Nebraska Public Power District
Nebraska's Energy Leader

NLS2001119

December 19, 2001

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

Gentlemen:

Subject: Emergency Plan Implementing Procedures
Cooper Nuclear Station, NRC Docket 50-298, DPR-46

Pursuant to the requirements of 10 CFR 50, Appendix E, Section V, "Implementing Procedures," Nebraska Public Power District is transmitting the following Emergency Plan Implementing Procedures (EPIPs):

EPIP 5.7.6	Revision 32	"Notification"
EPIP 5.7.9.1	Revision 5	"Activation of Alternate EOF"
EPIP 5.7.18	Revision 19	"Off-Site and Site Boundary Monitoring"

Should you have any questions concerning this matter, please contact me.

Sincerely,

J. A. Hutton
Plant Manager

/nr
Enclosures

cc: Regional Administrator w/enclosures (2)
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Rec'd 01/23/02

Correspondence Number: NLS2001119

The following table identifies those actions committed to by the District in this document. Any other actions discussed in the submittal represent intended or planned actions by the District. They are described for information only and are not regulatory commitments. Please notify the NL&S Manager at Cooper Nuclear Station of any questions regarding this document or any associated regulatory commitments.

COMMITMENT	COMMITTED DATE OR OUTAGE
None	

CNS OPERATIONS MANUAL EPIP PROCEDURE 5.7.6 NOTIFICATION	USE: REFERENCE EFFECTIVE: 12/1/01 APPROVAL: SORC OWNER: J. G. KELSAY DEPARTMENT: EP

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 <u>not</u> 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 <u>not</u> 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

[ ] **<u>NOTE</u>** - 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 ODAM 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 ODAM 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 (μCi/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 ERO NOTIFICATION/STAFF AUGMENTATION

[ ] **NOTE** - ERO Notification/Staff Augmentation should be performed prior to initial notifications to State and Local Governmental Agencies and NRC Notifications. This will maximize the response time available to the ERO Staff.

[ ] 5.1.1 Immediately after the declaration of an emergency, the Emergency Director should ensure the CNS Automated Notification System (ANS) 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.

[ ] 5.1.2 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 1** - When executing scenarios 200#, 300#, or 400#, recording of a "Current Scenario Message" is required.

[ ] **NOTE 2** - If personnel are required to report directly to the AEOF (in lieu of the EOF), a "Current Scenario Message" to have EOF personnel report directly to the AEOF is required.

[ ] 5.1.3 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#, 400#, and the use of the AEOF, which require 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. If a "Current Scenario Message" is recorded, it should contain information the responder needs to know regarding his safety prior to arriving at CNS or specific information relevant to the emergency event.

[ ] 5.1.4 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.

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

[ ] 5.2 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.

[ ] 5.2.1 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, and approve (sign) Attachment 1, and return it to the Shift 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 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.

[ ] 5.2.4 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.

[ ] 5.2.5 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 5.2.6, do not proceed to quickly.

[ ] 5.2.6 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.

[ ] 5.2.7 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.

[ ] 5.2.8 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 5.2.7.

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

[ ] 5.3.1 The Shift Communicator shall complete Attachment 1, Sections 1 through 7, and forward to the Emergency Director for approval.

[ ] 5.3.2 The Emergency Director shall review, edit if necessary, approve (sign) Attachment 1, and return it to the Communicator.

[ ] 5.3.3 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.

[ ] 5.4 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.

[ ] 5.4.1 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.

[ ] 5.4.2 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.

[ ] 5.4.3 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.

[ ] 5.4.3.1 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.

[ ] 5.4.3.2 Report any further degradation in the level of safety of the plant or other worsening plant conditions.

[ ] 5.4.3.3 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.

[ ] 5.4.4 If the ENS telephone is inoperable, contact via normal telephone using alternate numbers as listed in the Emergency Telephone Directory.

[ ] 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.

[ ] **CAUTION** - When performing Step 6.1.6, do not proceed to quickly.

[ ] 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 <u>not</u> 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, Sections 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 and instructed to contact the Shift Communicator in the Control Room. Upon being contacted by the PADO, the Shift Communicator will ensure all information from the Initial CNS Notification Report is relayed to the PADO. In such cases that it is not feasible to relay the information via telephone in a timely manner, the Notification Report may be faxed to the PADO. PADO 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).

[ ] **NOTE** - Refer to Step 8.1.3.

[ ] 8.1.4.1 Assist the Shift Communicator in ensuring communications are established with the PADO and information from the CNS Notification Reports is relayed to the PADO per Procedure 5.7.23.

[ ] 8.1.4.2 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.

[ ] 8.1.4.3 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.

Notification Report Number: _____ **Time of Transmittal:** _____

[ ] **Initial Report (Complete Sections 1-7)** [ ] **Follow-Up Report (Complete Sections 1-8)**

1) **Name of CNS Communicator:** **Call Back Number:** 402-825-

2) **Classification: [ ] NOUE; [ ] Alert; [ ] Site Area; [ ] General** | **EAL Number:**

Event Declared (Date/Time): | **Event Terminated (Date/Time):**

3) **Meteorological Conditions** | **Wind Speed:** MPH | **Wind From:** Degrees | **Precipitation:** [ ] Yes [ ] No

Stability Class: [ ] A; [ ] B; [ ] C; [ ] D; [ ] E; [ ] F; [ ] G

4) **ODAM Airborne Release Values:** **There** [ ] is [ ] no Release of Radioactive Material
ERP = 7.28E5 µCi/sec
Turbine Building = 3.6E4 µCi/sec [ ] was [ ] an airborne (Greater than ODAM Limits)
Reactor Building = 3.6E4 µCi/sec
Augment Radwaste = 3.6E4 µCi/sec [ ] will be [ ] 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:** [ ] Stable; [ ] Unstable | **Plant Status:** [ ] at Power; [ ] Shutdown

7) **Remarks:**

8) **Release Information:**

Release From: [ ] ERP; [ ] Reactor Building; [ ] Turbine Building; [ ] Aug Radwaste Building; [ ] Other: _____

Release Height: [ ] 300 ft (ERP); [ ] 30 ft (RB, TB, ARWB); [ ] Other: _____ ft | **Release Rate (Ci/sec)**

Estimated Duration: _____ **(Hours)**
Start Time: _____
Stop Time: _____

NobleGas: _____ Ci/sec
Iodides: N/A
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:**

ATTACHMENT 2	COOPER NUCLEAR STATION SHIFT COMMUNICATOR NOTIFICATION REPORT RECORD

Notification Report Number: _____

1. 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		

2. 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
NEMA 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.			

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 using alternate numbers in the Emergency Telephone Directory or Speed Dial, if ENS is inoperable.

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

4. TRANSFER OF NRC NOTIFICATION RESPONSIBILITY TO THE TSC. 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.

Name of ENS Communicator	Performed By	Time

5. TRANSFER OF STATE AND LOCAL GOVERNMENTAL AGENCIES NOTIFICATION RESPONSIBILITY TO THE EOF. 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.

Name of Off-Site Communicator	Performed By	Time

Communicator Signature: _____ Date: _____

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
NEMA 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. 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		
American Nuclear Insurers (ANI)	(860) 561-3433		

Communicator Signature: _____ Date: _____

NOTE 1 - The Emergency Director Password is located in the Shift Supervisor's Cubicle in the CNS Control Room.

NOTE 2 - If after two unsuccessful attempts, the CNS ANS is discovered to be inoperable (i.e., no Control Room personnel pagers are activated), use the backup method of ERO pager activation found in Attachment 5.

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, by speaking it to you. Press 2.

5. The system will ask you about the "Current Scenario Message". If you do not wish to record a "Current Scenario Message", proceed to Steps 7 and 8. 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.

   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.

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. A Current Scenario 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 Emergency Management Agency EOC, Missouri State Emergency Management Agency 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 Emergency Plan Implementing Procedure 5.7.23, Activation of the JIC.

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.

CNS OPERATIONS MANUAL EPIP 5.7.9.1 ACTIVATION OF ALTERNATE EOF	USE: REFERENCE EFFECTIVE: 12/1/01 APPROVAL: SORC OWNER: J. G. KELSAY DEPARTMENT: EP

1. PURPOSE

1.1 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.	/

ATTACHMENT 2	EOF EMERGENCY PREPAREDNESS COORDINATOR CHECKLIST - AEOF

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.

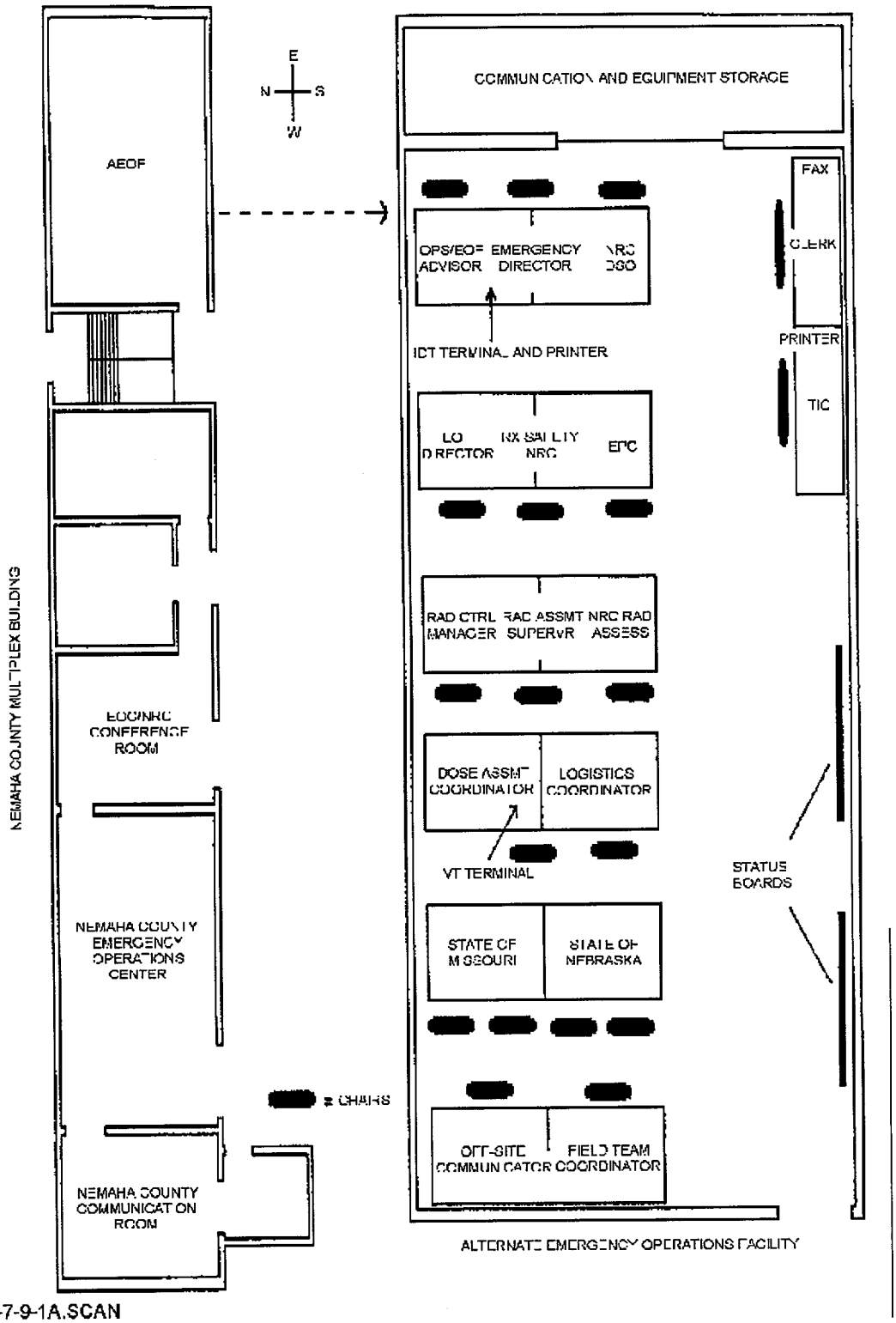
   2.1 The telephones and radios are located on shelves in the equipment storage room at the east end of the AEOF. Ensure this room has been unlocked per Attachment 1, Step 4, if keys are not available from the EOF EPC PIM Manual. _____/_____

   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. _____/_____

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.

CNS OPERATIONS MANUAL EPIP 5.7.18 OFF-SITE AND SITE BOUNDARY MONITORING	USE: REFERENCE EFFECTIVE: 12/12/01 APPROVAL: SORC OWNER: S. C. REZAB DEPARTMENT: EP

1. PURPOSE

This procedure describes the emergency off-site and site boundary monitoring and sampling activities to be undertaken in the event of a release of radioactive material from CNS.

2. PRECAUTIONS AND LIMITATIONS

[ ] 2.1 Be aware that air samples or retrieved filter-cartridge assemblies may be highly radioactive. Exercise ALARA techniques when handling.

[ ] 2.2 Vehicle air cleaners may become a significant radiation source when driving in airborne radioactivity areas. Consideration should be given to removing the air cleaner cartridge prior to traversing a radioactive plume.

[ ] 2.3 Clearly label all radioactive material (samples) with the dose rate, time taken, location taken, and person sampling-at a minimum.

3. REQUIREMENTS

[ ] 3.1 A release of radioactive material has occurred or has the potential to occur.

[ ] 3.2 Operationally check all instruments prior to departure and leave instruments on.

[ ] 3.3 Ensure communications between Survey Teams and Field Team Coordinator (FTC) has been established prior to leaving the site.

[ ] 3.4 Check with the FTC to see if thyroid blocking has been authorized by the Emergency Director (ED).

[ ] 3.5 Obtain survey vehicle(s) keys from Access Control or Emergency Preparedness.

[ ] 3.6 Ensure vehicles to be used are properly fueled.

[ ] 3.7 Ensure the following equipment and materials are available, as needed:

[ ] 3.7.1 Survey vehicles (Primary - AWD window vans; Alternate - Radio equipped station vehicles).

[ ] 3.7.2 Thermoluminescent Dosimeter (TLD).

[ ] 3.7.3 Equipment and materials as per Procedure 5.7.21, Emergency Equipment Inventory.

4. GENERAL INSTRUCTIONS FOR SURVEY TEAMS

[ ] 4.1 Off-Site Radiological Survey Team(s) are under the direction of the Radiological Assessment Supervisor (RAS) and will communicate through the FTC. The RAS will be reviewing meteorological information to estimate the plume location. The RAS should dispatch the available survey teams to sample the following locations in order:

[ ] 4.1.1 ELEVATED RELEASE

[ ] 4.1.1.1 ~ 2 miles downwind.

[ ] 4.1.1.2 ~ 5 miles downwind.

[ ] 4.1.2 GROUND LEVEL RELEASE

[ ] 4.1.2.1 Site Boundary.

[ ] 4.1.2.2 2 miles downwind.

[ ] 4.2 A minimum of two persons shall be on each survey team. Teams will be formed from personnel assembled at the OSC, EOF, or AEOF. All teams shall receive an initial briefing on current plant status and radiological conditions prior to being dispatched. A team leader shall be designated for each team.

[ ] **NOTE** - KI use may only be authorized by the ED per Procedure 5.7.14. KI use will be discussed and appropriate attachment(s) of Procedure 5.7.14 will be completed.

[ ] 4.3 KI will be taken voluntarily at the direction of the Radiological Control Manager or Chemistry/RP Coordinator.

[ ] 4.4 Once the plume is located, a team shall traverse it (travel across it at right angles to the wind direction). Dose rates will increase as the centerline is reached, peak at the centerline, and decrease as the opposite edge is reached.

5. BOUNDARY SURVEYS

[ ] **NOTE** - Steps 5.1.1 through 5.1.8 may be performed by one survey team or several survey teams, depending on the plume location(s).

[ ] 5.1 BOUNDARY MONITORING

[ ] 5.1.1 Leave survey instruments on while traveling to survey starting point. Relay any increased readings to the FTC. Observation of the meter during transit will also establish a background reading.

[ ] 5.1.2 Survey the site area boundary as directed by the FTC. The extent of the boundary survey may be affected by conditions such as weather, river water level, and radio contact.

[ ] 5.1.3 At the monitoring location(s), perform Beta-Gamma dose rate measurement(s) at 3' and at 3" above the ground. Record the results on Attachment 1.

[ ] 5.1.3.1 High Gamma to Beta ratio indicates the plume is overhead.

[ ] 5.1.3.2 High Beta contribution indicates the plume is at ground level.

[ ] 5.1.3.3 A high 3" Beta reading compared to the 3' Beta reading indicates there is ground deposition.

[ ] 5.1.4 While traversing the plume, the centerline is determined as the location where dose rates peak. Air sampling should be performed at centerline per Step 6.2, when Beta readings indicate the plume is at ground level or there has been a ground deposition. A silver zeolite cartridge shall be used to obtain a gross iodine air sample.

[ ] 5.1.5 Attempt to approximate locations indicated on the survey map (Attachment 4 of this procedure) and take readings at each point. Record the results on Attachment 1.

[ ] 5.1.6 Record dosimetry readings on Attachment 1 periodically and whenever plume affected areas are exited.

[ ] 5.1.7 Exit plume and determine the iodine and particulate concentrations using Section 7.

[ ] 5.1.8 Relay survey results to the FTC.

[ ] 5.1.9 Teams shall be provided further sampling instructions by the RAS via the FTC.

[ ] 5.2 DOWNWIND MONITORING

[ ] 5.2.1 Conduct surveys at distances of ~ 2 and 5 miles downwind. Pre-determined monitoring locations at or near these distances may not correlate well with highways or roads. Approximations will need to be made. Communicate clearly when relaying location information to and from downwind survey teams.

[ ] **NOTE** - Steps 5.2.2 through 5.2.6 may be performed by one survey team or several survey teams, depending on the plume location(s).

[ ] 5.2.2 At monitoring location(s), teams shall traverse the plume and perform Beta/Gamma dose rate measurement(s) at 3' and at 3" above the ground. Record the results on Attachment 1.

[ ] 5.2.2.1 High Gamma to Beta ratio indicates the plume is overhead.

[ ] 5.2.2.2 High Beta contribution indicates the plume is at ground level.

[ ] 5.2.2.3 A high 3" Beta reading compared to the 3' Beta reading indicates there is ground deposition.

[ ] 5.2.3 While traversing the plume the centerline is determined as the location where dose rates peak. Air sampling should be performed at centerline per Step 6.2, when Beta readings indicate the plume is at ground level or there has been a ground deposition. A silver zeolite cartridge shall be used to obtain a gross iodine air sample.

[ ] 5.2.4 Record dosimetry readings on Attachment 1 periodically and whenever plume affected areas are exited.

[ ] 5.2.5 Having exited the plume, the team shall determine iodine and particulate concentrations using Section 7.

[ ] 5.2.6 Relay survey results to the FTC.

[ ] 5.2.7 Teams shall be provided further sampling instructions by the RAS via the FTC.

6. FIXED ENVIRONMENTAL AIR STATION FILTER RETRIEVAL/CHANGEOUT

[ ] 6.1 If requested by the RAS, retrieve/changeout the filter/cartridge assemblies at fixed environmental air sampling stations.

[ ] 6.1.1 Assemble the filter and appropriate cartridge(s) in their holders as directed by the RAS prior to approaching the station.

[ ] **CAUTION** - The retrieved filter-cartridge assemblies may be highly radioactive. Exercise ALARA techniques when handling.

[ ] **NOTE** - Key (J423) for sampling station gates is available on the vehicle key rings for the primary survey vehicles.

[ ] 6.1.2 Bag (separately) and label the retrieved filter and cartridge(s). Shield as required.

[ ] 6.2 PORTABLE AIR SAMPLING

[ ] **NOTE 1** - Assemble the filter and appropriate cartridge(s) in their holders and attach to the air sampler prior to entering the affected area. Use silver zeolite cartridges for radioiodines. Use charcoal cartridges for gross activity (iodines and noble gases). An estimate of noble gas activity may be obtained by subtracting the activity on a silver zeolite cartridge from the activity on a charcoal cartridge collected at the same place and time.

[ ] **NOTE 2** - Always install a particulate filter upstream of any cartridge(s).

[ ] **NOTE 3** - Ensure proper orientation (flow direction) of cartridge(s) if marked, or mark the cartridge if not marked.

[ ] 6.2.1 At the sampling location(s) draw air sample(s) as directed by the FTC.

[ ] 6.2.2 Record location(s) and results on Attachment 1.

[ ] 6.2.3 Separate, bag, and label the filter and cartridge(s).

[ ] 6.2.4 Leave the area of airborne radioactivity.

[ ] 6.2.5 Notify the FTC that the sample has been collected.

[ ] 6.2.6 For radioiodine and particulate concentration determinations, proceed to Section 7.

7. IN-FIELD AIR SAMPLE CONCENTRATION DETERMINATION

[ ] 7.1 GROSS IODINE

[ ] 7.1.1 Take a contact reading (through the bag) on the up stream face of the silver zeolite cartridge.

[ ] 7.1.2 On the appropriate figure of Attachment 2 (**Figure 1** for E-140 with pancake probe, **Figure 2** for ion chamber), find the reading obtained in Step 7.1.1 along the horizontal axis. Go up the chart until the appropriate sample volume line is reached, then left to a point on the vertical axis.

[ ] 7.1.3 If results cannot be obtained, proceed to Step 7.3.

[ ] 7.2 GROSS PARTICULATE

[ ] 7.2.1 Take a contact reading (through the bag) on the up stream face of the particulate filter.

[ ] 7.2.2 On the appropriate figure of Attachment 3 (**Figure 3** for E-140 with pancake probe, **Figure 4** for ion chamber), find the reading obtained in Step 7.2.1 along the horizontal axis of the graph. Go up the chart until the appropriate sample volume line is reached, then left to a point on the vertical axis of the graph. Record the gross particulate concentration in Attachment 1.

[ ] 7.2.3 If results cannot be obtained, proceed to Step 7.3.

[ ] 7.3 CONCENTRATION HAND-CALCULATION (ATTACHMENT 5)

[ ] 7.3.1 Take a contact reading (through the bag) on the upstream face of a sample.

[ ] 7.3.2 Use Attachment 5 to hand calculate the concentration of the air sampled. Be sure to use the correct correction factor for the sample media, instrument, and probe used to read the sample.

8. SOIL SAMPLING

[ ] 8.1 At the sampling location(s) collect one square meter of surface (< 1/4") soil and place in a bag.

[ ] 8.2 Double bag and label the sample.

9. WATER SAMPLING

[ ] 9.1 At the sampling location(s) select a standing body of water of sufficient depth to submerse the sample bottle. If a body of water is not sufficiently deep enough in the area to be sampled, scoop water using one bottle and deposit it into a second, until the second bottle is filled.

[ ] 9.2 Vertically submerse the sample bottle until the mouth of the bottle is just below the surface of the water. If the size of the body of water permits, move the bottle around carefully to skim as much surface water as possible.

[ ] 9.3 Cap the bottle, dry it, double bag, and label.

10. VEGETATION SAMPLING

[ ] 10.1 At the sampling location(s), select an area of vegetation of uniform height.

[ ] 10.2 Carefully collect one square meter of vegetation, cutting to within an inch of the ground.

[ ] 10.3 Double bag and label the sample.

11. SNOW SAMPLING

[ ] 11.1 At the sampling location(s), select an area which is undisturbed.

[ ] 11.2 Collect one square meter of surface (< 1/4") snow and place in bag.

[ ] 11.3 Double bag and label the sample.

12. SHIFT TURNOVER/TERMINATION

[ ] 12.1 SHIFT TURNOVER

[ ] 12.1.1 Contact the FTC to determine the desired location for delivery of the sample media and turnover location.

[ ] 12.1.2 Inform the FTC of supplies/equipment needed to continue monitoring. The relieving survey team should bring these items with them to the turnover location.

[ ] 12.1.3 Deliver sample media to the designated location.

[ ] 12.1.4 Meet the relieving survey team at the turnover location.

[ ] 12.1.5 Fully brief the relieving survey team on radiological conditions, samples taken, problems encountered, etc.

[ ] 12.1.6 Report to the RAS for a final debrief.

[ ] 12.2 TERMINATION

[ ] 12.2.1 Contact the FTC to determine the desired location for delivery of the sample media.

[ ] 12.2.2 Deliver sample media to the designated location.

[ ] 12.2.3 Report to the RAS for a final debrief.

[ ] 12.2.4 Return equipment/supplies to emergency lockers or other storage locations.

[ ] 12.2.5 Perform inventory of equipment using Procedure 5.7.21 and replace, as necessary.

[ ] 12.2.6 Return the survey vehicles to their designated parking areas or to a decon facility and return the keys to Access Control or Emergency Preparedness.

ATTACHMENT 1 FIELD MONITORING DATA

DATE: _____

TEAM DESIGNATION: _____

TEAM LEADER: _____ TEAM MEMBER: _____

MONITORING LOCATION	SURVEY TIME	NET DOSE RATE (mrem/hr)				AIR SAMPLE DATA			INTEGRATED DOSE	
		AT 3'		AT 3"					NAME	NAME
		GAMMA SHIELD CLOSED	BETA/ GAMMA SHIELD OPEN	GAMMA SHIELD CLOSED	BETA/ GAMMA SHIELD OPEN	SAMPLE VOLUME FT^3	GROSS IODINE µCi/cc	GROSS PART. µCi/cc	DOSIMETER READING	DOSIMETER READING

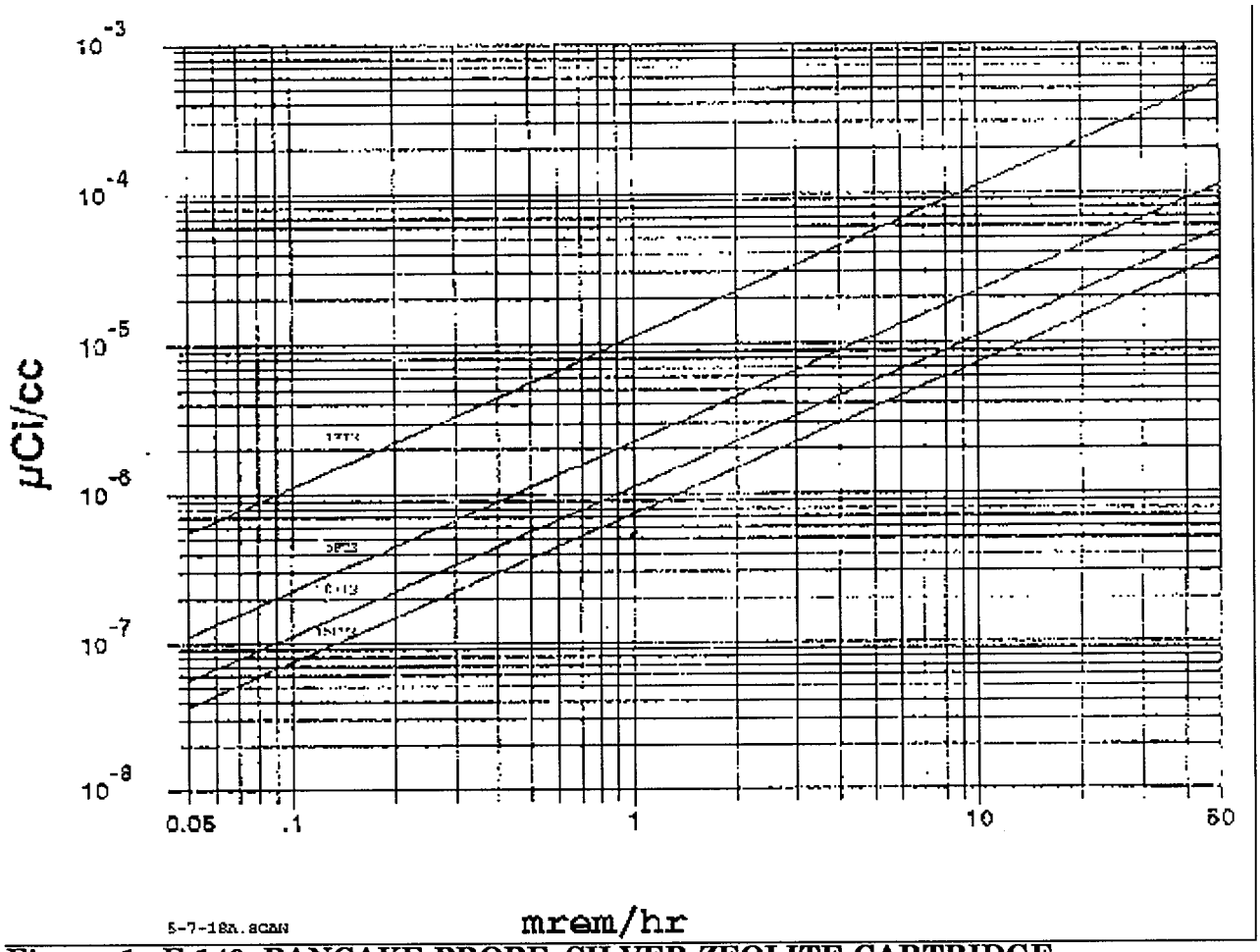


Figure 1 - E-140, PANCAKE PROBE; SILVER ZEOLITE CARTRIDGE

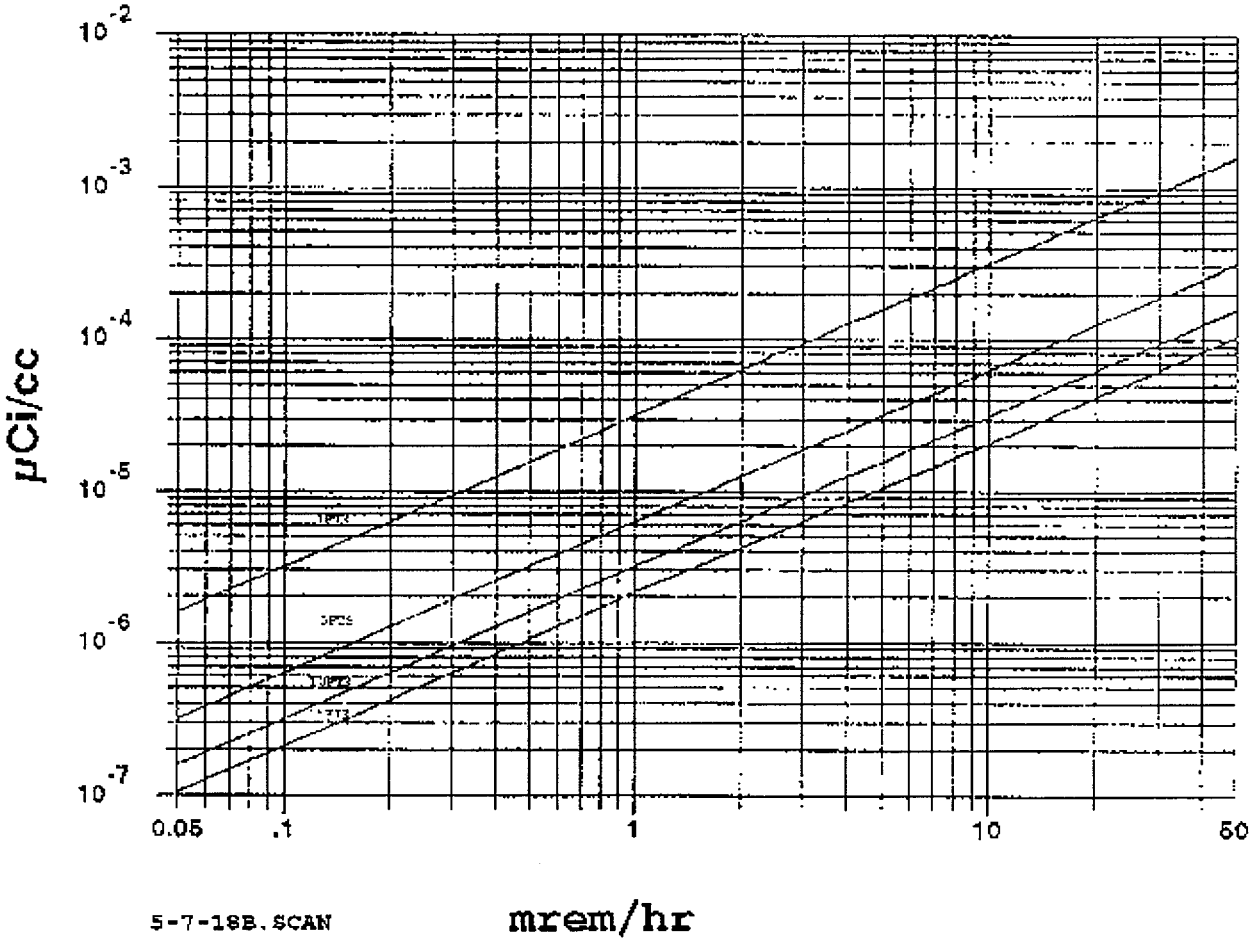


Figure 2 - ION CHAMBER; WINDOW OPEN SILVER ZEOLITE CARTRIDGE

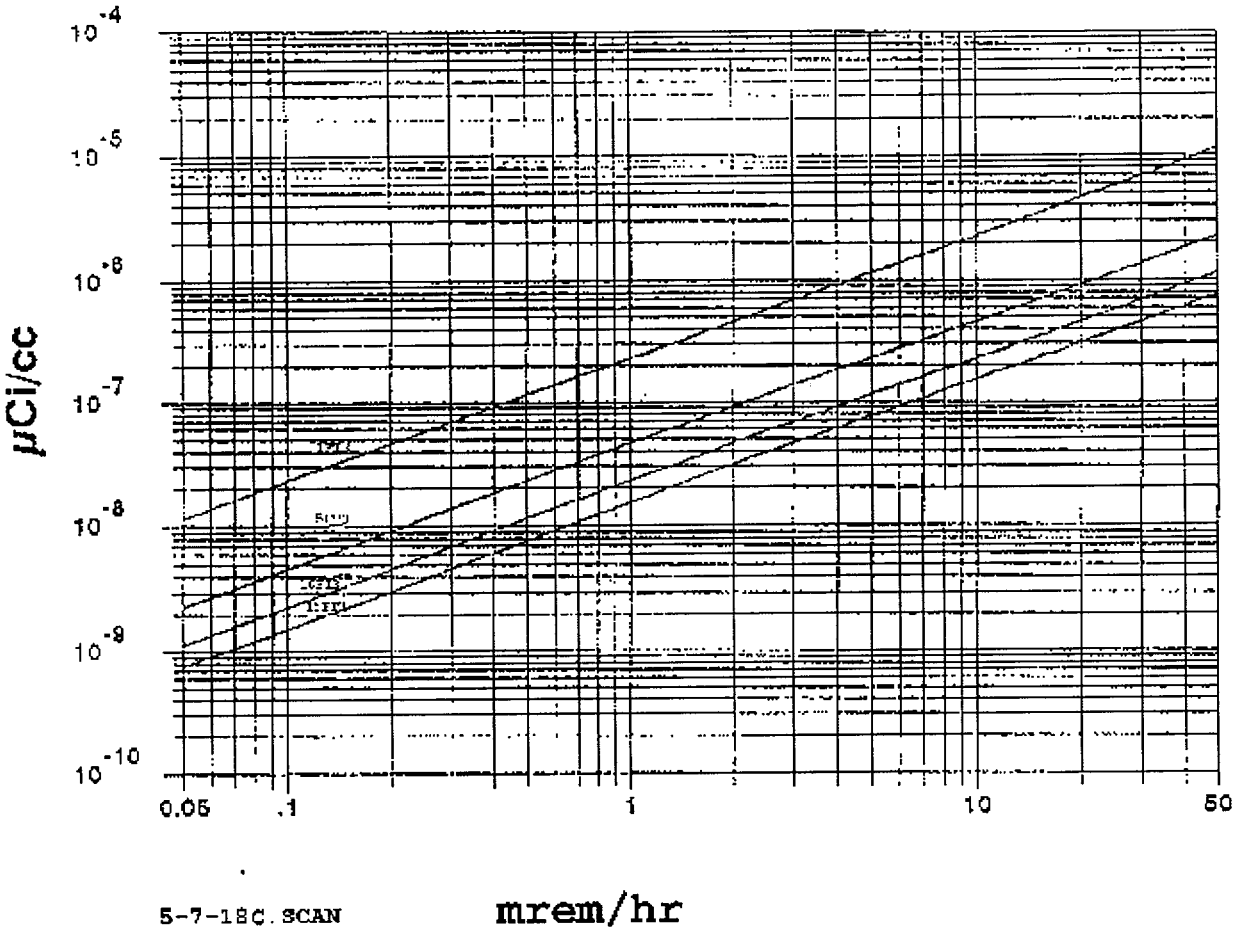


Figure 3 - E-140, PANCAKE PROBE; PARTICULATE FILTER

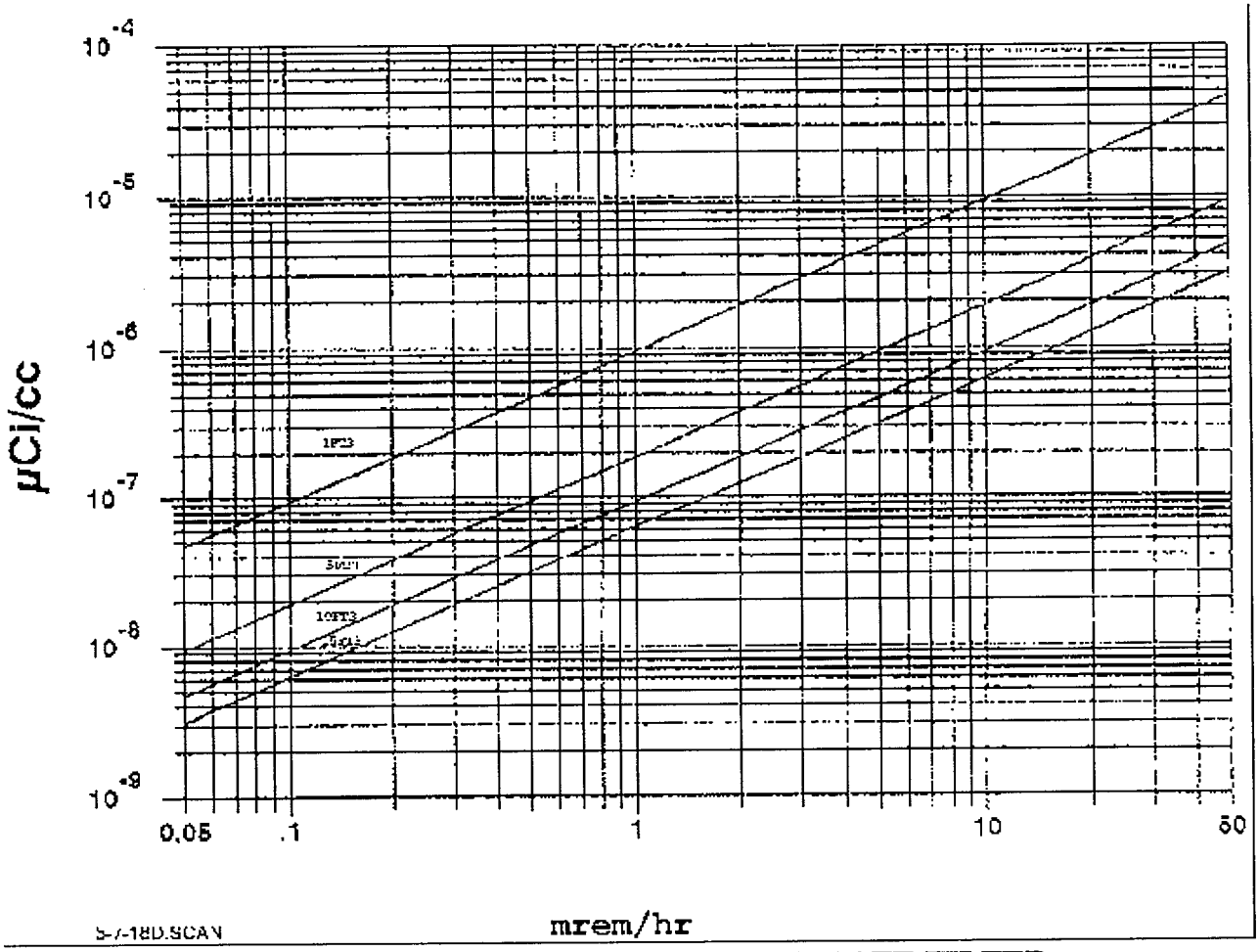
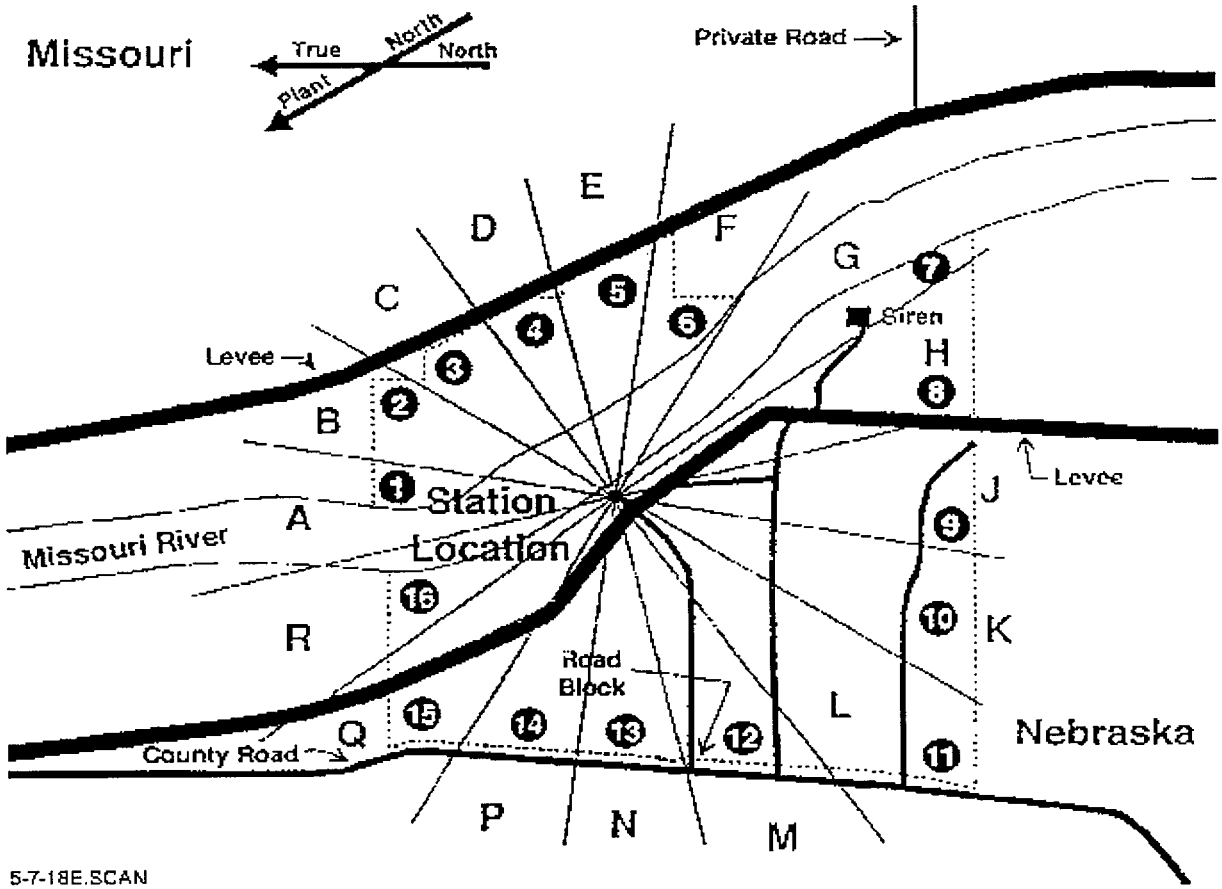


Figure 4 - ION CHAMBER; WINDOW OPEN PARTICULATE FILTER

STATION	DIRECTION	STATION	DIRECTION	STATION	DIRECTION	STATION	DIRECTION
1	N	5	E	9	S	13	W
2	NNE	6	ESE	10	SSW	14	WNW
3	NE	7	SE	11	SW	15	NW
4	ENE	8	SSE	12	WSW	16	NNW



5-7-18E.SCAN

Figure 5

Concentrations of radioisotopes may be determined using the following formula:

Concentration of Radioisotopes (μCi/cc)

$$= \frac{(3.53 \times 10^{-5}) \times (\text{mrem/hr contact reading})}{(\text{Cf}) \times (\text{sample volume in cubic ft})}$$

$$= \frac{(3.53 \times 10^{-5}) \times (\quad)}{(\quad) \times (\quad)}$$

= _____ μCi/cc

where:

Cf is a correction factor dependant on:

1. Instrument type
2. Probe type
3. Sample collection media (particulate filter or cartridge)
4. Isotope/form of interest

Cf values for the instruments and probe types used at CNS for particulates and Iodides are listed below.

Instrument/Probe/Media	Cf	
Ion Chamber, Silver Zeolite	1.12	Iodides
E-140, Pancake probe, Silver Zeolite	3.16	
Ion Chamber, Particulate filter	37.7	Particulate
E-140, Pancake probe, Particulate filter	154.2	

The above Cf values were determined experimentally in the laboratory using I-131 for iodides and Cs-137 for particulate.

1. DISCUSSION

1.1 In the event of a radiological release, data obtained from off-site surveys shall be used to verify projected release rates, concentrations, and doses. This data also provides a basis for making or modifying Protective Action Recommendations (PARs) per Procedure 5.7.20.

1.2 Once a release is in progress, downwind survey teams shall be used to make gross iodine determinations based upon air sample results. These gross iodine determinations will be correlated against projected iodine concentrations to verify the adequacy of Protective Action Recommendations (PARs). Correlations between actual field sample readings and projected concentrations should be made periodically as long as a release is in progress.

1.3 Once the release is terminated, additional field sampling results (i.e., soil, vegetation, water) shall be taken to determine the radiological impact and aid in re-entry decision making. These determinations and decisions will involve State and Federal agencies.

2. REFERENCES

2.1 CODE AND STANDARDS

2.1.1 Environmental Protection Agency (EPA) 400-R-92-001, Manual of Protective Action Guides and Protective Actions for Nuclear Incidents, May 1992.

2.1.2 FEMA-REP-2, Guidance on Off-site Emergency Radiation Measurement Systems.

2.1.3 NPPD Emergency Plan for CNS.

2.1.4 NUREG 0654/FEMA-REP-1, 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 5.7.14, Stable Iodine Thyroid Blocking (KI).

2.2.2 Emergency Plan Implementing Procedure 5.7.20, Protective Action Recommendations.

2.2.3 Emergency Plan Implementing Procedure 5.7.21, Emergency Equipment Inventory.

2.3 MISCELLANEOUS

2.3.1 NRC Inspection Report 91-12, Emergency Preparedness Annual Inspection Report.

2.3.2 QA Audit QA-86-06.

2.3.3 QA Audit QA-89-03.