



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

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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 5.7.11	Revision 12	"Evacuation of Non-Designated Site Personnel"
EPIP 5.7.25	Revision 14	"Recovery Operations"

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

Sincerely,

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Acting Emergency Preparedness Manager

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<u>CNS OPERATIONS MANUAL</u> EPIP PROCEDURE 5.7.25  RECOVERY OPERATIONS	USE: REFERENCE  EFFECTIVE: 8/20/01 APPROVAL: SORC OWNER: J. G. KELSAY DEPARTMENT: EP
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1. PURPOSE

This procedure describes the general guidelines used to determine whether or not an emergency is under control, the damage and radiological surveys necessary prior to recovery operations, and the organizational control of recovery operations.

2. PRECAUTIONS AND LIMITATIONS

- [ ] 2.1 Following any emergency involving radiological hazards, exposure to personnel should be kept as low as reasonably achievable consistent with the nature of the recovery operation required.
- [ ] 2.2 Recovery operations commence with the station in a controlled, stable condition. No action is to be taken which might jeopardize this condition without the approval of the Vice President - Nuclear.
- [ ] 2.3 Continually monitor station conditions. Be prepared to re-escalate the Emergency Class should conditions degrade.

3. REQUIREMENTS

- [ ] 3.1 Ensure the following equipment and materials are available, as needed:
  - [ ] 3.1.1 Recovery operations will be performed using existing station equipment to the maximum extent possible. Special and/or additional equipment will be obtained when required to complete the recovery operation in a safe and efficient manner.
- [ ] 3.2 Radiation levels are stable or decreasing with time.
- [ ] 3.3 Releases of radioactive materials to the environment have ceased or are controlled within permissible license limits.

- 3.4 Fire, flooding, or other similar emergency conditions no longer constitute a hazard to the station or station personnel.
- 3.5 Measures have been successfully instituted to correct or compensate for malfunctioning equipment or barriers designed to contain radioactive materials.

#### 4. DETERMINATION OF STATION DAMAGE AND CONTAMINATION

##### 4.1 INITIAL STATION SURVEY

- 4.1.1 For known or significant station damage, and at the discretion of the Plant Manager, survey teams will be formed consisting of Operations, Engineering, Maintenance, and Radiological Protection personnel.
- 4.1.2 These teams, following pertinent guidance contained in Procedure 5.7.15, will perform an organized survey of the station to ascertain the extent of physical damage and areas of contamination/high radiation. The results of these initial surveys will be used by the Plant Manager and Radiological Manager in planning the detailed surveys described below.

##### 4.2 DETAILED STATION SURVEYS

- 4.2.1 Using the information obtained above, the Radiological Manager will dispatch properly equipped Radiological Protection Technicians to perform detailed surveys of any areas known to contain radiological hazards.
  - 4.2.1.1 Each area shall be posted and access controlled per Radiological Protection procedures.
  - 4.2.1.2 Station Radiological Survey Maps will be used to record the boundaries of these areas.
  - 4.2.1.3 Station Chemistry Technicians may be dispatched to take and analyze a reactor coolant sample if conditions dictate.
  - 4.2.1.4 Provisions have been made to take and analyze coolant and containment samples within 3 hours of the time a decision is made that samples are required.

## 5. REPAIR, MODIFICATION, AND DECONTAMINATION

### [ ] 5.1 PLANNING

- [ ] 5.1.1 Activities such as modification, decontamination, installation, repair, and maintenance of existing station system components and determining the need for additional manpower, portable shielding, special procedures, environmental concerns, etc., will be discussed, prioritized, and planned.
- [ ] 5.1.2 Scheduling Manager and Maintenance Manager will develop an overall schedule to guide, track, and expedite the recovery effort.

### [ ] 5.2 TRAINING

- [ ] 5.2.1 CNS Training Manager will coordinate the development and conduct of specific training for personnel needed to assist in recovery operations. Special training materials will be developed and training conducted as needed for special work tasks.

### [ ] 5.3 RECOVERY IMPLEMENTATION

- [ ] 5.3.1 Normal station practices will be followed concerning maintenance, repair, modification, decontamination, and personnel exposure control wherever practical.
- [ ] 5.3.2 Radiological Manager, in coordination with state and federal officials, will periodically estimate total population exposure.
- [ ] 5.3.3 As recovery operations proceed, any unforeseen problems encountered will be evaluated and factored into the recovery plan. The schedule will be adjusted accordingly.
- [ ] 5.3.4 Technical Specification, Technical Requirements Manual, and Off-Site Dose Assessment Manual compliance will be verified prior to resuming normal station operations.

## 6. NRC RESPONSE

- [ ] 6.1 During an accident, NRC response may be expected for all severe events resulting in the declaration of an Emergency Classification. Provisions have been made to accommodate these co-located, advisory personnel.

6.2 POST-ACCIDENT

- 6.2.1 Depending upon the severity of the event or equipment involved, the NRC may decide to form an Incident Investigation Team for dispatch to the site. Every effort will be made to accommodate and cooperate with this team in their investigation. The primary contact for this team will be the Vice President - Nuclear.

1. DISCUSSION

- 1.1 Recovery operations allow for the smooth transition from Emergency Response Organization operations to normal operations with the safety of the public and station personnel being of the utmost priority.
- 1.2 Based on the consideration of general guidelines, the Emergency Director shall determine the emergency to be under control and activate the Recovery Panel as per Section 9.0 of the Emergency Plan.
- 1.3 The purpose of the Recovery Panel is to evaluate emergency termination considerations, plant status parameters, and plan for and implement recovery operations. Based upon Recovery Panel discussions, the Vice President - Nuclear or designee may initiate the Recovery Organization.
- 1.4 The Recovery Organization as defined in Section 9.0 of the Emergency Plan is made up of the normal Nuclear Power Group organization as Recovery operations will be handled much the same as outage operations, under the control of the Vice President - Nuclear or designee.

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.
- 2.1.3 NUREG 0737, Clarification of TMI Action Plan Requirements, November 1980.

2.2 PROCEDURES

- 2.2.1 Emergency Plan Implementing Procedure 5.7.15, OSC Team Dispatch.
- 2.2.2 CNEP 3.0, Recovery.

<u>CNS OPERATIONS MANUAL</u> EPIP PROCEDURE 5.7.11  EVACUATION OF NON-DESIGNATED SITE PERSONNEL	USE: REFERENCE  EFFECTIVE: 8/20/01 APPROVAL: SORC OWNER: J. G. KELSAY DEPARTMENT: EP
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1 PURPOSE

This procedure details actions to be taken for evacuation of non-designated personnel from the plant site. It also defines the duties and responsibilities of designated supervisory personnel associated with site evacuation.

2 PRECAUTIONS AND LIMITATIONS

- 2.1 As a minimum, the names and addresses of any NPPD evacuees suspected of having received doses in excess of 200 mrem (2 mSv) and those requiring any decontamination shall be obtained before they are allowed to leave the assembly area.
- 2.2 Monitoring points between CNS and the assembly areas may need to be set up depending upon the emergency condition. This is to prevent the spread of contamination.
- 2.3 This procedure must be implemented if a SITE AREA EMERGENCY or GENERAL EMERGENCY has been declared per Procedure 5.7.1.
- 2.4 This procedure assumes the emergency occurs during normal working hours when the greatest numbers of non-designated personnel are on-site. It is also applicable, however, during normal off-duty hours, weekends, and holidays.
- 2.5 DAC is the Derived Air Concentration as defined in Column 3, Table I, Appendix B to 10CFR20.
- 2.6 Accountability and release of visitors is accomplished per Procedure 5.7.10.

### 3 REQUIREMENTS

- 3.1 Emergency conditions, such as fire, security threats, radiological conditions, etc., exist where the Emergency Director deems it necessary to evacuate non-designated personnel from the station.

### 4 EMERGENCY DIRECTOR

- 4.1 With input from the Radiological Control Manager or Chemistry/Radiological Protection (RP) Coordinator, assess the need for, or the potential need for, dismissal or evacuation of non-designated personnel.

4.1.1 Attachment 1, Evacuation Criteria, provides guidance in making this determination for radiological emergencies.

4.1.2 Dismissal or evacuation of non-designated personnel will be conducted at the SITE AREA EMERGENCY or GENERAL EMERGENCY Classification.

- 4.2 If potential or actual radiological conditions do not indicate the need for evacuation but the Emergency Director deems it appropriate to reduce the number of personnel on-site, personnel will be dismissed to return to their homes. Emergency Director will designate the S/A/L Coordinator to coordinate this dismissal.

4.2.1 The S/A/L Coordinator will contact the Designated Assembly Area Supervisors and instruct them to dismiss non-designated personnel.

- 4.3 If potential or actual radiological conditions do indicate the need for evacuation of non-designated personnel (or a SITE AREA EMERGENCY or GENERAL EMERGENCY has been declared), then the Emergency Director will instruct the EOF or TSC Director to initiate evacuation as per Section 5.

### 5 EVACUATION

#### 5.1 EOF OR TSC DIRECTOR

5.1.1 Appoint an Evacuation Coordinator to supervise the evacuation.

5.1.2 Designate the evacuation route and off-site evacuation assembly area. Attachment 2, Evacuation Route Determination, provides guidance in this determination.

- 5.1.3 Direct the Evacuation Coordinator to notify the Nemaha County EOC or the Nemaha County Sheriff's Office of the evacuation.
- 5.1.3.1 Notification of the intent to evacuate personnel includes:
  - 5.1.3.1.1 The intended evacuation route.
  - 5.1.3.1.2 The Designated Off-Site Assembly Area, if other than the AEOF.
  - 5.1.3.1.3 The approximate number of personnel and vehicles to be evacuated.
  - 5.1.3.1.4 The anticipated need for any decontamination of personnel or vehicles at the AEOF or the Nemaha County Decontamination Center.
- 5.1.4 Determine the personnel to be retained on-site and personnel to be assigned to off-site emergency response locations or relief shift duty. In general, personnel other than operations retained on-site will have Chemistry, Radiation Protection, or Maintenance assignments in the Emergency Response Organization.

## 5.2 EVACUATION COORDINATOR

- 5.2.1 Basic responsibilities of Evacuation Coordinator are as follows:
  - 5.2.1.1 Coordinate with the EOF or TSC Director and the Radiological Control Manager or Chem/RP Coordinator to determine the conditions of the emergency and the evacuation plan.
  - 5.2.1.2 Provide information on the number of vehicles and personnel involved in the evacuation and any further personnel accountability required at the site prior to the evacuation.
  - 5.2.1.3 Provide required on-site traffic control measures such as:
    - 5.2.1.3.1 Notifying Security of the intended evacuation.
    - 5.2.1.3.2 Sequencing the departure of personnel to avoid congestion.
  - 5.2.1.4 Establish monitoring points along the evacuation route, if appropriate.
- 5.2.2 Contact Radiological Control Manager or Chem/RP Coordinator and assure qualified monitoring personnel are dispatched to the monitoring points (either from on-site or off-site). Generally one monitor for each monitoring point will be utilized.

- 5.2.3 Provide instructions to personnel evacuating. These generally are:
  - 5.2.3.1 Proceed in caravan fashion along the designated route to the off-site assembly area.
  - 5.2.3.2 Personnel without transportation should obtain a ride with a driver in their assembly area.
  - 5.2.3.3 Remain at the off-site assembly area to be monitored and cleared before leaving.

### 5.3 ACTIVITIES AT THE MONITORING POINTS

- 5.3.1 Upon arrival at the monitoring points, the monitor(s) shall begin surveying personnel and vehicles for contamination.
  - 5.3.1.1 Results are to be recorded on Attachments 3 and 4.
  - 5.3.1.2 Personnel and/or equipment (vehicles, etc.) that are contaminated in excess of the limits presented in Attachment 5 shall be decontaminated per Procedure 5.7.13.
  - 5.3.1.3 Decontamination of personnel and/or vehicles with contamination levels less than those presented in Attachment 5, but higher than two times background will be at the discretion of the radiation monitor(s) at the evacuation area.
  - 5.3.1.4 The overall results are to be reported to the Emergency Director.
- 5.3.2 If parking lots are utilized as the monitoring points and the lots cannot be completely cleared prior to arrival of evacuees, all vehicles which were originally in the lot will be surveyed before being allowed to leave.
- 5.3.3 As a minimum, the names and addresses of any evacuees suspected of having received doses in excess of 200 mrem (2 mSv) and those requiring any decontamination shall be obtained before the persons are allowed to leave the monitoring point.
- 5.3.4 In general, personnel shall be given permission to leave the monitoring point and proceed to the assembly point only after the following conditions are met:

- 5.3.4.1 The person and his vehicle have been surveyed or a sufficient number of persons in the group have been surveyed in order to determine that radioactive contamination is not a factor.
- 5.3.4.2 Self-reading dosimeter results have been recorded and the names of exposed persons recorded.
- 5.3.4.3 The above results have been reported to the Emergency Director for his evaluation.

5.4 EVACUATION OF THE CENTRAL ALARM STATION (CAS)

- 5.4.1 In the event CAS becomes uninhabitable, as determined by on-site radiological monitoring, Security personnel shall be evacuated from CAS. These personnel will be relocated to habitable locations as determined by the Emergency Director, based on current and projected conditions and requirements.
- 5.4.2 Access control functions shall be performed per the CNS Security Plan.

5.5 EVACUATION ASSEMBLY POINT

- 5.5.1 The Auburn National Guard Armory has been designated as the Evacuation Assembly Point.
- 5.5.2 If no monitoring points are established between CNS and the Armory, personnel and vehicles will be monitored at the Armory per Step 5.3 prior to release.
- 5.5.3 Decontamination equipment is available at the AEOF and the Nemaha County Decontamination Center.

ATTACHMENT 1    EVACUATION CRITERIA
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1. The decision to evacuate non-designated personnel shall be made by the Emergency Director. Personnel shall not evacuate an assembly area unless instructed to do so by the Designated Assembly Area Supervisor. The Designated Assembly Area Supervisor shall receive instructions from the Evacuation Coordinator who, in turn, receives instructions from the EOF or TSC Director.

1.1 In keeping with as low as reasonably achievable philosophy, personnel who are not involved with emergency response actions (which generally includes Contractors and Clerical personnel) should be evacuated if: such action can prevent significant exposure, and provided that trained personnel are available to conduct the evacuation and can be spared for this task without jeopardizing emergency mitigation activities.

1.2 The decision to evacuate should include the following considerations:

1.2.1 Whether or not the emergency can be mitigated prior to individuals receiving a dose of 500 mrem (5 mSv) or 200 DAC/hrs.

1.2.2 If personnel involved are not needed for handling the emergency, they should be evacuated at levels near the low end of each range to minimize their doses.

1.2.3 Any time personnel are to be evacuated, the dose expected during evacuation must be weighed against that expected if the person is not evacuated. In some cases, evacuation may result in a higher dose than could be received if the individuals remained in a shielded or protected area.

1.3 Evacuation criteria guidelines:

WHOLE BODY DOSE RATE	AIRBORNE ACTIVITY CONCENTRATION (10CFR20, Table 1)	CONSIDER EVACUATION WITHIN
2-10 mrem/hr	1-4 x DAC	48 hours
10-50 mrem/hr	4-20 x DAC	10 hours
50-100 mrem/hr	20-40 x DAC	5 hours
100-500 mrem/hr	40-200 x DAC	1 hour
500 mrem/hr	200 x DAC	Immediately

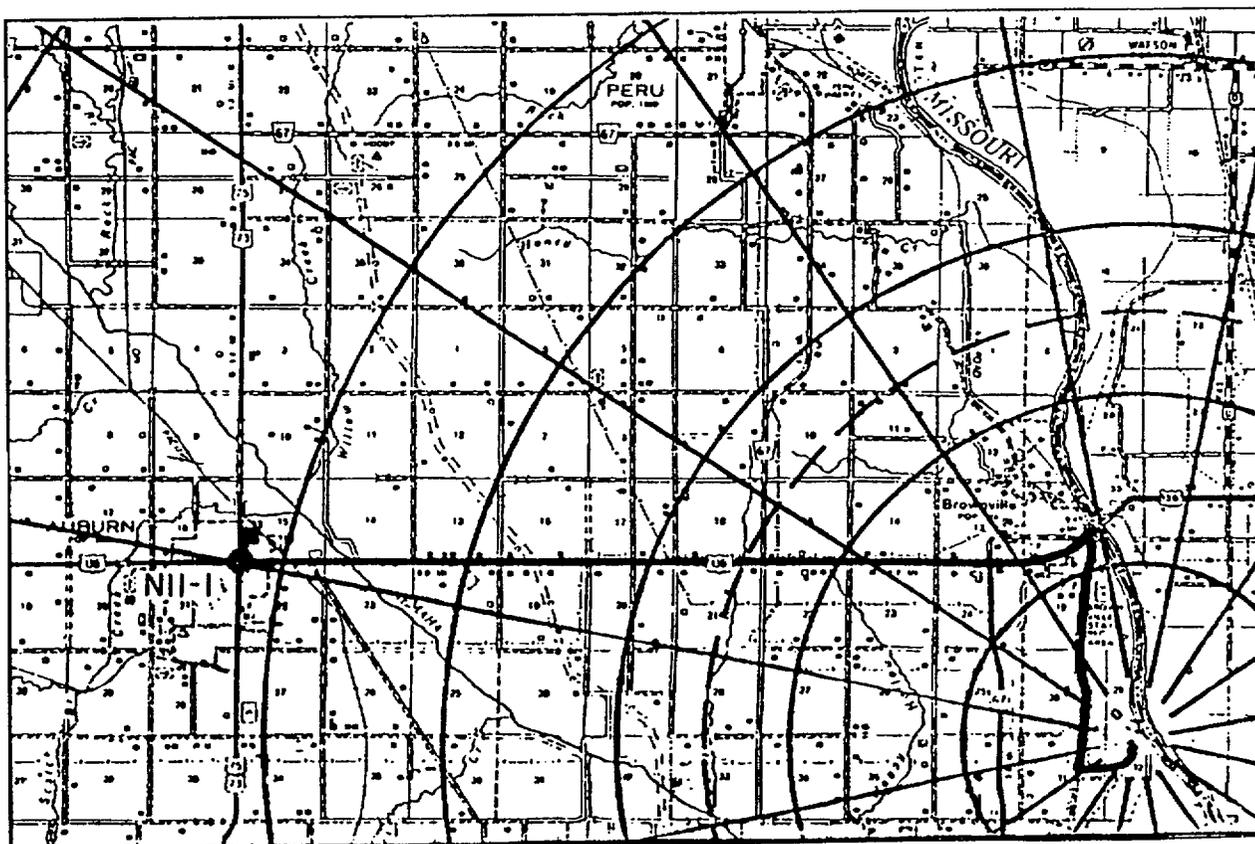
- 1.4 The decision to keep personnel for emergency assistance should include the following dose criteria:
- 1.4.1 These persons should not be allowed to exceed their occupational annual exposure limits (5 rem (50 mSv) Total Effective Dose Equivalent (TEDE) or 15 rem (500 mSv) thyroid per year).
  - 1.4.2 Since many of these persons will have received some occupational exposure prior to the accident, the maximum exposure which can be permitted may vary depending on the date in the quarter and the exposure history from one person to another.

1. There are two basic evacuation routes which may be utilized when an evacuation is required. The route to be followed shall be determined by the Emergency Director, with input from the Radiological Control Manager or Chem/RP Coordinator, on the basis of wind direction, dose rates, and other pertinent factors existing at the time.

## 1.1 DESCRIPTION OF ROUTES

### 1.1.1 NORTHERN ROUTE THROUGH BROWNVILLE

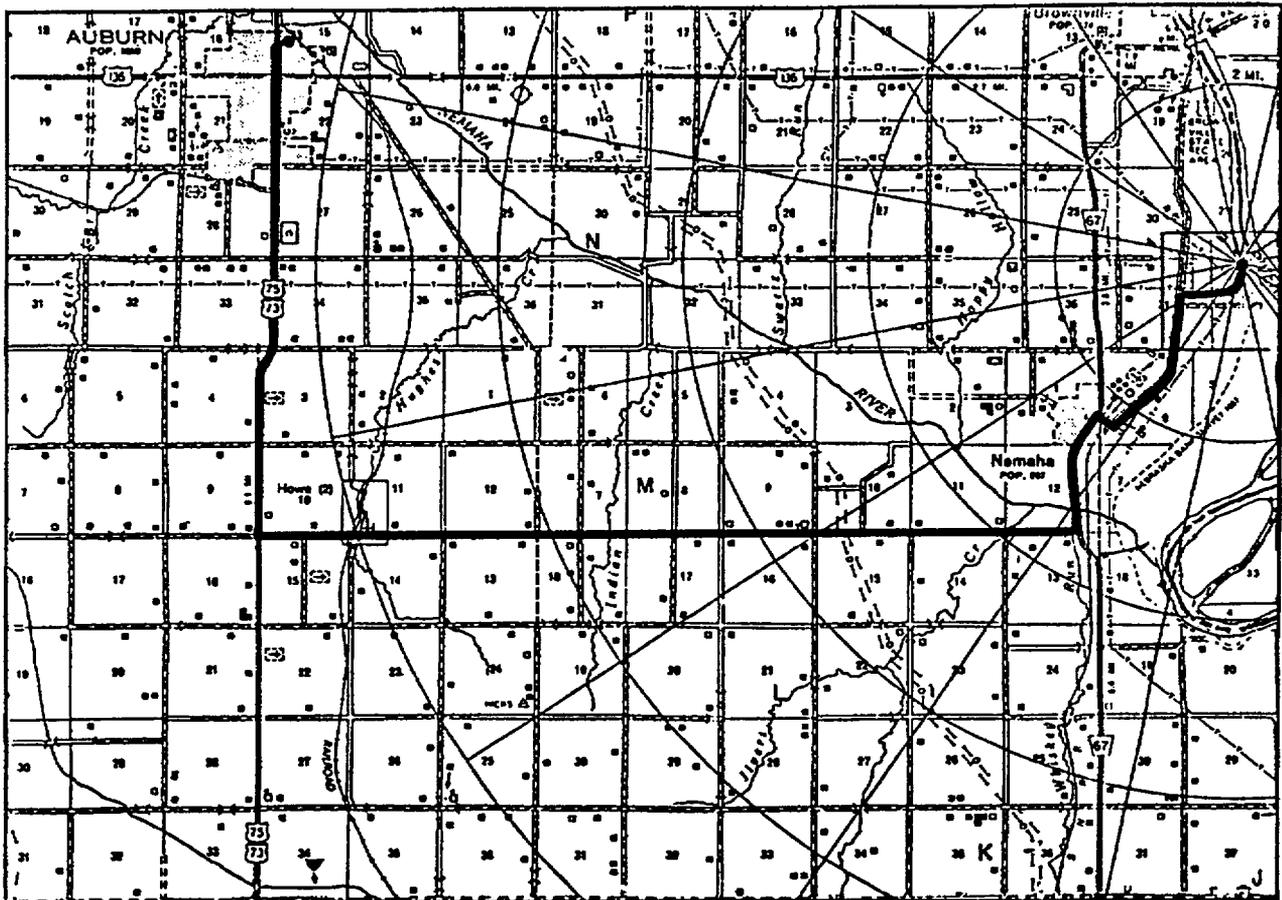
- 1.1.1.1 The preferred route if evacuation from the site is required is out the access road to the County road, north on the county road to Brownville, then west on U.S. Highway 136 to Auburn. The Evacuation Assembly Point is located in the Auburn National Guard Armory (AEOF), ~ 6 blocks north of the stop light.



5-7-11A.SCAN

1.1.2 SOUTHERN ROUTE THROUGH NEMAHA AND HOWE

1.1.2.1 If conditions make the use of the northern evacuation route undesirable, an alternate route to the south is available. The route is south on the county road to Nemaha, then south on State Highway 67 to the Howe turnoff (first road south of the Nemaha bridge), west to U.S. Highway 75, then north to the Auburn National Guard Armory (AEOF).



5-7-11B.SCAN





**ATTACHMENT 5    EMERGENCY DECONTAMINATION LIMITS**

	SMEARABLE (dpm/100 cm <sup>2</sup> )			FIXED	
	BETA/GAMMA		ALPHA	BETA/GAMMA	
	NORMAL STATION OPERATION	EMERGENCY	EMERGENCY	NORMAL STATION OPERATION	EMERGENCY
Personnel	N/A	N/A	N/A	100 cpm above background pancake probe	0.5 mrem/hr
Vehicles	1000	2200	220	100 cpm above background pancake probe	1.0 mrem/hr

## 1. DISCUSSION

- 1.1 In the event of an emergency at CNS, it may be desirable to minimize the number of non-designated personnel on-site. If the emergency involves a radiological release or the potential for a release, then evacuation of non-designated personnel is desirable, or may be required, to minimize exposure and/or contamination.
- 1.2 This procedure provides guidance in four areas:
- 1.2.1 Determination of the need for the dismissal of personnel.
  - 1.2.2 Determination of the need for site evacuation.
  - 1.2.3 Determination of the evacuation route and assembly area.
  - 1.2.4 Conducting the evacuation and subsequent assembly, monitoring and release of personnel in an orderly manner.
- 1.3 This procedure is intended to apply to evacuations where persons may receive abnormal radiation exposure and/or persons or automobiles may be contaminated. It is recognized that in the event of an emergency it may be desirable to send persons home before they are exposed to significant radiation and/or contamination. An orderly sequence of dismissal should be given by the Emergency Director.
- 1.4 Personnel on-site will assemble at their Designated Assembly Areas following sounding of the emergency alarm per Procedure 5.7.10, Personnel Assembly And Accountability. The completion of Procedure 5.7.10 will result in the Security/Administration/Logistics (S/A/L) Coordinator having a list of all on-site personnel and all missing persons. A list of other personnel may be compiled from sign-in sheets at off-site (outside the Protected Area) Designated Assembly Areas.
- 1.5 The International System of Units (SI) appear frequently in publications and are becoming widely accepted throughout the industry. To familiarize personnel with their use, the following SI units will appear in parenthesis with their corresponding conventional units throughout the procedure:
- 1.5.1 1 gray (Gy) = 100 rad.
  - 1.5.2 1 sievert (Sv) = 100 rem.
  - 1.5.3 1 becquerel (Bq) = 60 dpm or  $2.7\text{E-}5 \mu\text{Ci}$ .

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.
- 2.1.3 10CFR20.

2.2 PROCEDURES

- 2.2.1 Emergency Plan Implementing Procedure 5.7.1, Emergency Classification.
- 2.2.2 Emergency Plan Implementing Procedure 5.7.10, Personnel Assembly and Accountability.
- 2.2.3 Emergency Plan Implementing Procedure 5.7.13, Personnel Monitoring and Decontamination.

2.3 MISCELLANEOUS

- 2.3.1 QA Audit 93-05.