emergency Drill performance data including call-in times and pager activation times.
- EOF equipment available during the June 25, 2001 event.

Should you have any questions regarding this matter, please contact David F. Kunsemiller at (402) 825-5236.

Sincerely,

  
for David L. Wilson  
Vice President of Nuclear Energy

/wrv

Enclosures

- cc: Regional Administrator w/enclosures  
USNRC Region IV
- Senior Project Manager w/enclosures  
USNRC - NRR Project Directorate IV-1
- Senior Resident Inspector w/enclosures  
USNRC
- NPG Distribution w/o enclosures
- Records w/enclosures



CNS OPERATIONS MANUAL  
EPIP PROCEDURE 5.7.6

NOTIFICATION

USE: REFERENCE   
EFFECTIVE: 8/16/00  
APPROVAL: SORC  
OWNER: J. G. KELSAY  
DEPARTMENT: EP

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1. PURPOSE

This procedure provides notification instructions to be followed upon the declaration of an emergency. These instructions cover Initial, Follow-Up, and Termination Notifications to responsible state and local governmental agencies, NRC Notifications, ERO Notification/Staff Augmentation, initial generation of press releases to the Media, and notifications to other off-site support agencies.

2. PRECAUTIONS AND LIMITATIONS

- [ ] 2.1 Accuracy in communicating notification messages is extremely important. Avoid use of jargon and acronyms not understandable to the off-site agencies.
- [ ] 2.2 Failure to transmit accurate notification messages may result in delayed or improper response by off-site agencies.
- [ ] 2.3 Initial notifications to responsible state and local governmental agencies shall be performed within 15 minutes of the declaration of one of the emergency classes.

- [ ] 2.4 NRC notification shall be performed immediately following notification of responsible state and local governmental agencies and not later than 1 hour after the time of declaration of one of the emergency classes.
- [ ] 2.5 At an ALERT or higher classification, follow-up notifications to responsible state and local governmental agencies shall be performed approximately every 60 minutes or sooner if there is a significant change in the status of the emergency.
- [ ] 2.6 Notification of Termination shall be performed within 1 hour after the termination of the emergency.
- [ ] 2.7 Do not re-activate the CNS Automated Notification System if the emergency escalates to a higher class and ERO response to the site has been initiated (ERO pagers have already activated).
- [ ] 2.8 If the Control Room must be evacuated and off-site notification responsibilities have not been transferred to the EOF, the Shift Communicator shall perform off-site notifications over the State Notification Telephone from the TSC or EOF.

### 3. REQUIREMENTS

- [ ] 3.1 Ensure following equipment and materials are available, as needed:
  - [ ] 3.1.1 Installed communications equipment.
- [ ] 3.2 A NOTIFICATION OF UNUSUAL EVENT, ALERT, SITE AREA EMERGENCY, or a GENERAL EMERGENCY has been declared per Procedure 5.7.1.

### 4. COMPLETION OF NOTIFICATION FORM

- [ ] **NOTE** - Obtaining information in the EOF may be accomplished through the use of status boards or logs. The Emergency Preparedness Coordinator will assist with information retrieval.
- [ ] 4.1 The Notification Report number is a sequential number indicating the order of off-site notifications. The first report made to off-site authorities will be #1 followed by #2, etc. Notification Report number is not dependent on classification or type of report, it is dependent on the number of reports.
- [ ] 4.2 Transmittal time is the time when all four parties are on the telephone. The "Time of Notification" space in Section 1 of Attachment 2 or Attachment 3 should be the same.

- 4.3 Check either initial or follow-up report. Initial report is required for each classification. Any other report is a follow-up.
- 4.4 Provide the name of CNS Communicator and call back number in the Control Room or other designated area.
- 4.5 Fill in the proper classification and corresponding Emergency Action Level (EAL) number.
- 4.6 Section 3 of the notification form contains the meteorological data that could change between notifications. This information can be obtained from the "MET" screen on PMIS.
  - 4.6.1 Enter the proper wind speed. This will depend on release height. For an ERP release, use the wind speed at 100 meters. For any other release or release location unknown, use the wind speed at 10 meters. If unable to determine wind speed, use the default of 13 mph for elevated release point and 8 mph from any other source.
  - 4.6.2 Enter the proper wind direction in degrees. This will be the direction from which the wind is blowing. For example, winds from due north would be from 0°.
  - 4.6.3 Fill in either the yes or no box for precipitation.
  - 4.6.4 Fill in the proper stability class. Use the 100 m DT from the MET screen. If reading at 100 m is suspect, use the 60 m DT followed by the 10 m DT. If unable to determine stability class, use the default of "D". DT is the temperature difference from various heights.
- 4.7 Fill in the proper boxes indicating the status of radioactive material release.
  - 4.7.1 In order for "is" to be chosen, the release has to be greater than Off-Site Dose Assessment Manual (ODAM) limits. This number is on the notification form for airborne release and is also indicated on various PMIS screens (e.g., PMIS05, SPDS01, and SPDS24). Liquid release limits are in Technical Specifications.
  - 4.7.2 There "was" a release indicates the release has fallen below ODA limits.
  - 4.7.3 There "will be" a release of radioactive material is used when a planned evolution is going to take place causing the release to be greater than ODA limits (e.g., primary containment purge or release of a waste hold-up tank).

- [ ] 4.8 Indicate the proper protective action recommendations (PARs) in Section 5. These recommendations are given by the Emergency Director. Recommendations are driven by classification (General Emergency) or by dose. The following is an example of a General Emergency PAR due to plant conditions:

	NONE	EVACUATE SECTORS	GO INDOORS AND MONITOR EAS/EBS IN SECTORS
0-2 miles		All	
2-5 miles		R,A,B	Remainder
5-10 miles			All

The affected sectors are dependent on wind direction and stability class. Affected sectors can be determined manually using the 10 mile radius EPZ map (1" = mile) with the proper dispersion overlay for that stability class. Place the dispersion overlay at the center of EPZ (CNS) and then move centerline to the proper wind direction degree, 180° from indicated wind direction. For example, if the wind direction is from 35°, centerline should cross at 215°. The affected sectors are captured under the dispersion band. Affected sectors can also be determined by the CNS Dose Program. If no release is in progress and a General Emergency has been declared due to plant conditions, enter the proper wind direction and stability class and then ask for results. Respond yes to the question "declare a general emergency based on plant conditions". The automatic PAR will be given with the proper sectors. If a release, > 1 rem TEDE or > 5 rem CDE, is in progress the proper sectors will be given if all the questions are answered correctly.

- [ ] 4.9 Fill in the prognosis as either stable or unstable. This is a judgement call made by Operations on the condition of the reactor. Fill in the plant status as either at power or shutdown.
- [ ] 4.10 In the remarks section provide as much information on the classification and condition of the plant. Remember individuals receiving this information may not be familiar with technical terms or nuclear jargon.
- [ ] 4.11 Section 8 contains information related the a release greater than Technical Specifications.
- [ ] 4.11.1 Fill in the release location exceeding Technical Specifications.
- [ ] 4.11.2 Fill in the proper release height, 300' for ERP and 30' for any other monitor location.

- [ ] 4.11.3 Determine the release duration. If duration is unknown, use the default of 4 hours. Indicate release start time. Indicate stop time if known. If unknown, indicate as "unk". Military time format should be used for all times.
- [ ] 4.11.4 Release rates ( $\mu\text{Ci}/\text{sec}$ ) can be determine by various PMIS screens (e.g., SPDS01, SPDS24, PMIS05). All monitored release points at CNS quantify noble gases. Release rates for particulate and iodides will not be given.
- [ ] 4.11.5 The projected integrated dose and projected dose rate can be obtained from CNS DOSE or by hand calculations.
- [ ] 4.11.6 The Emergency Director is responsible for ensuring all information on the notification form is correct. The Emergency Director signature is an indicator that he/she has reviewed the form and notifications can be made.

## 5. NOTIFICATIONS FROM CONTROL ROOM

### [ ] 5.1 INITIAL NOTIFICATIONS TO STATE AND LOCAL GOVERNMENTAL AGENCIES

- [ ] **NOTE 1** - Events which have taken place but are no longer occurring, which were not recognized at the time of occurrence as meeting the criteria listed in Procedure 5.7.1 for declaration as an emergency, must still be reported to responsible state and local governmental authorities as soon as possible after their discovery. Declaration and termination notifications of responsible state and local governmental authorities of an emergency which occurred, but no longer exists, may be performed together using the same incident report.
- [ ] **NOTE 2** - Due to the 15 minute time constraint or the nature of the event, the Emergency Director may designate any qualified individual in the Control Room as Shift Communicator.
- [ ] **NOTE 3** - When contacted by the Off-Site Communicator in the EOF, the Shift Communicator will transfer off-site notification responsibilities. This transfer of responsibilities will include plant status information, as well as a briefing of the status of notifications up to the time of transfer.
- [ ] 5.1.1 The Shift Communicator shall complete Attachment 1, Sections 1 through 7, and forward to the Emergency Director for approval.
- [ ] 5.1.2 The Emergency Director shall review, edit if necessary, and approve (sign) Attachment 1, and return it to the Shift Communicator.

- [ ] 5.1.3 The Communicator shall contact the agencies listed in Section 1 of Attachment 2 and provide them with the information from Attachment 1 using the State Notification Telephone System. Pick up the handset to the hotline and push the "Group Call" button. This will automatically ring telephones at County and State agencies.
- [ ] 5.1.4 Each time a party answers, ask them to obtain a Notification Report Form and standby until all four parties are on the line. Record the name of the person representing each agency and enter it in the appropriate blank in Section 1 of Attachment 2.
- [ ] 5.1.5 Record the time when all four parties are on the telephone in the "Time of Notification" space in Section 1 of Attachment 2.

[ ] **CAUTION** - When performing Step 5.1.6, do not proceed to quickly.

- [ ] 5.1.6 When all four parties have their Notification Report Forms, clearly and concisely state the information on Attachment 1. Give the parties enough time to accurately write down the information on their forms.
- [ ] 5.1.7 In the event contact is lost with one of the agencies during the notification process, continue on with the notification to the group. When you are through with the group notification, attempt contact with the party that was lost by dialing the agency's individual number, which is printed next to the agency's name, on the telephone.
- [ ] 5.1.8 If the State Notification Telephone System is inoperable, alternate telephone numbers can be found in the CNS Emergency Telephone Directory. In this case, a conference call should be established by calling each agency using the alternate telephone number and then pressing the conference-call button on the phone. You should then contact the remaining agencies in the same manner until all four agencies are conferenced in. When all agencies are on-line, proceed with the notification. If all four agencies cannot be conferenced in, attempt contact by individual number as in Step 5.1.7.

[ ] 5.2 FOLLOW-UP NOTIFICATIONS TO STATE AND LOCAL GOVERNMENTAL AGENCIES

- [ ] 5.2.1 The Shift Communicator shall complete Attachment 1, Sections 1 through 7, and forward to the Emergency Director for approval.
- [ ] 5.2.2 The Emergency Director shall review, edit if necessary, approve (sign) Attachment 1, and return it to the Communicator.

- [ ] 5.2.3 The Communicator shall contact the agencies listed in Section 1 of Attachment 2 and provide them with the information from Attachment 1 in the same manner as the Initial Notifications were performed.
  
- [ ] 5.3 NRC NOTIFICATIONS
  - [ ] **NOTE** - When contacted by the ENS Communicator in the TSC, the Shift Communicator will transfer NRC Notification responsibilities. This transfer of responsibilities will include plant status information, as well as, a briefing of the status of notifications up to the time of transfer.
  
  - [ ] 5.3.1 The NRC Senior Resident and Resident Inspectors are notified by pager when the CNS Automated Notification System is activated. These individuals can also be notified by normal communication methods. Examples of normal communication are phone, pager, and gaitronics. Applicable numbers are contained in the emergency telephone directory.
  
  - [ ] 5.3.2 The Shift Communicator shall make notifications to NRC Headquarters via the ENS Telephone System by picking up the handset and dialing the number, on the sticker, on the top of the telephone. The NRC will request information regarding the plant's status. Attachments 1 and 2 can be a source of information for NRC, but the NRC does not have a copy of this form.
  
  - [ ] 5.3.3 The NRC will likely request an open communications channel to receive continuous and detailed information at an ALERT or higher classification until the TSC is operational.
    - [ ] 5.3.3.1 Report the declaration of any of the emergency classes specified in the CNS Emergency Plan as well as any change from one emergency class to another or a termination of an emergency class.
  
    - [ ] 5.3.3.2 Report any further degradation in the level of safety of the plant or other worsening plant conditions.
  
    - [ ] 5.3.3.3 Any other information that is requested should be provided or an attempt to obtain the information should be made to the best of your ability relative to other responsibilities.
  
  - [ ] 5.3.4 If the ENS telephone is inoperable, contact via normal telephone using alternate numbers as listed in the Emergency Telephone Directory.

[ ] 5.4 ERO NOTIFICATION/STAFF AUGMENTATION

[ ] 5.4.1 Immediately after the declaration of an emergency, the Emergency Director should ensure the CNS Automated Notification System is activated per Attachment 4. The CNS Automated Notification System shall perform the functions of activating emergency pagers, receiving telephone call-backs from pager carriers, and placing telephone calls to ERO members at home.

[ ] 5.4.2 Scenarios associated with the CNS Automated Notification System have been numbered to match the pager "XYZ" informational codes described in Procedure 5.7.22 and designed to activate the ERO per the CNS Emergency Plan and Procedures.

[ ] **NOTE** - When executing scenarios 200#, 300#, and 400#, recording of a "Current Scenario Message" is required.

[ ] 5.4.3 The system scenarios will ask if you want to record a "Current Scenario Message". It is at the discretion of the Emergency Director to record a message except for scenarios 200#, 300#, and 400#, which require the recording of a "Current Scenario Message". If the Emergency Director chooses to record such a message, all ERO responders who interface with the CNS ANS will hear the message immediately after a scenario-specific, "Prerecorded" message. If a "Current Scenario Message" is recorded it should contain information such as the applicable EAL, information that the responder needs to know regarding his safety prior to arriving at CNS, or specific information relevant to the emergency event.

[ ] 5.4.4 The system is currently programmed to print reports at the Emergency Response Facilities. These reports identify the persons who are responding to fill ERO positions and their approximate times of arrival.

[ ] 5.4.5 If the CNS ANS is discovered to be inoperable (i.e., no Control Room personnel pagers are activated), then use the backup method of pager activation found in Attachment 5.

[ ] 5.5 NOTIFICATION OF TERMINATION

[ ] 5.5.1 The Shift Communicator shall complete Attachment 1, Sections 1 and 2, and forward to the Emergency Director for approval.

- [ ] 5.5.2 The Emergency Director shall review Sections 1 and 2, edit if necessary, and then complete Section 7. The Emergency Director shall approve (sign) Attachment 1 and return it to the Shift Communicator.
- [ ] 5.5.2.1 Section 7 should contain a brief and concise summary of the current plant status which has allowed for termination of the emergency.
- [ ] 5.5.3 The Shift Communicator shall contact the agencies listed in of Attachment 2 and provide them with the information from Attachment 1.

6. EOF NOTIFICATIONS

- [ ] 6.1 INITIAL NOTIFICATIONS TO STATE AND LOCAL GOVERNMENTAL AGENCIES
  - [ ] **NOTE** - Upon EOF activation and prior to the transfer of Emergency Command and Control from the Control Room to the EOF, the Off-Site Communicator shall contact the Control Room and coordinate the transfer of responsibility of notification of responsible state and local governmental agencies to the EOF. This transfer of responsibilities will include plant status information, as well as a briefing of the status of notifications up to the time of transfer and shall occur simultaneously with the transfer of Emergency Command and Control.
  - [ ] 6.1.1 The Off-Site Communicator shall complete Attachment 1, Sections 1 through 7, and forward to the Emergency Director for approval.
  - [ ] 6.1.2 The Emergency Director shall review, edit if necessary, approve (sign) Attachment 1, and return it to the Communicator.
    - [ ] 6.1.2.1 The EOF Director may sign Attachment 1, in the absence of the Emergency Director, after reviewing it with the Emergency Director, receiving his verbal approval of its content, and noting in the EOF Facility Log.©
  - [ ] 6.1.3 The Off-Site Communicator shall contact the agencies listed in Section 1 of Attachment 3 and provide them with the information from Attachment 1 using the State Notification Telephone System. Pick up the handset to the hotline and push the "Group Call" button. This will automatically ring telephones at County and State agencies.

- [ ] 6.1.4 Each time a party answers, ask them to obtain a Notification Report Form and standby until all four parties are on the line. Record the name of the person representing each agency and enter it in the appropriate space in Section 1 of Attachment 3.
- [ ] 6.1.5 Record the time when all four parties are on the telephone in the "Time of all parties on line" space in Section 1 of Attachment 3.
- [ ] 

<b>CAUTION</b> - When performing Step 6.1.6, do <u>not</u> proceed to quickly.
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- [ ] 6.1.6 When all four parties have their Notification Report Form, clearly and concisely state the information on Attachment 1. Give the parties enough time to accurately write down the information on their forms.
- [ ] 6.1.7 Notifications to the states, performed by the Off-Site Communicator in the EOF, may be provided by handing a copy of Attachment 1 directly to the States Governor's Authorized Representative, if present.
- [ ] 6.1.8 In the event contact is lost with one of the agencies during the notification process, continue on with the notification to the group. When you are through with the group notification, attempt contact with the party that was lost by dialing the agency's individual number, which is printed next to the agency's name, on the telephone.
- [ ] 6.1.9 If the State Notification Telephone System is inoperable, alternate telephone numbers can be found in the CNS Emergency Telephone Directory. In this case, a conference call should be established by calling each agency using the alternate telephone number and then pressing the conference-call button on the phone. You should then contact the remaining agencies in the same manner until all four agencies are conferenced on in. When all agencies are on-line, proceed with the notification.
- [ ] 6.2 FOLLOW-UP NOTIFICATIONS TO STATE AND LOCAL GOVERNMENTAL AGENCIES
  - [ ] 6.2.1 The Off-Site Communicator shall complete Attachment 1, Sections 1 through 8, and forward to the Emergency Director for approval.
    - [ ] 6.2.1.1 The EOF Director may sign Attachment 1, in the absence of the Emergency Director, after reviewing it with the Emergency Director, receiving his verbal approval of its content and noting in the respective facility log.©

- [ ] 6.2.2 The EOF Director may review and approve (sign) Attachment 1 of the follow-up notification, in lieu of the Emergency Director, if the protective action recommendation has not changed or other significant change in the status of the emergency has not occurred.
- [ ] 6.2.3 The Off-Site Communicator shall contact the agencies listed in Section 1 of Attachment 3 and provide them with the information from Attachment 1 in the same manner as the Initial Notifications were performed.
- [ ] 6.3 NOTIFICATION OF OFF-SITE SUPPORT AGENCIES
  - [ ] 6.3.1 The Off-Site Communicator shall contact the agencies listed in Section 1 of Attachment 3 as soon as possible after declaration of an ALERT or higher emergency classification, but not until after the required notifications to responsible state and local governmental agencies have been completed per Section 1.
  - [ ] 6.3.2 The notification shall include, but not limited to, the information provided on Attachment 1, and any other basic information concerning the emergency event that is currently known or can be readily obtained.
  - [ ] 6.3.3 If the event is a NOTIFICATION OF UNUSUAL EVENT or a higher emergency classification which has been terminated per station procedures prior to the above agencies being notified, notifications shall be performed by the Emergency Preparedness staff by close of the next business day following the termination of the emergency.
- [ ] 6.4 NOTIFICATION OF TERMINATION
  - [ ] 6.4.1 The Off-Site Communicator shall complete Attachment 1, Section 1 and 2, and forward to the Emergency Director for approval.
  - [ ] 6.4.2 The Emergency Director shall review Sections 1 and 2, edit if necessary, and then complete Section 7. The Emergency Director shall approve (sign) Attachment 1 and return it to the Off-Site Communicator.
    - [ ] 6.4.2.1 Section 7 should contain a brief and concise summary of the current plant status which has allowed for termination of the emergency.
  - [ ] 6.4.3 The Off-Site Communicator shall contact the agencies listed in Attachment 3 and provide them with the information from Attachment 1.

## 7. NOTIFICATIONS FROM THE TSC

- [ ] **NOTE** - After TSC activation and establishment of emergency communications between the TSC and Control Room, the ENS Communicator shall contact the Shift Communicator and coordinate the transfer of responsibility of NRC notification to the TSC. This transfer of responsibilities will include plant status information, as well as a briefing of the status of notifications up to the time of transfer. The ENS Communicator in the TSC can take the responsibility for notifying the NRC before the TSC is activated if concurrence is given by TSC Director and Control Room.
- [ ] 7.1 If the Shift Communicator was unable to make contact with the NRC Senior Resident Inspector or Resident Inspector, the ENS Communicator shall continue attempts to contact them via normal communications.
- [ ] 7.2 The ENS Communicator shall make notifications to the NRC Headquarters via the ENS Telephone System by picking up the handset and dialing the number, on the sticker, on the top of the telephone. The following information should be provided to the NRC:
- [ ] 7.2.1 Any further degradation in the level of safety of the plant or other worsening conditions.
  - [ ] 7.2.2 Any change from one emergency class to another or termination of an emergency class.
  - [ ] 7.2.3 The results of ensuing evaluations or assessments of plant conditions.
  - [ ] 7.2.4 Effectiveness of the emergency response and any protective measures taken.
  - [ ] 7.2.5 Information related to plant behavior that is not understood.
  - [ ] 7.2.6 Any other information that is requested should be provided or an attempt to obtain the information should be made to the best of your ability.
- [ ] 7.3 If the ENS telephone is inoperable, contact via normal telephone using alternate numbers as listed in the Emergency Telephone Directory.

## 8. MISCELLANEOUS

- [ ] 8.1 Consider following information when making emergency notifications:
- [ ] 8.1.1 At an ALERT or higher emergency classification, to receive continuous and detailed information, the NRC will likely request an open line of communication with the Control Room (ENS) until the TSC is operational.

- [ ] 8.1.2 The NRC Resident Inspector(s) will likely respond to the CNS Control Room and/or TSC when notified.
- [ ] 8.1.3 The Public Affairs Duty Officer (PADO) shall be notified by pager by the CNS ANS. Public Affairs Duty Officer functions shall be superseded by the activation of the Joint Information Center (JIC). The JIC shall receive follow-up information from the Technical Information Coordinator in the EOF.
- [ ] 8.1.4 The On-Call Emergency Preparedness Coordinator should assume the responsibility of coordinating press releases after being notified and responding to a Notification of Unusual Event (NOUE).
  - [ ] 8.1.4.1 This responsibility shall be for the period immediately after the declaration of the NOUE and continue until the responsibility is transferred to appropriate NPPD Corporate Communications Department Personnel.
  - [ ] 8.1.4.2 Any press release that is generated during this period should be reviewed and approved by the Emergency Director or his designee prior to release to the media.
- [ ] 8.1.5 Authorized Representatives of the Governors of Nebraska and Missouri may be represented in the EOF and set up Forward Command Posts at some other location.

**ATTACHMENT 1 COOPER NUCLEAR STATION NOTIFICATION REPORT**

<b>Notification Report Number:</b> _____		<b>Time of Transmittal:</b> _____		
<input type="checkbox"/> Initial Report (Complete Sections 1-7)		<input type="checkbox"/> Follow-Up Report (Complete Sections 1-8)		
1) Name of CNS Communicator: _____		Call Back Number: 402-825- _____		
2) Classification: <input type="checkbox"/> NOUE <input type="checkbox"/> Alert <input type="checkbox"/> Site Area <input type="checkbox"/> General   EAL Number: _____				
Event Declared (Date/Time): _____		Event Terminated (Date/Time): _____		
3) Meteorological Conditions	Wind Speed: _____ MPH	Wind From: _____ Degrees	Precipitation: <input type="checkbox"/> Yes <input type="checkbox"/> No	
Stability Class: <input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D <input type="checkbox"/> E <input type="checkbox"/> F <input type="checkbox"/> G				
4) ODAM Airborne Release Values: There <input type="checkbox"/> is <input type="checkbox"/> no Release of Radioactive Material ERP = 7.28E5 µCi/sec Turbine Building = 3.6E4 µCi/sec <input type="checkbox"/> was <input type="checkbox"/> an airborne (Greater than ODAM Limits) Reactor Building = 3.6E4 µCi/sec Augment Radwaste = 3.6E4 µCi/sec <input type="checkbox"/> will be <input type="checkbox"/> a liquid				
5) Protective Action Recommendations (PARS): General Emergency Automatic PAR - Evacuate 2 mi radius/5 mi downwind, go indoors, and monitor EAS/EBS remainder 10 mi EPZ.				
	None	Evacuate Sectors	Go indoors and monitor EAS/EBS in Sectors	
0-2 Miles				
2-5 Miles				
5-10 Miles				
6) Prognosis: <input type="checkbox"/> Stable <input type="checkbox"/> Unstable		Plant Status: <input type="checkbox"/> at Power <input type="checkbox"/> Shutdown		
7) Remarks: _____				
8) Release Information:				
Release From: <input type="checkbox"/> ERP <input type="checkbox"/> Reactor Building <input type="checkbox"/> Turbine Building <input type="checkbox"/> Aug Radwaste Building <input type="checkbox"/> Other: _____				
Release Height: <input type="checkbox"/> 300 ft (ERP) <input type="checkbox"/> 30 ft (RB, TB, ARWB) <input type="checkbox"/> Other: _____ ft			Release Rate (Ci/sec)	
Est. Duration: _____ (Hours)		Noble Gas: _____ Ci/sec		
Start Time: _____		Iodides: _____ N/A		
Stop Time: _____		Particulate: _____ N/A		
Distance From Plant	Projected Integrated Dose (Rem)		Projected Dose Rate (Rem/hr)	
	TEDE	CDE (Thyroid)	TEDE	CDE (Thyroid)
Site Boundary				
2 Miles				
5 Miles				
10 Miles				
Emergency Director: _____			Date/Time: _____	

<b>ATTACHMENT 2      COOPER NUCLEAR STATION SHIFT COMMUNICATOR NOTIFICATION REPORT RECORD</b>
---

**Notification Report Number:** \_\_\_\_\_

1. STATE AND LOCAL GOVERNMENTAL AGENCIES. Perform notifications **within 15 minutes** from the declaration of an emergency classification. Also requires follow-up notifications approximately every 60 minutes or sooner if there is a significant change of the status of the emergency.

Notify the Following Agencies	Phone	✓	Name of Contact
Nebraska Civil Defense via Nebraska State Patrol	State Notification Telephone System		
Nemaha County Sheriff			
Atchison County Sheriff			
Missouri SEMA via Missouri State Patrol			
Time of all Parties on Line: _____			
Record any comments, difficulties, or observations you had while making this notification.			

2. ERO NOTIFICATION/STAFF AUGMENTATION. Activate CNS Automated Notification System per Attachment 4. Activation is not required if the ERO is currently responding or if the emergency facilities are activated.

Activation Required	Performed By	Time
[ ] Yes [ ] No		

3. NRC HEADQUARTERS. Complete notifications via ENS immediately after the above notifications and not later than **60 minutes** after declaration of an emergency. Contact by normal telephone (Speed Dial), if ENS is inoperable.

NRC	ENS Telephone	Alternate	Person Contacted	Time
	Dial # on Phone Sticker	Speed Dial - 10		

Communicator Signature: \_\_\_\_\_ Date: \_\_\_\_\_

<b>ATTACHMENT 3    COOPER NUCLEAR STATION OFF-SITE COMMUNICATOR NOTIFICATION REPORT RECORD</b>
--

**Notification Report Number:** \_\_\_\_\_

1. STATE AND LOCAL GOVERNMENTAL AGENCIES. Perform notifications **within 15 minutes** from the declaration of an emergency classification. Also requires follow-up notifications approximately every 60 minutes or sooner if there is a significant change of the status of the emergency.

Notify the Following Agencies	Phone	✓	Name of Contact
Nebraska Civil Defense via Nebraska State Patrol	State Notification Telephone System		
Nemaha County Sheriff			
Atchison County Sheriff			
Missouri SEMA via Missouri State Patrol			
Time of all Parties on Line: _____			
<b>Record any comments, difficulties, or observations you had while making this notification.</b>			

2. SUPPORT AGENCIES - Perform notifications to the following support agencies, as soon as possible, after the declaration of an ALERT or higher emergency classification, but not until after all notifications are completed as required in Section 1.

Agency	Phone	Person Contacted	Time
INPO	1-800-321-0614		
Nuclear Electric Insurance Limited (NEIL)	(860) 561-3433		

Communicator Signature: \_\_\_\_\_ Date: \_\_\_\_\_

**ATTACHMENT 4    ACTIVATION OF THE CNS AUTOMATED NOTIFICATION SYSTEM (CNS ANS)**

**NOTE** - The Emergency Director Password is located in the Shift Supervisors Cubicle in the CNS Control Room.

1. Call into the CNS ANS by dialing telephone extension 8579.
2. The system will inform you that you have accessed the "Remote Activation Module" and prompt you for your "scenario activation password followed by the # sign". Enter the Emergency Director's Password followed by the # sign.

Emergency Director Password =

3. To start a scenario, enter the scenario ID number from the list below, followed by the # sign. Scenario Number = \_\_\_\_\_.
4. The system will verify the event code you entered. Press 2.
5. The system will ask you about the an "Current Scenario Message". To record a "Current Scenario Message", press 2, speak your message after the tone. When finished recording, press "#". If necessary, you may script your "Current Scenario Message" below; if more space is needed, continue on back. If you do not want to record a "Current Scenario Message", press "#".

Current Scenario Message: (tone) \_\_\_\_\_ (#)

6. If a "Current Scenario Message" has been recorded, it is played back at this time. The system will then prompt you to replay the message, record a new message, or continue on with the activation process. Determine if you need to replay the message again or re-record it and press the associated key for that choice; or press "#" to proceed on with the scenario activation process.
7. Press "3" to activate the chosen scenario.
8. Press "#" to disconnect from the system.

Classification	Scenario Description	Scenario ID Number
NOUE	No ERF Activation - No ERO Response to Plant	100#
ALERT	No ERF Activation - No ERO Response to Plant**	200#
SAE	No ERF Activation - No ERO Response to Plant**	300#
G.E.	No ERF Activation - No ERO Response to Plant**	400#
NOUE	ERF Activation - Use Your NORMAL Route to Plant	111#
ALERT	ERF Activation - Use Your NORMAL Route to Plant	211#
SAE	ERF Activation - Use Your NORMAL Route to Plant	311#
G.E.	ERF Activation - Use Your NORMAL Route to Plant	411#
ALERT	ERF Activation - Use SOUTH Access Road to Plant	212#
SAE	ERF Activation - Use SOUTH Access Road to Plant	312#
G.E.	ERF Activation - Use SOUTH Access Road to Plant	412#
ALERT	ERF Activation - Use NORTH Access Road to Plant	213#
SAE	ERF Activation - Use NORTH Access Road to Plant	313#
G.E.	ERF Activation - Use NORTH Access Road to Plant	413#

\*\* These codes should only be used if current conditions could potentially affect the safety of the ERO responders. An on-the-fly message is required to explain the conditions to the ERO. As soon as conditions no longer pose a personnel safety issue, the Automated Notification System shall be re-activated with the appropriate code requiring activation of the emergency response facilities.©

**NOTE** - This section is not necessary if the CNS Automated Notification System is operational.

The steps listed under Voice mail Message Preparation are for those events where Emergency responders need to be provided more specific information prior to arrival at CNS. This information can be recorded on Voice mail for their retrieval when they call back in response to a page.

**Voice mail Message Preparation:**

1. Dial **5200** (Voice Mail).
2. Enter mailbox number, **5522 and #**.
3. Enter password, **5522 and #**.
4. Enter **8, 2** (Mailbox Greeting).
5. Enter **1** (External Greeting).
6. Enter **2**, wait until end of greeting.
7. Enter **5** (record command).
8. **Read** information on classification etc., (above) as an addition to the external greeting.
9. Enter **#** when completed.
10. Enter **8, 3** (Exits Voice Mail).

**To Activate ALL ERO Pagers**

**NOTE** - Be sure to obtain the Caller Password which is located in a sealed envelope in the Shift Supervisor's Cubicle before attempting to activate the pagers.

1. Dial (402) 633-0469 on any telephone.
  2. When prompted by the computer voice, enter the caller password listed in the sealed envelope.
  3. Enter "numeric message" when prompted by the computer voice.
    - The numeric message includes a three digit informational code (Scenario ID Number located in Attachment 4) and a seven digit telephone call-back number.
- Example: 211 825-5522 - This represents an ALERT with TSC/OSC/EOF activation required and responders instructed to drive to CNS using the route they would normally drive.
- The telephone number is a Voice Mail address to provide additional information (if necessary) and verify pager carriers received the page and are responding.
4. You may hang up after hearing the message, "Thank you for using ATS".
  5. ERO management will check the voice mailbox during facility activation to verify ERO response.

## 1. DISCUSSION

- 1.1 All notifications and communications will be handled from the Control Room (CR) until the Technical Support Center (TSC) and Emergency Operations Facility (EOF) are activated. The responsibility of generating press releases to the media may be transferred to NPPD Corporate Communications Department Personnel prior to activation of the Joint Information Center (JIC).
- 1.2 During a declared Emergency at CNS, Emergency notifications to the State of Nebraska; State of Missouri; Atchison County, Missouri; and Nemaha County, Nebraska are accomplished through the State Notification Telephone System. The CNS State Notification Telephone System is a conference-calling system. When the handset to this hotline is picked up, and the "Group Call" button is pushed, dedicated telephones will automatically ring at Nebraska State Patrol, Missouri State Patrol, Atchison County Sheriff's Department, and Nemaha County Sheriff's Department. The utilization of law enforcement agencies as initial points of contact provides for 24 hour coverage. The dedicated lines listed also have extension lines which ring at the following facilities respectively: Nebraska State Civil Defense EOC, Missouri State Emergency Management EOC, Atchison County EOC, and Nemaha County EOC. Once the EOCs become operational, notifications may be made using the extension lines at the EOCs with concurrence between the respective EOC and law enforcement agency.
- 1.3 Notifications to the NRC are normally accomplished through the Emergency Notification System (ENS). The Emergency Notification System is a dedicated telephone system which is manned 24 hours by the Duty Officer at the NRC Headquarters Operations Center.
- 1.4 During any notification activity, if the primary communications system fails, communication methods shall be attempted such as alternate telephones, National Warning System (NAWAS), base station radio, or relay through a third party. Alternate telephone numbers are listed in the Emergency Telephone Directory.
- 1.5 Initial Notification - First notification made to responsible state and local governmental agencies after declaration of one of the emergency classes.
- 1.5.1 If the emergency classification escalates, state and local notifications of the higher classification shall be considered as Initial Notifications, and must be completed within 15 minutes.

1.6    Follow-Up Notification - Notifications made to responsible state and local governmental agencies following any initial notification, which provides additional emergency information.

1.6.1    Follow-up notifications are required at least every 60 minutes during an alert or higher classification. Under certain situations a follow-up notification should be under the same time constraints as an initial notification. For example, significant change in release rate (classification change), change in Protective Action Recommendations (PARs), or changes in meteorological conditions that could effect dose assessment results.©

1.7    Notification of Termination - Notification of responsible state and local governmental agencies of termination of the emergency.

## 2. REFERENCES

### 2.1    CODES AND STANDARDS

2.1.1    10CFR50.

2.1.2    NPPD Emergency Plan for CNS.

### 2.2    PROCEDURES

2.2.1    Conduct of Operations Procedure 2.0.5, Shift Communicator Responsibility.

2.2.2    Emergency Plan Implementing Procedure 5.7.1, Emergency Classification.

2.2.3    Emergency Plan Implementing Procedure 5.7.22, Communications.

2.2.4    CNEP-1.0.

### 2.3    MISCELLANEOUS

2.3.1    QA Report 86-06.

2.3.2    NRC Inspection Report 89-35, Item 1.

2.3.3    NCR 93-52.

2.3.4    QA Observation 93-05A.

2.3.5 NRC Inspection Report 94-11.

2.3.6 NRC Inspection Report 94-29, Item 1.

2.3.7 CNS Emergency Telephone Directory.

2.4 NRC COMMITMENTS

2.4.1 © NRC Inspection Report 92-14. Commitment affects Steps 6.1.2.1 and 6.2.1.1.

2.4.2 © NRC Inspection Report 98-12 (NLS980074-05 and NLS980074-06). Commitments affect Step 1.6.1 on Attachment 6 and Attachment 4 footnote.

<u>CNS OPERATIONS MANUAL</u> EPIP 5.7.9.1  ACTIVATION OF ALTERNATE EOF	USE: REFERENCE  EFFECTIVE: 2/12/01 APPROVAL: SORC OWNER: J. G. KELSAY DEPARTMENT: EP
---	--

1.	PURPOSE .....	1
2.	REQUIREMENTS .....	1
3.	EOF DIRECTOR .....	1
4.	RADIOLOGICAL CONTROL MANAGER .....	1
5.	EOF EMERGENCY PREPAREDNESS COORDINATOR .....	2
6.	EOF PERSONNEL .....	2
	ATTACHMENT 1 EOF DIRECTOR CHECKLIST - AEOF .....	3
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1. PURPOSE

This procedure describes the activation and subsequent operation of the Alternate Emergency Operations Facility (AEOF) in the event that the normal Emergency Operations Facility (EOF) cannot be activated or becomes uninhabitable during an ALERT, SITE AREA EMERGENCY, or GENERAL EMERGENCY.

2. REQUIREMENTS

2.1 The EOF cannot be activated in its normal location or it has been determined to be uninhabitable.

3. EOF DIRECTOR

3.1 EOF Director shall ensure items listed on Attachment 1 are completed.

4. RADIOLOGICAL CONTROL MANAGER

4.1 Radiological Control Manager shall determine the relocation route to be taken to the AEOF, based on radiological survey data and consistent with ALARA principles, as to avoid any excess radiation doses. This route shall be communicated clearly to all personnel who are relocating.

4.2 Radiological Control Manager shall utilize Procedures 5.7.11 and 5.7.13, if necessary, during facility relocation.

5. EOF EMERGENCY PREPAREDNESS COORDINATOR

5.1 EOF EPC shall ensure items listed on Attachment 2 are completed.

6. EOF PERSONNEL

6.1 EOF personnel shall relocate in an orderly fashion to the AEOF when instructed to do so, using the specified route. Personnel shall take with them all written logs, portable radios, calculators, communication headsets, personnel protection and safety equipment that has been issued to them, and any other EOF equipment necessary to perform their EOF duties from the AEOF. If instructed by the Radiological Control Manager or EOF Director, EOF personnel shall obtain their TLD prior to relocating to the AEOF.

6.2 All EOF personnel shall perform their duties from the AEOF in the same manner that they would from the normal EOF utilizing this and all other appropriate procedures. EOF staff members shall assist the EOF EPC in facility relocation and set-up tasks if requested to do so by the EOF Director or EOF EPC.

ACTION ITEMS

TIME/INITIALS

- 1. Notify EOF personnel of the decision to relocate the EOF, the reasons for relocation, and any specific information and instructions about the relocation effort. Instruct EOF personnel to obtain their TLD if this action has been deemed appropriate by the Radiological Control Manager. \_\_\_\_\_ /
- 2. Contact the TSC and notify TSC Director of the decision to relocate the EOF. Make arrangements for temporary turnover of EOF duties to the TSC during the relocation process. \_\_\_\_\_ /
- 3. Notify Local, State, and Federal Agency Representatives present in the EOF of the relocation decision. \_\_\_\_\_ /
- 4. Make arrangements with State and Local Agencies for the AEOF (Nemaha County Multiplex Building) to be unlocked (if not currently occupied or keys to the facility are not available from the EOF EPC PIM Manual) and made accessible to EOF personnel. \_\_\_\_\_ /
- 5. Request EOF Logistics Coordinator to coordinate the use of station vehicles for the transfer of personnel and equipment to the alternate facility. \_\_\_\_\_ /
- 6. Provide EOF EPC with the necessary resources (authority and manpower) for the transfer, set-up, and preparation of equipment in the alternate facility. \_\_\_\_\_ /

<b>ATTACHMENT 2    EOF EMERGENCY PREPAREDNESS COORDINATOR CHECKLIST - AEOF</b>
--

ACTION ITEMS

TIME/INITIALS

1. Ensure at least the following equipment is transferred from the EOF to the AEOF during relocation:
  - 1.1 One IDT (Information Display Terminal).
  - 1.2 One printer for the IDT.
  - 1.3 One Laserjet printer.
  - 1.4 One fax machine.
  - 1.5 One VT-220 display terminal.
  
2. Set up telephones, radios, and computer communications.
  - 2.1 The telephones and radios are located on shelves in the equipment storage room at the east end of the AEOF. Ensure this room has been unlocked per Attachment 1, Step 4, if keys are not available from the EOF EPC PIM Manual.
  - 2.2 Set up the tables in the configuration shown on Attachment 3. The tables are located in the equipment storage room at the east end of the AEOF.
  - 2.3 Obtain telephones and base radio units from the equipment storage room and place on the tables. These telephones and radios are labeled by ERO position. Place them at the locations identified for the respective ERO positions per Attachment 3.
  - 2.4 Drop the telephone cords under the tables to the terminal blocks located on the north and west walls and plug them into the jacks that are labeled for each respective unit. The same applies to the base radio units which are similarly labeled.

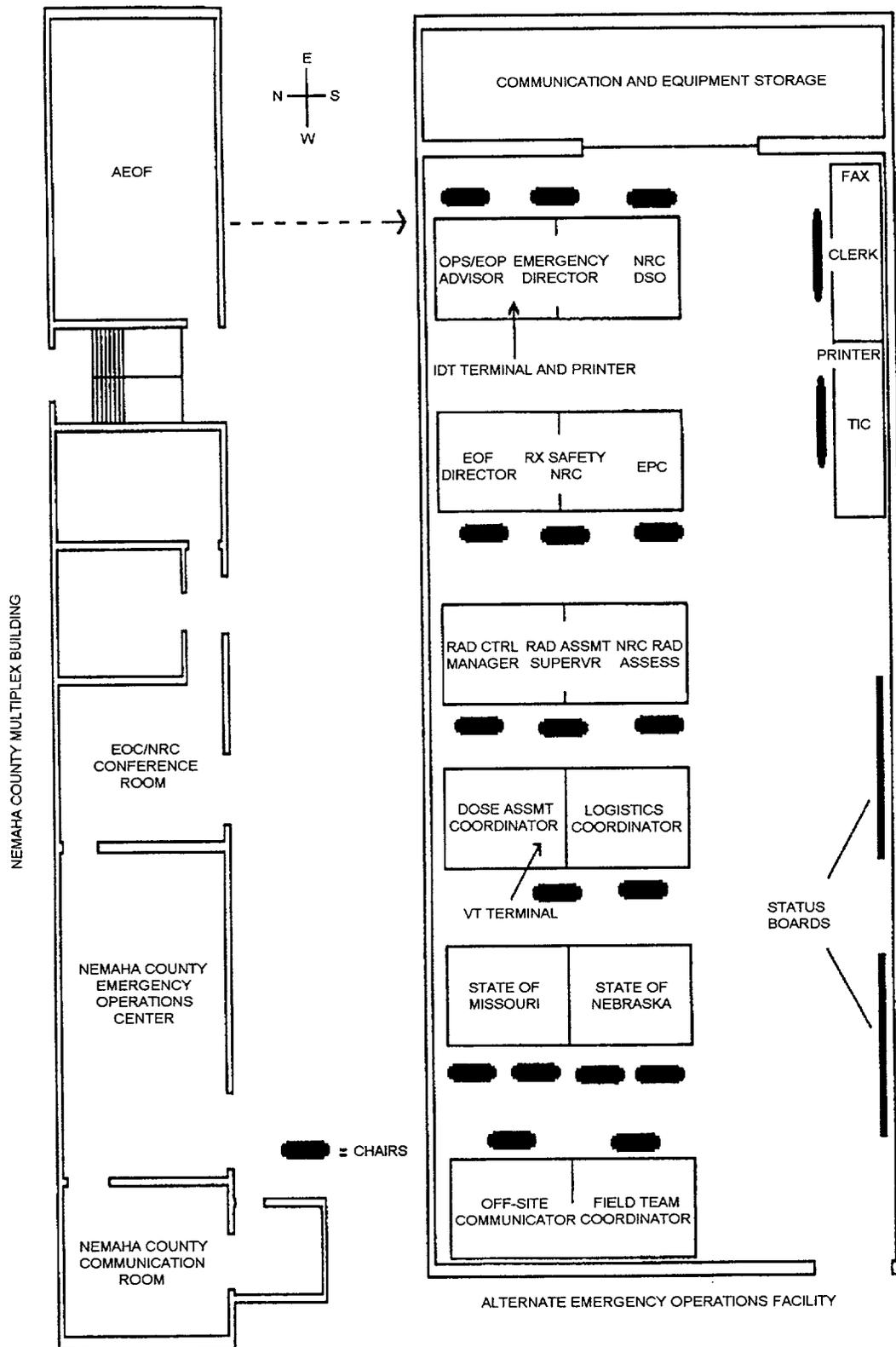
	/
	/
	/
	/

ATTACHMENT 2    EOF EMERGENCY PREPAREDNESS COORDINATOR CHECKLIST - AEOF
--

ACTION ITEMS

TIME/INITIALS

- |   |               |
|---|---------------|
| 2.5    Check each device for operation (dial tone or radio check). If any device is inoperable, check cable connections and jacks. Note any unwanted line noise or other unsatisfactory conditions and request assistance from the CNS Communications Department, if necessary. | _____ / _____ |
| 3.    STATUS BOARDS AND EPZ MAP SET-UP  |               |
| 3.1    Locate status boards and maps in the equipment storage room. Relocate them to the main AEOF area.  | _____ / _____ |
| 3.2    Position status boards in AEOF per Attachment 3.   | _____ / _____ |
| 3.3    Position EPZ maps, as necessary, for easy access and use.  | _____ / _____ |
| 4.    COMPUTER TERMINAL SET-UP  |               |
| 4.1    Place IDT terminal, IDT printer, VT220 display terminal, and Laserjet printer, at locations specified on Attachment 3.   | _____ / _____ |
| 4.2    Drop the terminal cords under the tables to the terminal blocks located on the north and west walls and plug them into the jacks that are labeled for each respective unit.  | _____ / _____ |
| 4.3    Check each device for operation. If any device is inoperable, check cable connections. Note any unsatisfactory conditions and request assistance from the Communications Department Technicians, if necessary.   | _____ / _____ |



5-7-9-1A.SCAN  
Figure 1

1. DISCUSSION

- 1.1 If emergency conditions dictate relocation of the EOF, off-site emergency response shall be accomplished from the AEOF. The decision to relocate the EOF to the alternate facility shall be made by the EOF Director.
- 1.2 Activation and operational criteria of the AEOF is identical to that of the EOF as specified in Procedure 5.7.9. EOF personnel shall perform the same duties, as prescribed by the same appropriate procedures, from the AEOF as they would from the normal EOF.
- 1.3 AEOF is located in the northeast portion of the Nemaha County Multiplex Building located at 601 "J" Street, Auburn, Nebraska. The AEOF is equipped with emergency response equipment and emergency communications equipment which shall be activated per Attachment 2.
- 1.4 EOF Director shall be responsible for the implementation of this procedure and shall be assisted by the EOF Emergency Preparedness Coordinator (EPC) and EOF Logistics Coordinator. The EOF Logistics Coordinator shall coordinate station vehicles for the transfer of personnel and equipment to the alternate facility. The EOF EPC shall be responsible for the transfer, set-up, and preparation of equipment. The EOF Director shall ensure EOF EPC has enough manpower at his disposal to implement this procedure. By effectively utilizing all EOF staff, tasks defined in this procedure can be performed simultaneously for more efficient and timely facility activation.
- 1.5 A list of emergency equipment located in the AEOF and instructions for maintaining readiness of the equipment are detailed in Procedure 5.7.21.

2. REFERENCES

2.1 CODES AND STANDARDS

- 2.1.1 NPPD Emergency Plan for CNS.
- 2.1.2 NUREG 0654, Revision 1, Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants.

2.2 PROCEDURES

- 2.2.1 Emergency Plan Implementing Procedure 5.7.1, Emergency Classification.

- 2.2.2    Emergency Plan Implementing Procedure 5.7.9, Activation of EOF.
- 2.2.3    Emergency Plan Implementing Procedure 5.7.11, Evacuation of Non-Designated Site Personnel.
- 2.2.4    Emergency Plan Implementing Procedure 5.7.13, Personnel Monitoring and Decontamination.
- 2.2.5    Emergency Plan Implementing Procedure 5.7.21, Emergency Equipment Inventory.
- 2.2.6    Emergency Plan Implementing Procedure 5.7.22, Communications.

2.3    MISCELLANEOUS

- 2.3.1    QA Audit 93-05.

Date: 9-14-91

Page 1 Of 3 <sup>4</sup> ~~3~~ <sub>5/1/91</sub>

Procedure Number: 2.2.90 New Revision Number: 10

Title: 12.5 KV System

Procedures Requiring Concurrent Approval: 2.4.6.14

Required Prior To:  Startup  Shutdown  N/A  Other: \_\_\_\_\_

A. PCN BASIS (Note: Provide Description Of Change In Section H.)

- NRC Concern  Non-Conformance Report  Design Change  QA Audit  
 CNS Experience  Industry Experience  Administrative  Other

Reference Document: DC 89-002 DC 87-024 DC 90-14

B. PCN REVIEW

Originator: K. Talbott Date: 9-14-91

Originator's Supervisor: Jay J. Schwenman Date: 9-25-91

Responsible Supervisor: PS R. Black Date: 10-1-91

Technical Review	Init	Date	Init	Date	Technical Review	Init	Date	Init	Date
1 SRG	JS	9-25-91			5 PS Dept	JS	10-11-91		
2 Ops Dept	RB	10-1-91			7 SMD	RB	12/14/91		
6 Eng Dept	JS	10/8/91	Rum	10/16/91					
4 Mnt Dept	MMEN	10/9/91							
3 Rad Dept	JB	10/9/91			8 QA Dept	JB	11-26-91	JS	12-27-91

C. PCN IMPLEMENTATION

Procedure Typed By: Marlene Starst Date: 1/24/92

Responsible Manager: W. Stain Date: 1-30-92

Route Approved Procedure To Licensed Operators:  Yes

D. SORC APPROVAL

SORC Chairman: J. G. ... Date: 2/27/92

Note: Route Completed Form And Draft To Administrative Services Section For Microfilming And Final Disposition.

Corrections on pages 6, 7, 8, 10, 11, 12, 15, 16, 18, 20, 21 and 22.

W. Stain  
dmg

Date: 9-14-91

Page 2 OF 3 <sup>4</sup>  
<sub>2/3</sub>

Procedure Number: 2.2.90 New Revision Number: 10  
E. 10CFR50.59 APPLICABILITY REVIEW: TECHNICAL SPECIFICATIONS

- 1. Is A Technical Specifications Change Required As A Result Of This PCN?  
If "Yes", Forward A Copy Of The PCN To Licensing For A 10CFR50.92 Evaluation And License Amendment Submittal Per 10CFR50.90.  
After Approval, Record License Amendment Number: \_\_\_\_\_  Yes  No
- 2. Is This PCN The Result Of A Technical Specifications Change?  
If "Yes", Record License Amendment Number: \_\_\_\_\_  Yes  No

Complete Section F. Only For Changes Not Associated With The Technical Specifications Change. If All Changes Are Covered By The 10CFR50.92 Evaluation, Do Not Complete Section F.

F. 10CFR50.59 APPLICABILITY REVIEW: USAR

- 1. Does The Proposal Change Procedures From Their Description In The USAR?  Uncertain  No
- 2. Does The Proposal Involve A Test Or Experiment Not Described In The USAR?  Uncertain  No
- 3. Could The Proposal Affect Nuclear Safety In A Way Not Previously Evaluated In The USAR?  Uncertain  No

If Any Of The Above Are Marked "Uncertain", Forward The PCN To Engineering For A 10CFR50.59 Reportability Review Per Attachment 2.

G. EMERGENCY PLAN REVIEW

- 1. Is A Change In The Emergency Plan Or EIPs Involved?  Yes  No  
If "Yes", Forward The PCN To Emergency Planning For A 10CFR50.54(q) Evaluation Per Attachment 3.

H. PCN DESCRIPTION AND JUSTIFICATION

Explain In Detail And Attach New Procedure Or Revision (Continue Explanation On Addendum, If Necessary):

*Procedure rewritten to writer's Guide requirements. Added loads installed by DC 87-024 (Office Building) and 89-002 (West Warehouse) and 90-014 (hazardous material storage cabinet) through <sup>ref 9/14/91</sup> throughout <sup>applicable</sup> sections of procedure. Changed <sup>ref 9/14/91</sup> step 2.2.2 into step 2.2.2 through 2.2.5.4 to provide more details.*

Date: 9-14-91Page 3 OF 4Procedure Number: 2.2.90New Revision Number: 10

Reason For Change (Continuation): Moved Steps 7.4.2 and 7.4.3 to Section 2.  
These are discussion steps with no instructions in them. After discussion  
with G. Kennedy of the Distribution Engineering Department, step 7.4.2  
(new step 2.2.6) was changed. Experience has shown the fuses will  
protect the transformers but the break in the ring bus makes it  
easier to identify and isolate fault faults. <sup>RET 9/14/91</sup> Added Steps 2.2.8  
through 2.2.12 to discuss discuss all the operational options available.  
Deleted steps 2.3.2 and 2.3.3; <sup>RET 9/14/91</sup> these steps are not interlocks.  
Added applicable drawings to section 3. <sup>RET 10/18/91</sup> Changed vendor manuals  
to only those which exist in the CN's system. Changed steps  
5.3, 5.4 and 6.2 (new steps 6.2 through 6.7) to provide greater  
detail for operating 12.5kV disconnects. Deleted step 6.1; the  
disconnects the operators operate are enclosed switches which do not  
require this protective equipment. Switches operated by other  
departments are controlled by their work practices. Deleted  
Step 4.1; with the installation of the Cornfield Sub transformer  
the auto transformer does not have to be available at all times.  
Moved step 6.3 into sections where these disconnects are operated.  
Rewrote Section 7.1, 7.2, and 7.3 to provide more detailed instructions  
for performing these evolutions. Added numerous steps in section  
7.3 (new 8.4, 8.5, 8.6) to ensure all disconnects required to isolate  
a line are open. Deleted section 7.4; incorporated step 7.4.1  
into deenergizing line sections. After discussion with L. Bednar,  
step 7.4.2.1 is not required. The system is designed to operate  
in any configuration. <sup>RET 10-1-91</sup> Changed Step Section 7.6 to include  
only the steps necessary to perform the evolution. Steps 7.6.6<sup>3</sup>  
through 7.4.19 are all controlled by Switching Order. <sup>RET 9/14/91</sup> Added  
new Section 8.3, 8.8, 8.9, 8.10, 8.11, 8.12, 8.13, 8.14, 8.15 and 8.16  
to provide guidance for all operational oper options associated  
with the system. Deleted Attachments 1 through 6; there are now

Date: 9/14/91

Page 4 Of 4

Procedure Number: 2.2.90

New Revision Number: 10

Reason For Change (Continuation): controlled drawings in the control  
room. Added power supply <sup>checklist</sup> to provide detail on normal  
disconnect line up. Added breaker index to provide ops with  
a quick reference for 12.5 KV loads.

8.11.4.2 FIRE PUMP E (Control Room).

8.11.5 Stop FIRE FLUSHING PUMP (Control Room).

8.11.6 Transfer EOF Panel C to North Load Center per Section 8.12.

8.11.7 Ensure MCC-T2 transferred to Switchboard MFP-1 per Section 8.13.

8.11.8 Transfer MCC-TSC to Switchboard OBFP per Section 8.14.

8.11.9 Inform Simulator Group to arm Simulator Halon System.

8.11.10 Place MPF Kaman in service per Procedure 4.15.

8.11.11 Place Electric Boiler C and/or D in service per Procedure 2.2.48.2.

8.11.12 Ensure breakers listed in Attachment 2, 3 and 4, which are not tagged or spare, closed.

#### 8.12 Transferring EOF Panel C.

8.12.1 Transfer EOF Panel C (EOF Electrical Equipment Room) from North Load Center to MCC-T by performing the following:

8.12.1.1 Inform Fire Protection And Industrial Safety Supervisor of short duration impairment on EOF Communications Room Halon System.

8.12.1.2 Inform NRC that ENS Hotline will be momentarily deenergized during power transfer.

8.12.1.3 Close Breaker 2A, EOF EMERGENCY FEEDER, on MCC-T.

8.12.1.4 Inform CAS Operator of alarm on Security Fire Alarm Panel.

8.12.1.5 Disarm EOF Communications Room Halon System per Procedure 2.2.30.

8.12.1.6 Inform Emergency Preparedness personnel of loss of power to EOF.

**NOTE** - Proceed to Step 8.12.1.8 if reactor is in cold shutdown.

8.12.1.7 If reactor is not in cold shutdown, perform the following:

- a. Open all breakers on EOF Panel C except for the following breakers:
  1. Breaker 7, TRANS-PANEL-A.
  2. Breaker 9, TRANS-PANEL-B.
  3. Breaker 10, PANEL C MAIN.
  
- b. In Panel A (EOF Electrical Equipment Room west wall), open all breakers except for the following breakers:
  1. Breaker 9, Emergency Lights for Communication Equipment and Electrical Equipment Room.
  2. Breaker 10, Lighting for Communication Equipment, Electrical Equipment and Emergency Preparedness Rooms.
  3. Breaker 19, EOF Communications Room Halon System.
  4. Breaker 21, Lincoln Telephone Carrier System.
  
- c. In Panel B (EOF Electrical Equipment Room west wall), open all breakers except for the following breakers:
  1. Breakers 27, Receptacles in Room 104 (powers ENS and station bone phone system).
  2. Breakers 29, Receptacles in Room 104 (powers PBX Telephone line printer and data equipment).
  3. Breaker 39, PBX Telephone System.

- 8.12.1.8 Place switch on EOF TRANSFER SWITCH (EOF Electrical Equipment Room east wall) to EMERGENCY MCC-T.
- 8.12.1.9 Arm EOF Communications Halon System per Procedure 2.2.30.
- 8.12.1.10 Open EOF FEEDER breaker on North Load Center (east of NRC Office).
- 8.12.1.11 Contact NRC via ENS Hotline to ensure system is operative.
- 8.12.1.12 If Step 8.12.1.7 was performed, all breakers on EOF Panels A, B and C may be closed when reactor is in cold shutdown.

- 8.12.2 Transfer EOF Panel C (EOF Electrical Equipment Room) from MCC-T to North Load Center by performing the following:
- 8.12.2.1 Inform Fire Procedure And Industrial Safety Supervisor of short duration impairment on EOF Communications Room Halon System.
  - 8.12.2.2 Inform NRC that ENS Hotline will be momentarily deenergized during power transfer.
  - 8.12.2.3 Close EOF FEEDER breaker on North Load Center (east of NRC Office).
  - 8.12.2.4 Inform CAS Operator of alarm on Security Fire Alarm Panel.
  - 8.12.2.5 Disarm EOF Communications Room Halon System per Procedure 2.2.30.
  - 8.12.2.6 Inform Emergency Preparedness personnel of loss of power to EOF.
  - 8.12.2.7 Place switch on EOF TRANSFER SWITCH (EOF Electrical Equipment Room east wall) to NORMAL 480V NORTH OUTDOOR SUBSTATION.
  - 8.12.2.8 On Panel C, ensure all breakers not tagged closed.
  - 8.12.2.9 In Panel A (EOF Electrical Equipment Room west wall), ensure all breakers, not tagged or spare, closed.
  - 8.12.2.10 In Panel B (EOF Electrical Equipment Room west wall), ensure all breakers, not tagged or spare, closed.
  - 8.12.2.11 Open Breaker 2A, EOF EMERGENCY FEEDER, on MCC-T.
  - 8.12.2.12 Contact NRC via ENS Hotline to ensure system is operative.

8.13 Transferring MCC-T2.

**CAUTION** - Do not transfer MCC-T2 to EOF Panel C if reactor is not in cold shutdown.

- 8.13.1 Transfer MCC-T2 from Switchboard MFP-1 to EOF Panel C by performing the following:
- 8.13.1.1 At EOF Panel C, ensure Breaker 8, GET CLASSROOM EMER POWER, closed.
  - 8.13.1.2 Place switch on X3 (Training Center Penthouse just west of entrance) to TRAINING CENTER G.E.T EMERGENCY POWER ON (handle down).

CNS OPERATIONS MANUAL  
EMERGENCY PROCEDURE 5.3EMPWR

EMERGENCY POWER

USE: CONTINUOUS  
EFFECTIVE: 6/21/01  
APPROVAL: SORC  
OWNER: OSG SUPV  
DEPARTMENT: OPS-B



1. ENTRY CONDITIONS

1.1 All of the following:

1.1.1 4160V Buses 1A, 1B, 1C, 1D, and 1E de-energized.

1.1.2 4160V Bus 1F/1G energized by emergency source.

2. AUTOMATIC ACTIONS

2.1 The following breakers trip:

2.1.1 Breaker 1AF, BUS 1F TIE BKR.

2.1.2 Breaker 1FA, BUS 1A TIE BKR.

2.1.3 Breaker 1BG, BUS 1G TIE BKR.

2.1.4 Breaker 1GB, BUS 1B TIE BKR.

2.2 Load shedding occurs on 4160V Buses 1F and 1G.

2.3 Both DGs start.

2.4 4160V Buses 1F and 1G are energized by an emergency source, either Emergency Transformer or DGs.

3. IMMEDIATE OPERATOR ACTIONS

3.1 None.

4. SUBSEQUENT OPERATOR ACTIONS

4.1 Perform following Attachments concurrently:

4.1.1 Attachment 1, RPV AND CONTAINMENT GUIDELINE.

4.1.2 Attachment 2, BALANCE OF PLANT GUIDELINE.

4.1.3 Attachment 3, ELECTRICAL SYSTEMS GUIDELINE.

- [ ] 4.2 Direct Doniphan Control Center to implement Operating Instruction #7 (Located in Switching Order Book).

## 5. DISCUSSION

- [ ] 5.1 The primary function of the Control Room Operators during the loss of normal AC power transient is to monitor the automatic sequence of events to ensure the necessary emergency equipment returns to service. The Operator must monitor emergency power source loading to ensure overload limits are avoided. Attachment 6 provides approximate values for various equipment loads. Although Attachments 1, 2, and 3 are performed concurrently, the following priorities should be considered:
  - [ ] 5.1.1 Reactor fuel is adequately cooled.
  - [ ] 5.1.2 REC is supplying cooling to its components.
  - [ ] 5.1.3 Restoring power to non-critical AC buses.
- [ ] 5.2 The critical buses transfer to the Emergency Transformer, if it is available, with load shedding tripping only the 4160V motors on the critical buses. If the Emergency Transformer is not available, the critical buses will transfer to the DGs after load shedding has tripped the 4160V motors, 480V motors, and MCCs which have undervoltage devices. The MCCs which do not load shed are: MCC-CA, MCC-K, MCC-L, and MCC-LX on 480V Bus 1F and MCC-CB, MCC-S, MCC-T, and MCC-TX on 480V Bus 1G. When the critical buses have been energized by emergency power, essential loads will automatically sequence on to the buses. Some of these loads will only start if they have an initiation signal present.
- [ ] 5.3 NEDC 87-104A, Plant Load Study, used the large-break LOCA scenario as the worst case DG loading (maximum peak load, maximum fuel consumption). The LOCA scenario accounts for all essential loads that would be initiated, either automatically or manually, to mitigate a LOCA scenario. Certain non-essential loads, which are normally operating and do not auto-isolate, were included in the LOCA scenario. USAR Table VIII-5-1 was derived from this load study and lists the maximum sequential loading of the critical buses at 3,951 Kw for Bus 1F and 3,790 kW for Bus 1G. The Operator may add additional load to the DGs during the post-accident time period provided the DG does not exceed the load limitations and the requirements of Attachment 4. This will ensure the DGs will not exceed their peak loading capabilities and have adequate fuel reserves.

- [ ] 5.4 USAR assumes CS pump initially operates at full rated flow to restore RPV water level to 2/3 core height within first 4 minutes post DBA-LOCA and continues to operate at full flow for remaining first 10 minutes. After first 10 minutes of DBA-LOCA, CS flow is throttled to  $\leq 4750$  gpm. Guidance is provided in this procedure to allow operator flexibility to operate CS flow, as necessary, to restore and maintain adequate core cooling.
- [ ] 5.5 PROBABLE ANNUNCIATORS
  - [ ] 5.5.1 C-2/C-9, STARTUP XFMR LOW VOLTAGE.
  - [ ] 5.5.2 C-2/D-9, STARTUP XFMR SECONDARY UNDERVOLTAGE.
  - [ ] 5.5.3 C-2/C-10, EMERGENCY TRANSFORMER UNDERVOLTAGE.
  - [ ] 5.5.4 C-2/A-1, 4160V BUS 1A UNDERVOLTAGE.
  - [ ] 5.5.5 C-3/A-7, 4160V BUS 1B UNDERVOLTAGE.
  - [ ] 5.5.6 C-2/A-2, 4160V BUS 1E UNDERVOLTAGE.
  - [ ] 5.5.7 C-1/D-6, 4160V BUS 1F BKR 1FA UNDERVOLTAGE.
  - [ ] 5.5.8 C-4/D-1, 4160B BUS 1G BKR 1GB UNDERVOLTAGE.
  - [ ] 5.5.9 C-1/A-6, 4160V BUS 1F UNDERVOLTAGE.
  - [ ] 5.5.10 C-1/A-7, 4160V BUS 1F LOW VOLTAGE.
  - [ ] 5.5.11 C-1/F-7, 4160V BUS 1F U/V TRIP LOCKED OUT.
  - [ ] 5.5.12 C-2/B-1, 4160V BUS 1A BKR 1AN TRIP.
  - [ ] 5.5.13 C-2/B-2, 4160V BUS 1A BKR 1AS TRIP.
  - [ ] 5.5.14 C-2/D-2, 4160V BUS 1A BKR 1AE TRIP.
  - [ ] 5.5.15 C-3/B-7, 4160V BUS 1B BKR 1BN TRIP.
  - [ ] 5.5.16 C-3/B-8, 4160V BUS 1B BKR 1BS TRIP.
  - [ ] 5.5.17 C-3/D-7, 4160V BUS 1B BKR 1BG TRIP.
  - [ ] 5.5.18 C-4/B-1, 4160V BUS 1G BKR 1GB TRIP.
  - [ ] 5.5.19 C-4/F-2, 4160V BUS 1G U/V TRIP LOCKED OUT.

- 5.5.20 C-1/B-6, 4160V BUS 1F BKR 1FA TRIP.
- 5.5.21 C-2/D-1, 4160V BUS 1A BKR 1AF TRIP.
- 5.6 PROBABLE CAUSE
  - 5.6.1 Switchyard faults.
  - 5.6.2 Severe weather.
- 6. REFERENCES
  - 6.1 CODES AND STANDARDS
    - 6.1.1 10CFR50.63, Loss of All Alternating Current Power.
    - 6.1.2 NRC Regulatory Guide 1.155, Station Blackout.
    - 6.1.3 NUMARC 87-00, Station Blackout.
  - 6.2 PROCEDURES
    - 6.2.1 NPPD Operating Instruction #7, Cooper Nuclear Station Black Plant Procedure.
    - 6.2.2 General Operating Procedure 2.1.22, Recovering from Group A Isolation.
    - 6.2.3 System Operating Procedure 2.2.8, Control Rod Drive System.
    - 6.2.4 System Operating Procedure 2.2.18, 4160V Auxiliary Power Distribution System.
    - 6.2.5 System Operating Procedure 2.2.22, Vital Instrument Power System.
    - 6.2.6 System Operating Procedure 2.2.46, HVAC Radwaste Building.
    - 6.2.7 System Operating Procedure 2.2.47, HVAC Reactor Building.
    - 6.2.8 System Operating Procedure 2.2.62, Off-Gas System.
    - 6.2.9 Instrument Operating Procedure 4.15.1, Elevated Release Point Radiation Monitoring System.
  - 6.3 MISCELLANEOUS
    - 6.3.1 © NEDC 97-012. Affects Attachment 1, Step 1.2.2.

- [ ] 6.3.2 © NRC Information Notice 86-70, Potential Failure of All Emergency Diesel Generators. Affects Attachment 3, Steps 1.2.1 and 1.5.
- [ ] 6.3.3 INPO SER 3-94, Electric System Design and Maintenance Weakness Results in Loss of Off-Site Power and Recovery Delay.
- [ ] 6.3.4 © NEDC 98-014, Z Sump Heat Trace. Affects Attachment 2, Step 1.8.
- [ ] 6.3.5 © ERFOM 98-035, Repowering EE-PNL-PPGB1 from EE-MCC-DG1(2) Using Cable OG-EF. Affects Attachment 5, Step 1.3.3.
- [ ] 6.3.6 Updated Safety Analysis Report Volume IV, Section VIII, Subsection 5.1.

## 7. ATTACHMENTS

1 - RPV AND CONTAINMENT GUIDELINE

2 - BALANCE OF PLANT GUIDELINE

3 - ELECTRICAL SYSTEMS GUIDELINE

4 - SINGLE DG FUEL OIL REQUIREMENT FOR DESIGN BASIS ACCIDENT

5 - ENERGIZING OFF-GAS BUILDING PPGB1

6 - EQUIPMENT LOAD GUIDELINE

1.    RPV and Containment Guideline:

- [ ] 1.1    The following limits apply throughout this attachment:
  - [ ]    **NOTE** - Attachment 6 provides an approximate equipment load guideline.
  - [ ]    1.1.1    Maximum load on Emergency Transformer is 9.6 MW.
  - [ ]    1.1.2    Maximum load on DG is 4000 kW and 694 amps; DG may be overloaded to 4400 kW and 763 amps for 2 hours in a 24 hour period.
  - [ ]    1.1.3    If a single DG is supplying a critical bus, loads may be added if DG load limits and Attachment 4 limits are satisfied.
  
- [ ] 1.2    If CS is injecting into the RPV for level control, perform following:
  - [ ]    1.2.1    Allow CS Subsystems to operate at maximum flow until RPV water level restored  $\geq -29"$  on Fuel Zone instrument but no longer than 10 minutes unless needed for adequate core cooling.
  - [ ]    1.2.2    After 10 minutes, throttle CS-MO-12A/B to  $\leq 4750$  gpm or, as necessary, per EOPs to restore and maintain adequate core cooling.©
  
- [ ] 1.3    Restore CRD System per Procedure 2.2.8.

ATTACHMENT 2 BALANCE OF PLANT GUIDELINE
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1. Balance of Plant Guideline:

- 1.1 The following limits apply throughout this attachment:
  - NOTE** - Attachment 6 provides an approximate equipment load guideline.
  - 1.1.1 Maximum load on Emergency Transformer is 9.6 MW.
  - 1.1.2 Maximum load on DG is 4000 kW and 694 amps; DG may be overloaded to 4400 kW and 763 amps for 2 hours in a 24 hour period.
  - 1.1.3 If a single DG is supplying a critical bus, loads may be added if DG load limits and Attachment 4 limits are satisfied.
- 1.2 If REC System has isolated, perform following:
  - 1.2.1 Ensure two REC pumps are running.
  - 1.2.2 Place DRYWELL REC ISOL VALVE CONTROL switch to OPEN.
  - 1.2.3 Throttle open REC HX outlet valve for a HX that was in service, as necessary, to maintain REC-PI-452, REC HEADER PRESSURE, in green band:
    - 1.2.3.1 REC-MO-712, HX A OUTLET VLV.
    - 1.2.3.2 REC-MO-713, HX B OUTLET VLV.
  - 1.2.4 Start third REC pump, if necessary.
  - 1.2.5 Throttle open REC HX outlet valve, as necessary, to maintain REC HEADER PRESSURE in top of green band.
  - 1.2.6 Ensure following valves are closed:
    - 1.2.6.1 REC-AO-701, RRMG SET OIL HX INLET.
    - 1.2.6.2 REC-AO-710, RWCU NON-REGEN HX INLET.
  - 1.2.7 Perform following simultaneously:
    - 1.2.7.1 Open REC-MO-700, NON-CRITICAL HEADER SUPPLY.

- [ ] 1.2.7.2 Continue throttling open REC HX outlet valve, as necessary, to maintain REC HEADER PRESSURE in green band.
- [ ] 1.2.8 Ensure REC HX outlet valve full open.
- [ ] 1.2.9 Place DRYWELL REC ISOL VALVE CONTROL switch to AUTO.
- [ ] 1.3 Ensure following DC lube oil pumps have started:
  - [ ] 1.3.1 Hydrogen AIR SIDE SEAL OIL BACKUP PUMP.
  - [ ] 1.3.2 Main Turbine EMERG BEARING OIL PUMP.
  - [ ] 1.3.3 RFPT A and B EMERGENCY OIL PUMPS.
  - [ ] 1.3.4 RRMG LUBE OIL PUMP C and LUBE OIL PUMP D.
- [ ] 1.4 Place switches for following to TRIP:
  - [ ] 1.4.1 All Condensate Pumps.
  - [ ] 1.4.2 All Condensate Booster Pumps.
  - [ ] 1.4.3 Sparger Pumps (Intake Structure).
- [ ] 1.5 If Air Compressor(s) not running, perform following:
  - [ ] 1.5.1 If Air Compressor A was running prior to loss of power, press TRIP button on 480V breaker.
  - [ ] 1.5.2 Place Air Compressor A switch to RUN.
  - [ ] 1.5.3 Ensure Tendamatic Sequence Controller (C-882) SEQUENCE SELECTOR SWITCH in A-B-C.
  - [ ] 1.5.4 If Air Compressor A is not maintaining air header pressure, perform following:
    - [ ] **NOTE** - If possible, transfer cooling water while associated air compressor is shutdown.
    - [ ] 1.5.4.1 Place switch for Air Compressor B to STOP.

- [ ]    **NOTE** - Upon loss of air or power, the TEC/REC isolation valves will fail such that A and B compressor will align to REC.
- [ ]    1.5.4.2    At LRP-PNL-710 (Control Building Basement), place "B" COMPRESSOR COOLANT switch to REC.
- [ ]    1.5.4.3    Check REC supply and return AOVs are open and TEC supply and return AOVs are closed (above compressor).
- [ ]    1.5.4.4    If compressor was running prior to loss of power, press TRIP button on 480V breaker.
- [ ]    1.5.4.5    Place Air Compressor B switch to RUN.
- [ ]    1.5.4.6    At Tendamatic Sequence Controller (C-882), place SEQUENCE SELECTOR SWITCH to B-C-A.
- [ ]    1.5.4.7    Place Air Compressor A switch to STANDBY.
- [ ]    1.5.5    At IA Dryer A (B), perform following for in service dryer(s):
  - [ ]    1.5.5.1    Place IA-SW-5A(B), POWER MONITOR RESET (A north of dryer/B on wall between dryers), switch to RESET.
  - [ ]    1.5.5.2    Press START button(s) (front of Dryer Control Panel).
- [ ]    1.6    Close following valves to prevent draining CST to hotwell:
  - [ ]    1.6.1    MC-807, CST RECIRC THROTTLING VALVE (RW-877-basement above Condensate Backwash Transfer Pump).
  - [ ]    1.6.2    MC-38, FCV-17 OUTLET (T-882-behind TEC HXs).
  - [ ]    1.6.3    MC-777, LCV-2D OUTLET (T-882-behind TEC HXs).
  - [ ]    1.6.4    CM-12, LCV-2C OUTLET (T-882-behind TEC HXs).
  - [ ]    1.6.5    CM-18, CONDENSATE PUMPS SEAL SUPPLY ROOT (T-882-behind TEC HXs).
  - [ ]    1.6.6    DW-462, LT 1A and 1B REFERENCE SUPPLY ROOT (T-882-Condenser Area).

- [ ] 1.6.7    CM-10, CONDENSATE STORAGE TANK OUTLET TO TG BLDG  
(near CST A).
- [ ] 1.7    If ERP Kaman(s) are required for monitoring, perform following:
  - [ ] 1.7.1    Open following on PPGB1 (Off-Gas Building):
    - [ ] 1.7.1.1    EE-DSC-PPGB1(EHC-OG-A), FUSED DISC ON PPGB1  
FOR DUCT HEATER EHC-OG-A.
    - [ ] 1.7.1.2    EE-STR-PPGB1(HV-OG-A), STARTER ON PPGB1 FOR  
OFF GAS BLDG HVAC UNIT HV-OG-A.
  - [ ] 1.7.2    Energize MCC-N per guidance in Attachment 3.
  - [ ] 1.7.3    If normal power cannot be restored or is subsequently lost, ensure  
TSC activated and have TSC initiate Attachment 5 to restore power to  
PPGB1.
  - [ ] 1.7.4    Ensure Kaman(s) operating properly per Procedure 4.15.1.
- [ ] 1.8    If outside air temperature is below 40°F, restore Z sump heat trace within  
4 hours by performing Steps 1.8.1 through 1.8.3.©
  - [ ] 1.8.1    Ensure following are OPEN on PPGB1 (Off-Gas Building):
    - [ ] 1.8.1.1    EE-DSC-PPGB1(EHC-OG-A), FUSED DISC ON PPGB1  
FOR DUCT HEATER EHC-OG-A.
    - [ ] 1.8.1.2    EE-STR-PPGB1(HV-OG-A), STARTER ON PPGB1 FOR  
OFF GAS BLDG HVAC UNIT HV-OG-A.
  - [ ] 1.8.2    Ensure MCC-N energized per guidance in Attachment 3.
  - [ ] 1.8.3    If normal power cannot be restored or is subsequently lost, ensure  
TSC activated and have TSC initiate Attachment 5 to restore power to  
PPGB1.

ATTACHMENT 3 ELECTRICAL SYSTEMS GUIDELINE
---

1. Electrical Systems Guideline:

1.1 The following limits apply throughout this attachment:

**NOTE** - Attachment 6 provides an approximate equipment load guideline.

1.1.1 Maximum load on Emergency Transformer is 9.6 MW.

1.1.2 Maximum load on DG is 4000 kW and 694 amps; DG may be overloaded to 4400 kW and 763 amps for 2 hours in a 24 hour period.

1.1.3 If a single DG is supplying a critical bus, loads may be added if DG load limits and Attachment 4 limits are satisfied.

1.2 Ensure 4160V Buses 1F/1G are being supplied by either Emergency Transformer or DGs.

**NOTE** - Attachment 4 provides information necessary to continuously operate a single DG for 7 days while connected to a critical bus. Operation in shaded region is allowed provided load is subsequently reduced to ensure 7 days continuous operation.

1.2.1 If only one DG is supplying a critical bus, loads may be added if DG load limits are satisfied and sufficient fuel oil is ensured to support 7 day continuous operation.©

1.2.2 If only one DG is providing power, perform following:

1.2.2.1 Monitor DG load in accordance with Step 1.1.2 and Attachment 4.

1.2.2.2 Open DGDO-22, DIESEL OIL TANK 1A TRANSFER (east side of tank).

1.2.2.3 Open DGDO-23, DIESEL OIL TANK 1B TRANSFER (east side of tank).

1.2.2.4 When all of following conditions have been met, close DGDO-22 and DGDO-23:

a. Level for both fuel oil storage tanks is > 9' 1/2".

b. Both EDGs are OPERABLE.

- [ ] 1.3 Place switches for following breakers to PULL-TO-LOCK:
  - [ ] 1.3.1 1AS, STARTUP XFMR BKR.
  - [ ] 1.3.2 1BS, STARTUP XFMR BKR.
  
- [ ] 1.4 Restore RPS, as necessary, per Procedure 2.2.22.
  
- [ ] 1.5 If DGs are supplying power to 4160V Bus 1F/1G, transfer critical buses to first available off-site power source per Procedure 2.2.18.©
  
- [ ] 1.6 If loads on an MCC which has load shedded are to be placed in service, perform following:
  - [ ] 1.6.1 Open all breakers on MCC to be re-energized.
  - [ ] 1.6.2 Close feeder breaker to MCC to be energized.
  - [ ] 1.6.3 Close only those breakers on MCC for equipment to be returned to service.
  
- [ ] 1.7 When allowed by plant conditions, perform following:
  - [ ] 1.7.1 Start an off-gas dilution fan per Procedure 2.2.62 by energizing MCC-N or MCC-V.
  - [ ] 1.7.2 Reset Group 2, 3, and 6 isolations per Procedure 2.1.22.
  - [ ] 1.7.3 After Group 6 isolation has been reset, restore ventilation to Reactor Building per Procedure 2.2.47 by energizing MCC-M, MCC-U, MCC-N, and MCC-V.
  - [ ] 1.7.4 Restore ventilation to Radwaste Building per Procedure 2.2.46 by energizing MCC-P and MCC-W.
  - [ ] 1.7.5 Restore ventilation to Augmented Radwaste Building by energizing MCC-OG1 and MCC-MR.
  
- [ ] 1.8 When power is available from Startup Transformer, re-energize non-critical buses per Procedure 2.2.18.

ATTACHMENT 4 SINGLE DG FUEL OIL REQUIREMENT FOR DESIGN BASIS ACCIDENT
---

1. Single DG Fuel Oil Requirement for Design Basis Accident:

- [ ] 1.1 Determine single DG fuel oil use status by performing following:
  - [ ] 1.1.1 Obtain fuel oil storage tank levels for Tanks A and B and record in Attachment 1, Table 1.
  - [ ] **NOTE** - Following step addresses worst case instrument inaccuracy.
  - [ ] 1.1.2 Subtract 8.5" from each tank level reading and record in CORRECTED LEVEL columns of Table 1. N/A if readings were obtained by sounding tanks.
  - [ ] 1.1.3 Using TABLE 2 conversion chart, determine fuel quantity in gallons for each tank and record in VOLUME columns of Table 1.
  - [ ] 1.1.4 On Table 1, add Tank A and B VOLUME quantities and record in TOTAL column.
  - [ ] 1.1.5 Determine how many hours DG has been operating (elapsed time).
  - [ ] **NOTE** - Operation in non-shaded region ensures 7 day DG Availability for one DG.
  - [ ] 1.1.6 Using Graph 1, plot TOTAL quantity from TABLE 1 and DG elapsed run time to determine if DG loading allows 7 day single DG availability based on fuel oil consumption for existing loads.
  - [ ] 1.1.7 As directed by CRS, repeat Steps 1.1.1 through 1.1.6 to track fuel oil consumption.



**ATTACHMENT 4 SINGLE DG FUEL OIL REQUIREMENT FOR DESIGN BASIS ACCIDENT**

**TABLE 2**

Height (ft-in)	Usable Volume (gal)	Height (ft-in)	Usable Volume (gal)	Height (ft-in)	Usable Volume (gal)
1'	0	2'	2342	3'	5227
1' 0.5"	83	2' 0.5"	2453	3' 0.5"	5356
1' 1"	167	2' 1"	2565	3' 1"	5486
1' 1.5"	253	2' 1.5"	2678	3' 1.5"	5616
1' 2"	340	2' 2"	2791	3' 2"	5746
1' 2.5"	429	2' 2.5"	2906	3' 2.5"	5877
1' 3"	519	2' 3"	3022	3' 3"	6009
1' 3.5"	610	2' 3.5"	3138	3' 3.5"	6141
1' 4"	703	2' 4"	3255	3' 4"	6274
1' 4.5"	797	2' 4.5"	3373	3' 4.5"	6407
1' 5"	892	2' 5"	3491	3' 5"	6541
1' 5.5"	988	2' 5.5"	3611	3' 5.5"	6675
1' 6"	1086	2' 6"	3731	3' 6"	6810
1' 6.5"	1185	2' 6.5"	3852	3' 6.5"	6945
1' 7"	1285	2' 7"	3974	3' 7"	7081
1' 7.5"	1386	2' 7.5"	4096	3' 7.5"	7217
1' 8"	1488	2' 8"	4219	3' 8"	7353
1' 8.5"	1591	2' 8.5"	4343	3' 8.5"	7490
1' 9"	1695	2' 9"	4467	3' 9"	7628
1' 9.5"	1800	2' 9.5"	4592	3' 9.5"	7765
1' 10"	1907	2' 10"	4718	3' 10"	7904
1' 10.5"	2014	2' 10.5"	4845	3' 10.5"	8042
1' 11"	2122	2' 11"	4972	3' 11"	8181
1' 11.5"	2232	2' 11.5"	5099	3' 11.5"	8321

**ATTACHMENT 4 SINGLE DG FUEL OIL REQUIREMENT FOR DESIGN BASIS ACCIDENT**

**TABLE 2 (CONTINUED)**

Height (ft-in)	Usable Volume (gal)	Height (ft-in)	Usable Volume (gal)	Height (ft-in)	Usable Volume (gal)
4'	8460	5'	11905	6'	15451
4' 0.5"	8600	5' 0.5"	12051	6' 0.5"	15599
4' 1"	8741	5' 1"	12198	6' 1"	15748
4' 1.5"	8882	5' 1.5"	12345	6' 1.5"	15896
4' 2"	9023	5' 2"	12492	6' 2"	16044
4' 2.5"	9164	5' 2.5"	12639	6' 2.5"	16193
4' 3"	9306	5' 3"	12786	6' 3"	16341
4' 3.5"	9448	5' 3.5"	12933	6' 3.5"	16489
4' 4"	9591	5' 4"	13081	6' 4"	16638
4' 4.5"	9734	5' 4.5"	13228	6' 4.5"	16786
4' 5"	9877	5' 5"	13376	6' 5"	16934
4' 5.5"	10020	5' 5.5"	13524	6' 5.5"	17082
4' 6"	10164	5' 6"	13672	6' 6"	17230
4' 6.5"	10307	5' 6.5"	13820	6' 6.5"	17378
4' 7"	10451	5' 7"	13968	6' 7"	17526
4' 7.5"	10596	5' 7.5"	14116	6' 7.5"	17673
4' 8"	10740	5' 8"	14264	6' 8"	17821
4' 8.5"	10885	5' 8.5"	14412	6' 8.5"	17968
4' 9"	11030	5' 9"	14561	6' 9"	18116
4' 9.5"	11176	5' 9.5"	14709	6' 9.5"	18263
4' 10"	11321	5' 10"	14857	6' 10"	18410
4' 10.5"	11467	5' 10.5"	15006	6' 10.5"	18557
4' 11"	11613	5' 11"	15154	6' 11"	18704
4' 11.5"	11759	5' 11.5"	15302	6' 11.5"	18850

**ATTACHMENT 4 SINGLE DG FUEL OIL REQUIREMENT FOR DESIGN BASIS ACCIDENT**

**TABLE 2 (CONTINUED)**

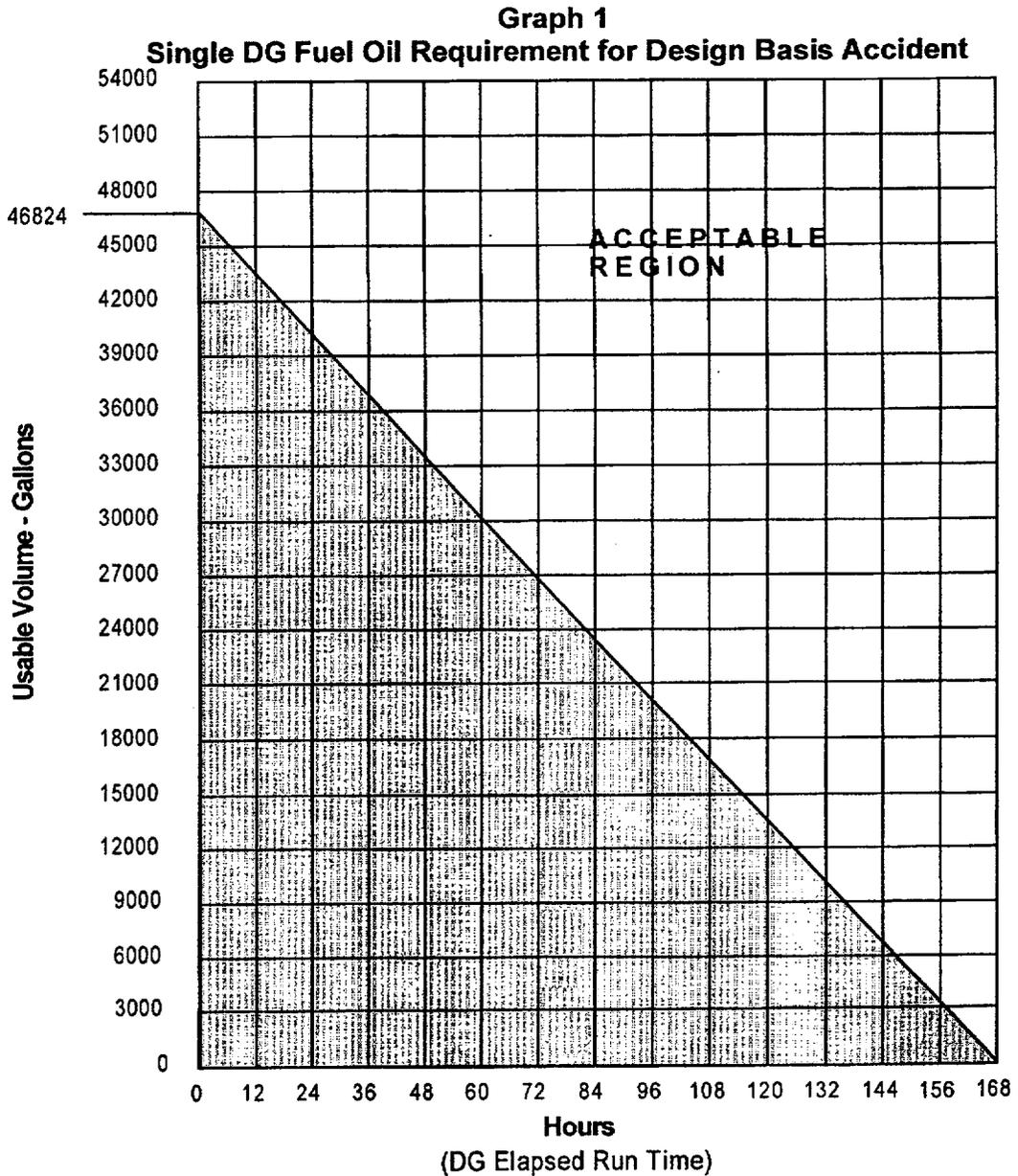
Height (ft-in)	Usable Volume (gal)	Height (ft-in)	Usable Volume (gal)	Height (ft-in)	Usable Volume (gal)
7'	18997	8'	22441	9'	25674
7' 0.5"	19143	8' 0.5"	22581	9' 0.5"	25802
7' 1"	19289	8' 1"	22720	9' 1"	25930
7' 1.5"	19435	8' 1.5"	22859	9' 1.5"	26057
7' 2"	19581	8' 2"	22998	9' 2"	26183
7' 2.5"	19726	8' 2.5"	23136	9' 2.5"	26309
7' 3"	19871	8' 3"	23274	9' 3"	26434
7' 3.5"	20016	8' 3.5"	23411	9' 3.5"	26559
7' 4"	20161	8' 4"	23548	9' 4"	26683
7' 4.5"	20306	8' 4.5"	23685	9' 4.5"	26806
7' 5"	20450	8' 5"	23821	9' 5"	26928
7' 5.5"	20594	8' 5.5"	23957	9' 5.5"	27050
7' 6"	20738	8' 6"	24092	9' 6"	27171
7' 6.5"	20882	8' 6.5"	24227	9' 6.5"	27291
7' 7"	21025	8' 7"	24361	9' 7"	27410
7' 7.5"	21168	8' 7.5"	24494	9' 7.5"	27529
7' 8"	21311	8' 8"	24628	9' 8"	27647
7' 8.5"	21453	8' 8.5"	24760	9' 8.5"	27764
7' 9"	21595	8' 9"	24893	9' 9"	27880
7' 9.5"	21737	8' 9.5"	25024	9' 9.5"	27996
7' 10"	21879	8' 10"	25155	9' 10"	28110
7' 10.5"	22020	8' 10.5"	25286	9' 10.5"	28224
7' 11"	22161	8' 11"	25416	9' 11"	28337
7' 11.5"	22301	8' 11.5"	25545	9' 11.5"	28449

**ATTACHMENT 4 SINGLE DG FUEL OIL REQUIREMENT FOR DESIGN BASIS ACCIDENT**

**TABLE 2 (CONTINUED)**

Height (ft-in)	Usable Volume (gal)	Height (ft-in)	Usable Volume (gal)	Height (ft-in)	Usable Volume (gal)
10'	28560	11'	30902	12'	32238
10' 0.5"	28670	11' 0.5"	30983		
10' 1"	28779	11' 1"	31063		
10' 1.5"	28888	11' 1.5"	31141		
10' 2"	28995	11' 2"	31217		
10' 2.5"	29101	11' 2.5"	31292		
10' 3"	29206	11' 3"	31364		
10' 3.5"	29311	11' 3.5"	31435		
10' 4"	29414	11' 4"	31504		
10' 4.5"	29516	11' 4.5"	31571		
10' 5"	29617	11' 5"	31636		
10' 5.5"	29717	11' 5.5"	31699		
10' 6"	29816	11' 6"	31759		
10' 6.5"	29913	11' 6.5"	31817		
10' 7"	30010	11' 7"	31873		
10' 7.5"	30105	11' 7.5"	31926		
10' 8"	30199	11' 8"	31976		
10' 8.5"	30291	11' 8.5"	32024		
10' 9"	30383	11' 9"	32068		
10' 9.5"	30473	11' 9.5"	32108		
10' 10"	30561	11' 10"	32145		
10' 10.5"	30649	11' 10.5"	32178		
10' 11"	30735	11' 11"	32205		
10' 11.5"	30819	11' 11.5"	32226		

ATTACHMENT 4 SINGLE DG FUEL OIL REQUIREMENT FOR DESIGN BASIS ACCIDENT



53EMPWRA  
**Figure 1**

**NOTE 1** - Operation in non-shaded region ensures 7 day DG Availability.

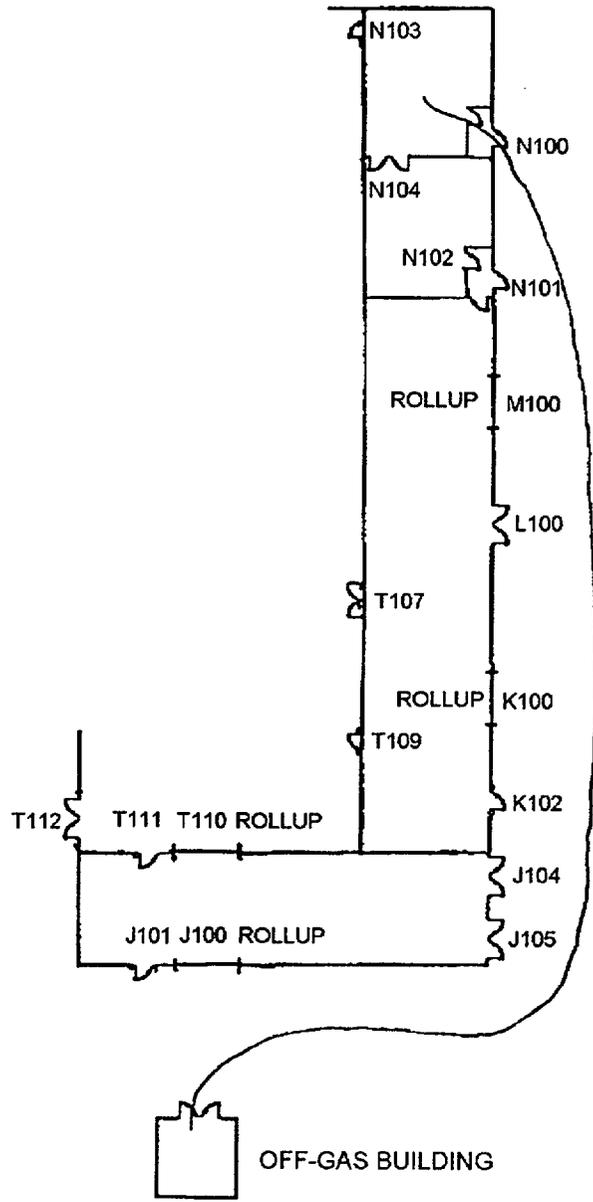
**NOTE 2** - 46,824 gallons usable volume + 2676 gallons unusable volume = 49,500 gallons. Unusable volume of 2676 gallons = 1 foot in bottom of tanks.

1. Energizing Off-Gas Building PPGB1:

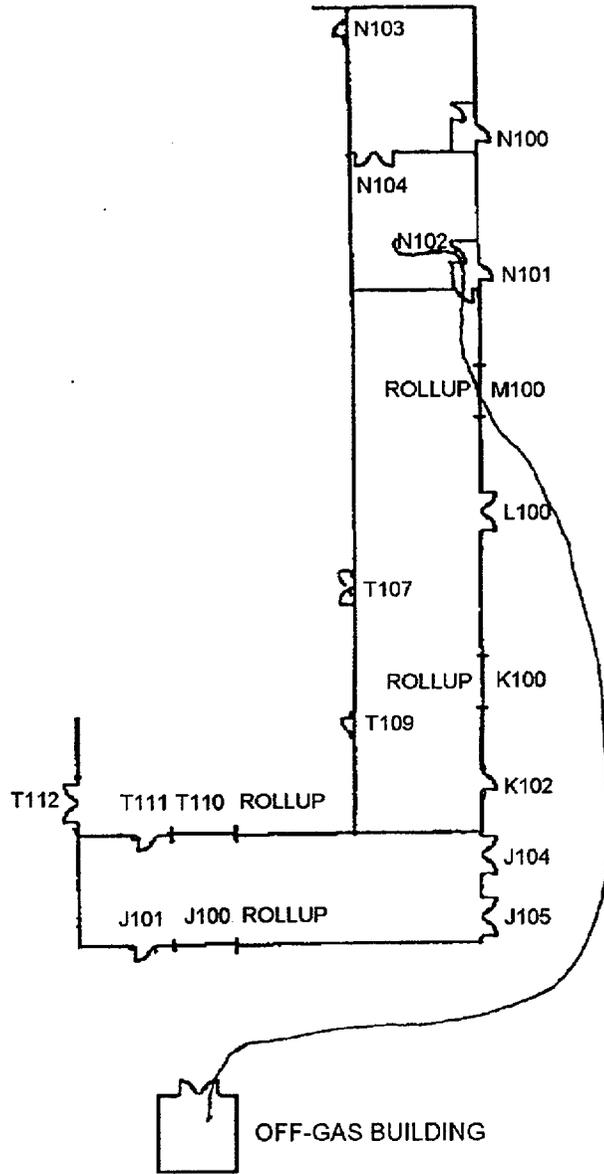
**CAUTION** - Observe proper electrical safety precautions while working with/on energized equipment.

- 1.1 Retrieve Emergency Feeder Cable OG-EF from OG Building (cable and reel weigh ~ 800 lbs).
- 1.2 Lay out cable from OG Building to selected DG Room door. Ensure adequate cable is available at each location to reach welding receptacles (refer to selected DGs routing map).
- 1.3 If normal power cannot be restored or is subsequently lost to PPGB1 as indicated by Annunciator Q-1/A-5, Vent Monitor Failure (ERP Kaman monitors indicate equipment failure), perform following to restore power to PPGB1:
  - 1.3.1 On PPGB1, lock EE-DSC-PPGB1, MAIN DISCONNECT, off (use lock located on EE-DSC-TPZ).
  - 1.3.2 On PPGB1, ensure following switches and starters are off:
    - 1.3.2.1 EE-DSC-PPGB1(EHC-OG-A), FUSED DISC ON PPGB1 FOR DUCT HEATER EHC-OG-A.
    - 1.3.2.2 EE-STR-PPGB1(HV-OG-A), STARTER ON PPGB1 FOR OFF GAS BLDG HVAC UNIT HV-OG-A.
  - 1.3.3 If power will be supplied from either Startup or Emergency Transformer, only ERP KAMAN and essential Z SUMP DISCHARGE LINE HEAT TRACE will be re-powered. Ensure following breakers and starters are off:©
    - 1.3.3.1 EE-DSC-PPGB1(LPERP), FUSED DISCONNECT ON PPGB1 FEEDER FOR LIGHTING PANEL LPERP.

- [ ] **NOTE** - LPGB1-CKT-8 POWER AVAILABLE white light on TB-OG125 goes off and Control Room lights and switches for Z sump pumps de-energize when EE-PNL-LPGB1, Circuit 8 is OFF; however, Z sump pump automatic operation is unaffected.
- [ ] 1.3.3.2 All breakers on LPGB-1 except Circuit 12 for MICRO AIR CONDITIONING UNITS FOR ERP EFFLUENT MONITORS.
- [ ] 1.3.4 In Off-Gas Building, connect Cable OG-EF to following welding receptacles:
  - [ ] 1.3.4.1 EMERGENCY ALTERNATE POWER FEED CONNECTION FOR RACK PPGB1 (HEAT TRACE-ERP KAMAN).
  - [ ] 1.3.4.2 EMERGENCY FEED PARKING RECEPTACLE.
- [ ] 1.3.5 On PPGB1, place EE-DSC-TPZ, RACK PPGB1 TEMP POWER FEED FUSED DISCONNECT, to on.
- [ ] 1.3.6 Station a Security Guard as a Fire Watch in DG Room that will power PPGB1.
- [ ] 1.3.7 Ensure Breaker 4BL, DG-1 RM WELD RECEPT, on MCC-DG1 or Breaker 4BL, DG-2 RM WELD RECEPT, on MCC-DG2 (associated with DG selected as power supply) is off.
- [ ] 1.3.8 Connect Cable OG-EF to selected DG Room welding receptacle.
- [ ] 1.3.9 Place Breaker 4BL on selected DG MCC to on.
- [ ] 1.3.10 Inform Shift Supervisor power has been restored to Off-Gas Building PPGB1.



53EMPWRB  
**Figure 2**



53EMPWRC  
**Figure 3**

TABLE 1 - DIVISION I LOADS

<u>CIC</u>	<u>DESCRIPTION</u>	<u>KW</u>
<u>4160 Volt Bus 1F</u>		
SW-MOT-SWPA	SW Pump A	249.5
SW-MOT-SWPC	SW Pump C	249.5
RHR-MOT-RHRPA	RHR Pump A	907.8
RHR-MOT-RHRPB	RHR Pump B	917.5
CS-MOT-CSPA	Core Spray Pump A	907.8
SW-MOT-RSWPA	RHR Booster Pump A	793.6
SW-MOT-RSWPC	RHR Booster Pump C	793.6
 <u>480 Volt Bus 1F</u>		
CRD-MOT-CRDA	CRD Pump A	202.6
SA-MOT-SACA	Station Air Comp. A	128.3
 <u>MCC-K</u>		
REC-MOT-RECPA	REC Pump A	60.7
REC-MOT-RECPB	REC Pump B	60.7
SLC-HTR	SLC Tank Heater	55.1
SGT-HTR-SGHA-A	SGT Heater A	2.5
SGT-HTR-SGHA-B	SGT Heater B	4.6
SGT-MOT-(EF-R-1E)	SGT Motor A	14.0
HV-MOT-(FC-R-1A)	Drywell Fan Cooler A	46.4
HV-MOT-(FC-R-1C)	Drywell Fan Cooler B	47.1
DGFO-MOT-DOTPA	DG Transfer Pump A	1.7
FPC-MOT-FPCPA	Fuel Pool Cooling PP A	46.4
HV-MOT-(FC-R-1F)	NW Quad Cooler	3.2
HV-MOT-(FC-R-1J)	SW Quad Cooler	5.0
LPREMF	Lighting Panel "LPREMF"	7.7

ATTACHMENT 6 EQUIPMENT LOAD GUIDELINE
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<u>CIC</u>	<u>DESCRIPTION</u>	<u>KW</u>
<u>MCC-R</u>		
Only Motor-Operated Valves.		
<u>MCC-RA</u>		
EE-MCC-RA(5CL)	Panel 25-14 Feeder	2.7
<u>MCC-Q</u>		
Only Motor-Operated Valves.		
<u>MCC-LX</u>		
HV-MOT-(EF-C-1A)	Battery Room Exhaust Fan A	1.1
EE-MCC-LX(1EL)	MCC LZ Starter Rack	0.4
EE-CHG-125A	125 VDC Battery Charger A	29.8
EE-CHG-125C	125 VDC Battery Charger C	29.8
EE-CHG-250A	250 VDC Battery Charger A	61.6
EE-CHG-250C	250 VDC Battery Charger C	61.6
HV-MOT-(BF-C-1B)	Control Room Exhaust Booster Fan	9.4
HV-MOT-(BF-C-1A)	Control Room Emergency Booster Fan	3.3
HV-AC-(AC-C-1A)	Control Room Air Cond.	38.7
LPCEM1	Lighting Panel "LPCEM1"	8.3
CBPP	Control Power "CBPP"	1.7
CDP1A	Panel "CDP1A"	33.0

ATTACHMENT 6    EQUIPMENT LOAD GUIDELINE
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<u>CIC</u>	<u>DESCRIPTION</u>	<u>KW</u>
<u>MCC-L</u>		
HV-AC-(AC-C-1C)	Computer Room HVAC #1	18.6
HV-MOT-(AC-C-1E)	Comp. Room HVAC Condenser	2.5
LO-MOT-(LO-P-TG)	Mn T-G Oil Pump	51.5
EE-MCC-L(3D)	RPS Feeder	22.5
IA-DRY-A	Instrument Air Dryer A	16.6
EE-MCC-L(3F)	Met Tower Emergency Fdr	24.8
 <u>MCC-DG1</u>		
DGLO-HTR-LOBP	Lube Oil Bypass Heater	13.8
DGLO-MOT-LOBP	Lube Oil Bypass Pump	2.1
DGSA-MOT-SAC1A	Starting Air Compressor 1A	24.0
DGSA-MOT-SAC2B	Starting Air Compressor 2B	24.0
HV-MOT-(EF-DG-1A)	DG Exhaust Fan 1A	26.9
HV-MOT-(HV-DG-1A)	DG Supply Fan 1A	5.0
HV-MOT-(HV-DG-1C)	DG Supply Fan 1C	17.5
LPDG1	Lighting Panel "LPDG1"	4.8
HV-MOT-(CTF-DG-1A)	DG #1 Clg Twr Fan	1.1
HV-MOT-(CTP-DG-1A)	DG #1 Clg Twr Pump	1.5
DGJW-HTR-JWH	Jacket Water Heater	22.1
DGJW-MOT-JWBP	Jacket Water Bypass PP	1.7
Weld Receptacle	PPGB1 and Z-1 Sump Pump or PPGB1	27.4 or 25.0

ATTACHMENT 6    EQUIPMENT LOAD GUIDELINE
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<u>CIC</u>	<u>DESCRIPTION</u>	<u>KW</u>
<u>MCC-CA</u>		
CP-CAD-1A	Control Power "CP-CAD-1A"	2.0
HV-STRR-ECBH1	Essential C/B HVAC Fans	26.6
 <u>MCC-M</u>		
HV-MOT-(EF-R-1C)	Rx Bldg Exhaust Fan 1C	63.2
HV-MOT-(SF-R-1A-A)	Rx Bldg Supply Fan 1A-A	48.3
HV-MOT-(EF-R-1A)	Rx Bldg Exhaust Fan 1A	72.8
RRLO-MOT-LOPA1	RR MG Set Oil Recirc. PP	20.3
RRLO-MOT-LOPA2	RR MG Set Oil Recirc. PP	20.3
RRLO-MOT-LOPA3	RR MG Set Oil Recirc. PP	20.3
LPR3F, LPR2F	Lighting Panel "LPR3F, LPR2F"	18.0
MPR1	Misc. Pwr "MPR1"	5.6
SPR3	Space Htr Pnl "SPR3"	0.8
 <u>MCC-N</u>		
ECU	Power Panel "ECU"	0.4
HV-MOT-(FC-R-1KA)	Stm Tunnel Fan Coil 1KA	6.4
RWCU-MOT-RPA	RWCU Recirc. PP 1A	47.8
CM-MOT-(CM-P-RX)	Rx Bldg Aux. Cond. PP	26.7
OG-FAN-(DF-OG-1A)	Off-Gas Dilution Fan 1A	11.9
HV-MOT-(BF-R-1A)	Rx Building Booster Fan 1A	5.5
EE-PNL-PPGB1	Off Gas Building Feeder	27.4
LPR1F	Lighting Panel "LPR1F"	10.7
SPR1	Space Htr Panel "SPR1"	5.7

ATTACHMENT 6    EQUIPMENT LOAD GUIDELINE
--

<u>CIC</u>	<u>DESCRIPTION</u>	<u>KW</u>
<u>MCC-OG1</u>		
HV-MOT-(EE-AR-1A)	ARW Bldg Exhaust Fan 1A	16.5
HV-MOT-(FC-AR-1A)	ARW Fan Coil Unit	6.7
LP-AR-1	Lighting Panel "LP-AR-1"	11.2
PP-HT-AR-1	Heat Trace Pnl "PP-HT-AR-1"	3.1
<u>MCC-OG2</u>		
AOG-HTR-CDHA	Cyclic Dryer Heater 1A	6.5
CF-MOT-OGCBPA	Off-Gas Cond. Booster PP A	17.9
CF-MOT-OGCBPB	Off-Gas Cond. Booster PP B	17.9
<u>MCC-P</u>		
CM-MOT-(CM-P-RW)	RW Aux. Cond. Booster PP	50.4
LPRW1	Lighting Panel "LPRW1"	10.9
RW-MOT-FDSP	Floor Drain Sample Pump	7.0
HV-MOT(EF-RW-1D)	RW Building Exhaust Fan 1D	8.7
RW-MOT-WSP1A	Waste Sample Pump 1A	27.0
RW-MOT-WSRP	Waste Surge Pump	36.0
RW-MOT-WCP	Waste Collector Pump	36.0
RW-MOT-FDCP	Floor Drain Collector PP	6.6
LPRW2	Lighting Panel "LPRW2"	9.0
HV-MOT-(SF-RW-1A-B)	RW Building Supply Fan 1A-B	35.0
HV-MOT-(EF-RW-1B)	RW Building Exhaust Fan 1B	44.2
CM-MOT-(CM-P-REC)	Condensate Recirc. Pump	64.8
RW-MOT-WSTP	Waste Transfer PP	10.0
EE-PNL-HMSP3	Lighting Panel "HMSP3"	58.1

ATTACHMENT 6	EQUIPMENT LOAD GUIDELINE
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<u>CIC</u>	<u>DESCRIPTION</u>	<u>KW</u>
<u>MCC-RX</u>		
RW-MOT-WCFHUP	Wst. Coll. Filter Hold Up PP	4.8
RW-MOT-FDFHP	Flr. Drn Filter Hold Pump	3.2
FPC-MOT-HPA	Fuel Pool Hold Pump 1A	4.8
FPC-MOT-HPB	Fuel Pool Hold Pump 1B	4.8
CF-MOT-HPA	Cond. Demin Hold Pump 1A	3.2
CF-MOT-HPB	Cond. Demin Hold Pump 1B	3.2
CF-MOT-HPC	Cond. Demin Hold Pump 1C	3.2
CF-MOT-HPD	Cond. Demin Hold Pump 1D	3.2
CF-MOT-HPE	Cond. Demin Hold Pump 1E	3.2
CF-MOT-HPF	Cond. Demin Hold Pump 1F	3.2
CF-MOT-HPG	Cond. Demin Hold Pump 1G	2.7

TABLE 2 - DIVISION II LOADS

<u>CIC</u>	<u>DESCRIPTION</u>	<u>KW</u>
<u>4160 Volt Bus 1G</u>		
SW-MOT-SWPB	SW Pump B	249.5
SW-MOT-SWPD	SW Pump D	249.5
RHR-MOT-RHRPD	RHR Pump D	907.8
RHR-MOT-RHRPC	RHR Pump C	907.8
CS-MOT-CSPB	Core Spray Pump B	907.8
SW-MOT-RSWPB	RHR Booster Pump B	793.6
SW-MOT-RSWPD	RHR Booster Pump D	793.6
<u>480 Volt Bus 1G</u>		
CRD-MOT-CRDB	CRD Pump B	202.6
SA-MOT-SACB	Station Air Comp. B	128.3
<u>MCC-CB</u>		
CP-CAD-B	Power Panel "CP-CAD-B"	3.7
H <sub>2</sub> O <sub>2</sub> Analyzer	H <sub>2</sub> O <sub>2</sub> Analyzer	3.2
<u>MCC-S</u>		
REC-MOT-RECPC	REC Pump C	61.2
REC-MOT-RECPD	REC Pump D	61.2
SGT-HTR-SGHB-A	SGT Heater A	2.5
SGT-HTR-SGHB-B	SGT Heater B	4.6
SGT-MOT-(EF-R-1F)	SGT Motor B	14.0
HV-MOT-(FC-R-1B)	Drywell Fan Cooler B	49.0
HV-MOT-(FC-R-1D)	Drywell Fan Cooler D	50.0
DGFO-MOT-DOTPB	DG Transfer Pump B	1.6

ATTACHMENT 6    EQUIPMENT LOAD GUIDELINE
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<u>CIC</u>	<u>DESCRIPTION</u>	<u>KW</u>
<u>MCC-S (CONTINUED)</u>		
FPC-MOT-FPCPB	Fuel Pool Cooling PP B	46.8
HV-MOT-(FC-R-1E)	NE Quad Cooler	3.2
HV-MOT-(FC-R-1H)	SE Quad Cooler	5.0
LPEMG	Lighting Panel "LPEMG"	8.3
HV-MOT-(FC-R-1G)	HPCI Room Cooler	7.2
 <u>MCC-Y</u>		
ASDR	Lighting Panel "ASDR"	2.8
 <u>MCC-TX</u>		
HV-MOT-(EF-C-1C)	Battery Room Exhaust Fan C	1.3
EE-MCC-TX(1EL)	MCC TZ Starter Rack	0.4
EE-CHG-125B	125 VDC Battery Charger B	29.8
EE-CHG-125C	125 VDC Battery Charger C	29.8
EE-CHG-250B	250 VDC Battery Charger B	61.6
EE-CHG-250C	250 VDC Battery Charger C	61.6
HV-MOT-(BF-C-1A)	Control Room Emergency Booster Fan	2.6
HV-MOT-(BF-C-1B)	Control Room Exhaust Booster Fan	9.4
CDP1B	Panel "CDP1B"	71.7
 <u>MCC-T</u>		
HV-AC-(AC-C-1D)	Computer Room HVAC #1	18.8
HV-AC-(AC-C-1D)	Computer Room HVAC #2	18.8
HV-MOT-(AC-C-1F)	Comp. RM HVAC Condenser	2.7
EE-MCC-T(3E)	RPS Feeder	23.4

ATTACHMENT 6    EQUIPMENT LOAD GUIDELINE
--

<u>CIC</u>	<u>DESCRIPTION</u>	<u>KW</u>
<u>MCC-T (CONTINUED)</u>		
IA-DRY-B	Instrument Air Dryer B	16.6
EOF Emerg. FDR	EOF Emergency Feeder	108.6
LPCEM1A	Lighting Panel "LPCEM1A"	22.6
LO-MOT-(LO-P-ASB)	TG Seal Oil Backup Pump	22.6
 <u>MCC-RB</u>		
HV-STRR-ECBH2	Ess. C/B HVAC Fans	26.6
 <u>MCC-DG2</u>		
DGLO-HTR-LOBP	Lube Oil Bypass Heater	16.6
DGLO-MOT-LOBP	Lube Oil Bypass Pump	2.3
DGSA-MOT-SAC1B	Starting Air Compressor 1B	24.0
DGSA-MOT-SAC2A	Starting Air Compressor 2A	24.0
HV-MOT-(EF-DG-1B)	DG Exhaust Fan 1B	26.9
HV-MOT-(HV-DG-1B)	DG Supply Fan 1B	5.0
HV-MOT-(HV-DG-1D)	DG Supply Fan 1D	17.5
LPDG2	Lighting Panel "LPDG2"	3.8
HV-MOT-(CTF-DG-1B)	DG #2 Clg Twr Fan	1.1
HV-MOT-(CTP-DG-1B)	DG #2 Clg Twr Pump	1.5
DGJW-HTR-JWH	Jacket Water Heater	22.1
DGJW-MOT-JWBP	Jacket Water Bypass PP	1.7
Weld Receptacle	Powers PPGB1 and Z-2 Sump Pump or PPGB1	27.4 or 25.0
RMV-RM-20A & RMV-P-20C	TG Radiation Monitor	2.1

ATTACHMENT 6    EQUIPMENT LOAD GUIDELINE
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<u>CIC</u>	<u>DESCRIPTION</u>	<u>KW</u>
<u>MCC-U</u>		
HV-MOT-(SF-R-1A-B)	Rx Bldg Supply Fan 1A-A	48.2
HV-MOT-(EF-R-1D)	Rx Bldg Exhaust Fan 1D	63.1
HV-MOT-(EF-R-1B)	Rx Bldg Exhaust Fan 1B	87.0
RRLO-MOT-LOPB1	RR MG Set Oil Recirc. PP	21.4
RRLO-MOT-LOPB2	RR MG Set Oil Recirc. PP	21.4
RRLO-MOT-LOPB3	RR MG Set Oil Recirc. PP	21.4
EE-MCC-U(1AL)	Reactor Building Elevator	4.3
LPR3G	Lighting Panel "LPR3G"	31.3
RMV-RM-40 & RMV-P-40A	Rx Bldg Radiation Monitor	0.9
ECU	ECU Cabinet	0.3
 <u>MCC-V</u>		
HV-MOT-(FC-R-1KB)	Stm Tunnel Fan Coil 1KB	5.9
LPR2G	Lighting Panel "LPR2G"	12.0
RWCU-MOT-RPB	RWCU Recirc. PP 1B	47.6
LPR1G	Lighting Panel "LPR1G"	10.4
SPR2	Space Heater Panel "SPR2"	5.6
HV-MOT-(BF-R-1B)	Rx Bldg Booster Fan 1B	5.5
OG-FAN-(DF-OG-1A)	Off-Gas Dilution Fan 1B	11.9
 <u>MCC-W</u>		
HV-AC-(AC-RW-1B)	RW A/C 1B	1.1
HV-AC-(AC-RW-1A)	RW A/C 1A	2.7
HV-AC-(AC-RW-1D)	RW A/C 1D	12.6
HV-AC-(AC-RW-1E)	RW A/C 1E	13.1
CHP-RW-1A	Chilled Wtr PP 1A	5.0

**ATTACHMENT 6    EQUIPMENT LOAD GUIDELINE**

<u>CIC</u>	<u>DESCRIPTION</u>	<u>KW</u>
<u>MCC-W (CONTINUED)</u>		
LPOB2, LPCRP1	Panels "LPOB2, LPCRP1"	17.4
EE-MCC-W(6AL)	RW Bldg Elevator	0.1
LPRW3, RLPN	Panels "LPRW3, RLPN"	17.1
LPRW4	Lighting Panel "LPRW4"	10.2
PP-CH-1	H&V Pwr Pnl "CH-1"	6.1
EE-MCC-W(9CL)	RAD CHEM Fdr	21.5
EE-MCC-W(9BR)	ARW Vent Monitors	0.8
EE-MCC-W(2DR)	Office Bldg Elevator	0.1
HV-MOT-(SF-RW-1A-A)	RW Bldg Supply Fan 1A-A	34.1
HV-MOT-(EF-RW-1C)	RW Bldg Exhaust Fan 1C	8.8
HV-AC-(AC-OF-1A)	Office Bldg A/C	13.0
HV-MOT-(EF-RW-1A)	RW Bldg Exhaust Fan 1A	44.4
RW-MOT-DSB	Dewater System Blower	3.0
RW-CH-DS	Dewater System Chiller	0.8
 <u>MCC-MR</u>		
HV-MOT-(EF-AR-1C)	ARW Bldg Exhaust Fan 1C	0.9
HV-MOT-(EF-AR-1B)	ARW Bldg Exhaust Fan 1B	16.5
HV-MOT-(SF-AR-1B)	ARW Bldg Supply Fan 1B	10.9
HV-MOT-(FC-AR-1A)	ARW Fan Coil Unit 1A	5.6
HV-MOT-(FC-AR-1B)	ARW Fan Coil Unit 1B	4.2
LP-AR-2	Lighting Panel "LP-AR-2"	17.5
RW-MOT-CWMTFP	Conc. Wst Meas. Tk Fd PP	7.6
RW-MOT-CWTA	Conc. Wst Tk Agitator	2.1

ATTACHMENT 6 EQUIPMENT LOAD GUIDELINE
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<u>CIC</u>	<u>DESCRIPTION</u>	<u>KW</u>
<u>MCC-X</u>		
LO-MOT-(LO-P-BL1)	BRG #1 Lift Oil PP 1	3.4
LO-MOT-(LO-P-BL2)	BRG #2 Lift Oil PP 2	3.4
TG-MOT-TG	Main Turbine Turn Gear	46.6
HV-MOT-(EF-CO-1A)	Comp. Room Exhaust Fan	1.6
LO-MOT-(LO-P-MBL)	Main Turbine Brg Lift Oil PP	19.4

## POSITION INSTRUCTION MANUAL

EOF01

Emergency Director

Date: \_\_\_\_\_

Provide overall authority and responsibility to immediately and unilaterally initiate emergency response actions and to coordinate all emergency response activities at CNS.

- 1. Assume the position of Emergency Director.
  - a. Sign into the facility on the Accountability Sign-In Sheet (EPIP 5.7.10, Attachment 1).
  - b. Obtain a controlled set of EIPs and an Emergency Telephone Directory.
  - c. Verify communications devices function.
    - 1) Telephone.
    - 2) Alternate Intercom.
  - d. Confer with the On-Shift Emergency Director, TSC Director, and EOF Director to obtain plant status, using Attachment 1, Control Room Turnover Worksheet. This should be faxed to the EOF from the Control Room.
  - e. Determine readiness to activate the EOF with the EOF Director.
- 2. Maintain a log of activities.
- 3. Classify the emergency and periodically review the classification to ensure it reflects current plant conditions per EPIP 5.7.1 (NON-DELEGABLE).
  - a. Review and approve the pertinent Emergency Action Level.
  - b. Declare the emergency and tie to a time.
  - c. Classify or reclassify the emergency through consultation with key ERO personnel.
- 4. Notify authorities responsible for offsite emergency measures (NON-DELEGABLE).
  - a. Authorize approval of notifications by signature prior to their release.
    - 1) Review, edit if necessary, approve, and return the CNS Incident Report to the Shift Communicator for transmittal.
    - 2) Ensure the emergency classification and declaration time is recorded on the notification attachments.
  - b. Provide the EOF Director verbal approval for follow-up notification authorization following review when absent from the area.
- 5. Provide Protective Action Recommendations to authorities responsible for offsite emergency actions per EPIP 5.7.20 (NON-DELEGABLE).
  - a. Review PARs and their bases with the RCM.
  - b. Ensure PARs are immediately and properly communicated to offsite authorities (CNS PARs do not require concurrence from the States prior to their issuance).
    - 1) Provide the PAR verbally to State representatives when they are present in the EOF.

- 2) Provide the PAR via the Offsite Notification Form to State representatives when they are not present in the EOF.
- c. Upgrade and downgrade PARs as conditions change.
- 6. Authorize radiation exposures in excess of EPA limits (NON-DELEGABLE).
- 7. Authorize the use of KI as a thyroid blocking agent for CNS emergency workers (NON-DELEGABLE).
- 8. Ensure NPPD onsite and offsite emergency response functions are performed in a timely manner.
  - a. Select and prioritize response actions.
    - 1) Set clear goals for the ERO.
    - 2) Coordinate actions based on the organization's ability.
  - b. Communicate with ERO management personnel to discuss conditions and activities.
    - 1) TSC Director.
    - 2) EOF Director.
    - 3) Shift Supervisor.
      - a) Direct the Shift Supervisor to perform specific actions which can only be performed from the Control Room (such as the activation of emergency alarms).
    - 4) JIC Public Affairs Director.
  - c. Authorize the use of pre-approved purchase orders EP1001 through EP1050 as appropriate to provide funding for the cost of immediate emergency response measures.
- 9. Conduct periodic EOF briefings approximately every 30 minutes, using Attachment 2, Briefing Guide.
- 10. Determine the need for and authorize the conduct of a site evacuation per EPIP 5.7.11.
  - a. Assess the need or potential need for dismissal or evacuation of non-designated personnel with input from the RCM or Chemistry/RP Coordinator.
  - b. Relocate to the AEOF per EPIP 5.7.9.1.
- 11. Ensure interface functions between NPPD and governmental organizations are properly executed in accordance with the respective emergency plans.
  - a. Direct the EOF Director to conduct periodic briefings with State and NRC personnel.
  - b. Direct the Emergency Preparedness Coordinator to activate the Alert and Notification System from the CNS EOF if formally requested by the State or local authorities.
- 12. Ensure continuity of emergency response resources.

- a. Ensure that adequate technical and logistic support is available to the station emergency organization.
  - b. Allocate and reallocate resources based on priorities and organizational capability.
13. Coordinate and direct recovery meetings, re-entry, and deactivation activities when plant conditions are stable per EPIP 5.7.25.
14. Conduct shift turnover as necessary.
15. Terminate the event and ensure all items have been returned to a state of readiness.
- a. Complete all checklist items.
  - b. Return the workstation to its original condition.
  - c. Return all document binders to their storage location.
  - d. Return any emergency response equipment to its original location.
  - e. Provide all paperwork to the Emergency Preparedness Coordinator.

Attachment 1

Control Room Turnover Worksheet

A. Emergency Classification Status

(circle): Unusual Event Alert Site Area Emergency General Emergency

1. Initiating Events and EALs Exceeded:

\_\_\_\_\_  
\_\_\_\_\_

2. Status of emergency procedure implementation and mitigating actions

\_\_\_\_\_  
\_\_\_\_\_

B. Plant/Reactor Status (circle): Stable Degrading Improving

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

1. Fission Product Barrier and Safety System Status

Fuel Cladding:	Intact	Potential Loss	Lost	_____
Primary Coolant:	Intact	Potential Loss	Lost	_____
Primary Containment:	Intact	Potential Loss	Lost	_____
Secondary Containment:	Intact	Potential Loss	Lost	_____

\_\_\_\_\_  
\_\_\_\_\_

2. Evolutions in progress

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

3. Radiological conditions release in progress (circle): YES NO

\_\_\_\_\_  
\_\_\_\_\_

**Attachment 1**

**Control Room Turnover Worksheet**

C. On-site Protective Actions

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D. Off-site Protective Actions (only for a General Emergency classification)

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E. Off-site Assistance Requests

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F. Off-site Notifications                      Last Notification # \_\_\_\_\_                      Time: \_\_\_\_\_

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G. Status of ERO activation

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H. Status of outside agency mobilization

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**Attachment 1**

**Control Room Turnover Worksheet Help Guide**

**A. Emergency Classification Status**

**1. Initiating Events and EALs exceeded:**

- Cause, history, and initiating events leading to emergency declaration
- EALs exceeded

**2. Status of Emergency Procedure Implementation and Mitigating Actions**

- Status of progress in emergency procedures
- Corrective actions taken

**B. Plant/Reactor Status**

**Condition/stability of reactor and plant**

**1. Fission Product Barrier and Safety System Status**

- Fission Product Barrier Status (Fuel, RCS, Containment)
- Safety System alignments and status (flow rates, etc.)

**2. Evolutions in Progress**

- Control Room activities
- In plant activities (SOs, I&C, mechanics)

**3. Radiological Conditions**

- Known in plant conditions
- Known releases and duration

**Attachment 1**

**Control Room Turnover Worksheet Help Guide**

**C. On-Site Protective Actions**

- Existing personnel hazards
- Evacuations (local, site) and status of accountability or assembly
- KI Administration (status)

**D. Off-Site Protective Actions**

- Status of Dose Assessment activities
- PARs made to State/County Agencies

**E. Off-Site Assistance Request**

- Fire, rescue squad, and law enforcement assistance requested

**F. Off-Site Notifications**

- Status of notifications made to:
  - State and Counties
  - NRC
  - INPO
  - ANI
  - Any others

**G. Status of ERO Activation**

- Minimum staffing positions not reporting in to Automated Notification System

**H. Status of Outside Agency Mobilization**

- Any Reports that the State and Counties, NRC, etc., are activating
- Requests from State/Counties/NRC, etc.
- Time/Content of any News Releases

**Attachment 2**

**BRIEFING GUIDE**

Date and time of this status update: \_\_\_\_\_ / \_\_\_\_\_

Note: Give 5 minutes notice of briefing time, i.e. "Brief in 5 minutes".

1. Activate pager/intercom system.
2. "Attention in the EOF".
3. Review current emergency classification declared and its basis (EAL).
4. Conduct updates on plant conditions with Key EOF Personnel:
  - a. EOF Director – EOF issues.
  - b. Rad Control Manager - Rad conditions, offsite releases and habitability concerns.
  - c. Ops/EOP Advisor – Plant conditions and trends.
  - d. Logistics Coordinator – Physical arrangements and team turnover.
  - e. EP Coordinator – Siren concerns and emerging issues.
  - f. Offsite Communicator – Communications with offsite agencies.
  - g. State of Nebraska – Actions taken by the state.
  - h. State of Missouri – Actions taken by the state.
  - i. Any additional personnel that may request input.
5. Request NRC personnel give an update on NRC actions.
6. Review the overall accident mitigation objectives and their priority.
7. Direct key EOF personnel to update their subordinates with applicable information obtained from the meeting.
8. Determine approximate time for next status update meeting. Time: \_\_\_\_\_

NOTE: When providing an update, personnel should stand, identify their position, and provide a brief overview of the status of their activities. Reporting "No changes to report: is acceptable.

# POSITION INSTRUCTION MANUAL

EOF02

EOF Director

Date: \_\_\_\_\_

Ensure the EOF provides the necessary offsite support to the CNS response organization.

- 1. Assume the position of EOF Director.
  - a. Sign into the facility on the Accountability Sign-In Sheet (EPIP 5.7.10, Attachment 1).
  - b. Obtain a controlled set of EPIPs and an Emergency Telephone Directory.
  - c. Verify communications devices function.
    - 1) Telephone.
- 2. Maintain a log of activities.
- 3. Activate the facility.
  - a. Verify minimum staffing prior to declaring the EOF operational.
    - 1) Emergency Director
    - 2) EOF Director
    - 3) Radiological Controls Manager
    - 4) Radiological Assessment Supervisor
    - 5) Offsite Communicator
  - b. Report to the Emergency Director when the EOF is ready to assume responsibilities.
  - c. Notify the Emergency Director, TSC Director, and Control Room of EOF activation.
- 4. Ensure the EOF functions are executed in a timely and efficient manner.
  - a. Coordinate and direct all personnel assigned to the EOF.
  - b. Provide periodic updates on plant conditions, EOF priorities, and key offsite activities to EOF personnel.
  - c. Provide guidance to the RCM, TIC, and other key members of the EOF staff.
  - d. Inform the Emergency Director of significant activities of the EOF.
- 5. Ensure offsite communications are being made as required.
  - a. Contact offsite Federal, State, and local officials to inform them of the current situation at CNS.
  - b. Obtain verbal approval to sign and transmit follow-up notifications following a review when the Emergency Director is absent from the area.
- 6. Assist and advise the Emergency Director in formulation of the PAR.
  - a. Determine the status of implementation of any previously issued offsite protective actions.
  - b. Maintain liaison with the RCM and review significant dose projection results.

## POSITION INSTRUCTION MANUAL

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- 7. Ensure proper communications are established between the EOF, TSC, Control Room, and JIC.
- 8. Provide the initial interface with NRC Site Team per Attachment 1.
- 9. Advise the Logistics Coordinator and the EP Coordinator to assist the NRC Site Team with any logistical needs as necessary.
- 10. Ensure the EOF status log reflects pertinent offsite related activities.
- 11. Develop a recovery plan for the emergency.
- 12. Direct site evacuation activities when assigned.
  - a. Appoint an Evacuation Coordinator to supervise a site evacuation.
  - b. Designate the evacuation route and the offsite assembly area.
  - c. Direct the Evacuation Coordinator to notify the Nemaha County EOC or the Nemaha County Sheriff's Office of the evacuation.
  - d. Determine personnel to be retained on site and personnel to be assigned to off site emergency response locations or shift relief duty.
- 13. Direct facility relocation in the event of an EOF evacuation per EPIP 5.7.9.1.
- 14. Conduct shift turnover as necessary.
- 15. Upon event termination ensure all materials have been returned to a state of readiness.
  - a. Complete all checklist items.
  - b. Return the workstation to its original condition.
  - c. Return all document binders to their storage location.
  - d. Return any emergency response equipment to its original location.
  - e. Provide all paperwork to the Emergency Preparedness Coordinator.

Time: \_\_\_\_\_

**NOTE:** This briefing guide should be completed by the EOF Director with the assistance of the Radiological Control Manager.

1. Meet the NRC team as they are signing into the EOF. Do not allow entry into the main room until briefing is completed.
2. Lead the team into the NRC Conference Room and provide the following information:
  - a. Current Emergency classification.
  - b. Emergency Facilities that are activated.
  - c. Any on-site protective actions taken:
    - 1) Evacuation
    - 2) KI
  - d. Any Off-site Protective Action Recommendations.
  - e. Brief summary of the emergency Event.
  - f. Any radiological releases that are in progress or projected.
  - g. Dose Assessment information.
  - h. Available Field Team Data.
3. Answer any question that are ask by team personnel.
4. Escort the team into the facility and join them with their respective counterparts.

# NEBRASKA PUBLIC POWER DISTRICT

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**Date:** December 14, 2001  
**To:** D. Kunsemiller, Risk & Regulatory Affairs Manager  
**From:** R. J. Steele, Electrical Engineering Design Supervisor  
**Subject:** Emergency Operations Facility Electrical Power Design and Reliability

**FOR INTRA-DISTRICT  
BUSINESS ONLY**

The design requirements for Emergency Response Facilities (ERF) are set forth in NUREG 0696, Functional Criteria for Emergency Response Facilities. These criteria do not specifically address the design of the power supply system, other than to state that "the data systems, instrumentation, and facilities of the ERFs shall be designed and constructed to provide a very high degree of reliability". A reliability criterion for ERF systems, instrumentation, and facilities is established in terms of unavailability. The operational unavailability goal is 0.01 when the reactor is above cold shutdown, and is defined as downtime divided by operating time. There are no unavailability goals for the EOF while the reactor is in cold shutdown status.

Additionally, NUREG 0696 specifies that the EOF electrical equipment load shall not degrade the capability or reliability of any safety-related power source.

Normal power to the EOF is from the 12.5kv power system, described in the USAR as a reliable source of power to station support facilities, independent of site-generated power and provided with an alternate power source. The EOF unavailability goal has historically been met by the normal power supply. The attached table shows best estimated availability performance for the EOF since 1993, a period for which records are readily available.

A source of backup power to the EOF was installed by minor design change DC 85-045 in 1986 to further improve reliability. This change did not affect the reliability performance of the normal power supply.

The initial design of the EOF power supply meets the functional criteria established by NUREG 0696, and conforms to its licensing basis.



## EOF Unavailability Study

Unavailability	YEAR																	
	1993		1994		1995		1996		1997		1998		1999		2000		2001	
	Date	hours																
Power outages	24-Mar	0.17	07-Dec	4.73	15-May	6.17		0.00			16-Aug	6.08			12-Mar	2.27	25-Jun	9.45
																	07-Sep	12.00
Outage per Surveillance 15.EE.304/6.3.13.3 (Backup Power Feed to EOF Operability Test)	13-Apr	1.00			17-Oct	1.00			23-Apr	1.00	08-Oct	1.00			16-Mar	1.00		
Outage per Surveillance 15.HV.101/6.3.17.9 (EOF Emergency Fan Charcoal and HEOPA Filter Leak Test, Fan Capacity Test, and Charcoal Sampling)	23-Mar	2.00	14-Sep	2.00			21-Mar	2.00	27-Jan	2.00			12-May	2.00	07-Nov	2.00		
Total Hours Out for Year		3.17		6.73		7.17		2.00		3.00		7.08		2.00		5.27		21.45
Hours out for year above CSD		0.00		0.00		6.17		2.00		2.00		6.08		2.00		2.00		21.45
Hours critical		5147		3076		5851		8603		7395		6647		8596		6520		6969
Yearly unavailability		0.0000		0.0000		0.0011		0.0002		0.0003		0.0009		0.0002		0.0003		0.0031

**Hour unavailable from 1993-2001 = 41.70**  
**Unavailability for 1993-2001 = 0.0007**

### EOF Power Supply and Ventilation Unavailability Study Notes:

This study is based on the following information inputs:

- Information provided by the Transmission & Distribution System Planning Manager on outages of the T-2 stepdown transformer during the period 1994–2000 for which records are available. The normal supply to the 12.5kv power system, which powers the EOF, is the tertiary winding of T-2. Therefore availability of the T-2 transformer is a reasonable estimation of the availability of power to the EOF. Note that there could be local or partial outages of the 12.5kv power caused by other factors than T-2 outages.
- A search of the NAIT database for 12.5kv power outages and for EOF outages. The results of the search identified six outages in the period 1993-2000. Control Room and/or Shift Supervisor logs for each of the identified outage periods were reviewed to determine the duration of each outage.
- This study is considered to be a best estimate of availability, based on records available for review.
- Hours critical are used as an approximation for hours the reactor was operating above cold shutdown. Outage times in gray blocks are during cold shutdown periods.

Regarding surveillance activities:

- Per discussions with Maintenance, surveillance procedure 15.HV.101/6.3.17.9 requires less than two hours to accomplish. The fan is turned off to remove the filters and then turned back on. Two hours were assumed for each performance.
- Based on the activities to be performed during procedure 15.EE.304/6.3.13.3, the maximum time the EOF would be without power during the surveillance is one hour. One hour is assumed for each performance.
- There were no records found regarding the performance of maintenance procedure 7.2.64 during the period 1993-2000.

Emergency Drill Performance Data Including Call-in Times and Pager Activation

Facility	DATE	Estimated Response Times (2)								Activation Drills (1)	
		2/9/00	7/31/00	9/21/00	12/19/00	1/16/01	3/21/01**	6/25/01	9/26/01	7/11/01	7/18/01
<u>TSC</u>	TSC Director	29	28	21	11	45	2	51	1	56	52
	OPS Coord.	25	5	24	6	9	5	46	3		
	Chem/RP Coord.	18	23	18	29	23	8	34	21		
	Maint. Coord.	18	22	41	23	6	21	27	21		
	Eng. Coord.	30	13	11	6	21	23	11	5		
<u>OSC</u>	Rad. Prot. Tech. 6	36	54	33	39	41	43	48	30	50	60
	Electricians 2	32	40	44	42	45	43	47	55		
	Mechanics 2	25	26	15	39	32	24	38	29		
	I&C Tech. 2	50	64	23	37	60	31	41	32		
<u>EOF</u>	E.D.	32	27	27	36	24	6	31	16	56	52
	EOF Director	27	34	4	32	26	10	27	24		
	Rad. Cont. Man.	21	32	32	29	22	40	41	4		
	Rad. Assessm. Supv.	11	35	25	42	7	27	36	16		
	Offsite Coord.	29	13	32	26	35	3	27	16		
<b>Last Position staffed (in minutes)</b>		<b>50</b>	<b>64</b>	<b>44</b>	<b>42</b>	<b>60</b>	<b>43</b>	<b>51</b>	<b>55</b>	<b>56</b>	<b>60</b>

\*\* This drill was conducted at 22:30 to ensure the system worked and that all positions responded. This drill was conducted on the same day as the transformer fire event.

Note 1: 7/11/01 and 7/18/01 are actual activation drills conducted off hours; these times were when the facilities were activated.

Note 2: These dates are call-in drills only; the time listed is when the individual estimated their arrival at their facility from pager activation.

This data was gathered from the raw data printout of the ANS, and drill critique notes.

## EOF Equipment Available During the June 25, 2001 Event

Emergency Preparedness procedures and Position Instruction Manuals (PIM) were reviewed for references relating to equipment necessary for facility activation. Although no equipment was stated as required for facility activation, references were found for equipment related to Emergency Response Organization member activities. Below is a list of that equipment. For the equipment mentioned in the various PIMs below, other means to accomplish the required 'function' may be either already present (such as using cell phones in lieu of radios for field teams) or ad hoc arrangements made (such as accessing plant operating conditions or dose assessment data from the computer in the Telecommunications room, or running extension cords to FAX machines.

EOF PIM number	Title/Position	Equipment
1	Emergency Director	None explicit. Implicit is telephones.
2	EOF Director	None explicit. Implicit is telephones.
3	Rad. Control Manager	Telephone. Computerized Dose Assessment equipment, radio(s) for field team communications, Continuous Air Monitor, EOF emergency ventilation
4	OPS/EOP Advisor	Cell phone (bridge), Information Display System and VAX PCs.
5	EPC	Telephone, Alternate Intercom
6	O-S Communicator	Telephone, State Notification System Telephone
7	Radiological Assessment Supervisor	Telephone, Alternate Intercom, Radios, (inferred) MET data
8	Logistics Coordinator	Telephone
9	Dose Assessment Coordinator	Telephone, emergency ventilation, CAM, ARM, dose assessment equipment
10	TIC	Telephone, cell phone
12	Clerical Coordinator	Telephone, Alternate Intercom, FAX
13	Dose Clerk	Telephone, dose assessment computer equipment
14	Log Keeper	Personal Computer
16	Field Teams	Vehicle and survey equipment, communications devices
17	Down wind driver	Vehicle, radios
18	Field Team Coordinator	Radios

The condition in which ERO personnel found the EOF on 6/25/00 did not allow all the above equipment to be immediately available. Below are two lists, one, which shows equipment unaffected by the power loss, and one which shows the equipment affected, together with the compensating actions taken to achieve the functional requirement of the equipment.

**Equipment Unaffected by the Power Loss:**

- Telephones
- Alternate Intercom
- On-site cell phones
- Gaitronics (Plant Public Address System)
- Off-site cell phones (as contained in the down wind survey vehicles)

**Equipment Affected by the Power Loss (Compensating Actions):**

- Emergency radiological filtration system in the EOF: None
- Radios to down wind vehicles (used off-site cell phones).
- Data Display Systems (None. Manual Status boards were available)
- Telephone communications were maintained between the C/R, TSC, and EOF. [an on-line 'bridge']).
- Dose Assessment Computer equipment (PC in the Telecommunications room was powered via backup power, an ICON was loaded from the LAN, and the program was run from this location. Plant Management Information System [PMIS] data would also have been available electronically from this PC).
- Log Keeper's PC (an extension cord was run for power).
- FAX (an extension cord was run for power).
- CAM/ARM (Electronic dosimetry [PD-1s] were placed near the doors of the facility. It was known that this event was not radiological in nature).
- Dialogics Notification System due to loss of power to LAN or its components (paggers were activated using the backup means).
- Air Conditioning (set up fans to draw in cooler air from adjacent buildings).

The logs kept at the time of the event clearly show awareness of the Alternate EOF (AEOF) availability. Criteria were established for when the AEOF would be utilized.

The above data was assembled from E-mails received from responding personnel shortly after the event.