NUCLEAR GENERATION DEPARTMENT NORTHERN STATES POWER COMPANY	CORPORATE NUCLEAR EMERGENCY PLAN IMPLEMENTING PROCEDURE NUMBER: REV: 13
PREPARED BY: Gary Hudson Adm. Emergency Preparedness	EFFECTIVE DATE: December 21, 1983
REVIEWED BY: Gen Supt Rad Prot & Chemistry	TITLE: TABLE OF CONTENTS RECORD OF REVISION
APPROVED BY: General Manager Nuclear Plants	

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NUCLEAR GENERATION DEPARTMENT NORTHERN STATES POWER COMPANY	CORPORATE NUCLEAR EMERGENCY PLAN IMPLEMENTING PROCEDURE NUMBER: EPIP 1.1.11 REV: 6
PREPARED BY: Gary Hudson Adm. Emergency Preparedness	EFFECTIVE DATE: December 21, 1983
REVIEWED BY: 12-14 Gen Supt Rad Prot & Chemistry	TITLE: EPIP 1.1.11 ACCIDENT ASSESSMENT
APPROVED BY: General Manager Nuclear Plant	

1.0 PURPOSE AND OBJECTIVE

The purpose of this procedure is to specify the techniques and methods for data collection and analysis to assess the offsite consequences of an emergency condition. This procedure also provides recommendation guidelines for protective actions based on these assessments.

2.0 CONDITIONS AND PREREQUISITES

An emergency condition has been declared involving the potential for, or an actual release of, radioactive material from an NSP nuclear plant.

3.0 ORGANIZATION AND RESPONSIBILITIES

3.1 Overall Responsibility - Emergency Manager

3.2 In Charge - Radiation Protection Support Supervisor

4.0 DISCUSSION

4.1 Accident assessment is required to ensure that the consequences of any radiological release are evaluated and that recommendations for protective actions are formulated and provided to appropriate state officials. This assessment is a continuous process throughout the duration of an emergency and should be continued as directed by the Emergency Manager.

4.2 The responsibility for accident assessment is initially assigned to the TSC. The Radiological Emergency Coordinator will make evaluations based on actual plant data, and calculated or measured doses. He will formulate protective action recommendations for the Emergency Director and the Emergency Director will inform the state officials of the recommendations.

4.3 After the EOF is activated, the Emergency Manager is responsible for all communication with state and local officials. Therefore, all recommendations for protective actions shall be made to the Emergency Manager.

4.4 The decision to transfer accident assessment responsibilities from the TSC to the EOF is made by the Emergency Manager. This decision will be based on the type of emergency, the EOF equipment status and the staffing of the Radiation Protection Support Group. The plant will provide the EOF with an individual to operate the MIDAS system. When the Emergency Manager has determined that the EOF has the capability to perform accident assessment and formulate protective action recommendations, he will inform the TSC. He will then direct the Radiation Protection Support Supervisor to assume these responsibilities. The transfer of responsibilities shall be closely coordinated with the Radiological Emergency Coordinator.

4.5 The Radiation Protection Support Supervisor will use the projected dose rates and actual survey results to formulate protective actions. He will inform the Emergency Manager of his recommendations. The Emergency Manager will make the necessary recommendations to state and local officials.

5.0 RESPONSIBILITIES

5.1 Emergency Manager

5.1.1 Direct the Radiation Protection Support Supervisor to assume accident assessment responsibilities. This should be implemented when the Radiation Protection Support Group is fully staffed and transfer of responsibilities will enhance the overall emergency response.

5.1.2 Ensure that the state(s) receive(s) Protective Action Recommendations as required. Guidelines specified in this procedure should form the basis for any recommendations. [Use Figure 1 for transmittal of recommendations to state(s).]

5.1.3 Prior to, or simultaneously with, telecopying a protective action recommendation to the state(s):

- If at Monticello
  Initiate a 2-way phone call between the EM and the Minnesota Team Coordinator and explain the basis for the recommended protective action.

- If at Prairie Island
  Initiate a 3-way conference call between the EM, the Minnesota Team Coordinator and the Wisconsin State Radiological Coordinator and explain the basis for the recommended protective action.

5.2. Radiation Protection Support Supervisor

5.2.1 Obtain offsite dose projection data.

5.2.2 Obtain and analyze the result of offsite monitoring efforts and compare these results with calculated dose projections.

5.2.3 Obtain information regarding the magnitude and nature of potential radioactive releases and analyze the potential offsite consequences.

5.2.4 Provide the Emergency Manager with offsite dose and dose rate information and recommendations for offsite protective actions.

5.2.5 If it becomes necessary to issue a protective action recommendation to the state(s), prepare a Protective Action Recommendation Checklist, Figure 1 for Emergency Manager approval.

5.2.6 Prepare Emergency Notification Follow-up Message as found in Figure 2, of EPIP 1.1.5, "Start-up and Operation of EOF". Provide completed form to the Emergency Manager and transmit information to the State EOC.

5.2.7 If there has been a release to the environs, consider increasing the normal sampling frequency of the Radiological Environmental Monitoring Program (REMP) after all significant releases are terminated and the plant is in a stable condition.

5.2.8 Obtain and analyze the results of the Radiological Environmental Monitoring Program (REMP) as appropriate.

6.0 PROCEDURE

6.1 Analysis of Dose Projections for Actual Airborne Releases

6.1.1 Obtain the following information.

6.1.1.1 Release rates and type of release (ground or elevated).

6.1.1.2 Meteorological data (wind speed, wind direction, and stability class).

6.1.1.3 Survey results from plant survey teams, as applicable.

6.1.1.4 Projected offsite dose calculations using the affected plant procedure for offsite dose calculations; Prairie Island Nuclear Generating Plant procedure F3-13, "Offsite Dose Calculations", or Monticello Nuclear Generating Plant procedure, A.2-406, "Offsite Dose Projection".

6.1.2 Record dose projections on area map referenced in EPIP 1.1.4 (use red marker).

6.1.2.1 This will normally be in the form of 16 sector dose data out to 10 miles.

6.1.2.2 Determine the highest integrated dose region and highest dose rate region.

6.1.3 Determine applicable radiation protection requirements for NSP personnel in affected offsite areas.

6.1.4 Dispatch survey teams to affected offsite regions with due regard to radiation protection requirements.

6.1.4.1 Teams should be deployed to populated areas where the highest dose rates are projected.

6.1.4.2 Direct the offsite monitoring to be performed in accordance with Corporate EPIP 1.1.10, "Offsite Surveys".

6.1.5 When survey data is available, plot the data on the area maps referenced in EPIP 1.1.4. Offsite survey results should be plotted (in blue marker) logging beta-gamma survey results in milliREM/hr followed by air sample results in uCi/cc.

6.1.6 Perform a comparison of radiological data as follows:

6.1.6.1 Compare offsite monitoring results for consistency. Re-monitor areas of concern, as required.

6.1.6.2 Compare offsite monitoring results with dose calculation projections. Re-monitor areas of concern, as required.

6.1.6.3 Dose calculation techniques should represent an upper bound to potential offsite dose and dose rates. Field survey results more accurately indicate integrated dose and dose rate in the environs.

6.1.8 Verify that offsite dose projections are consistent with offsite survey team results.

6.1.9 Determine any protective action recommendations that are prudent. These recommendations should be made and plotted on Figure 1 using the guidance provided in this procedure.

6.1.10 Provide the Emergency Manager with the current integrated dose and dose rate information data for populated areas and other areas of major concern. A summary report should be prepared at periodic intervals as time and information permit. The summary report should consist of the following:

6.1.10.1 Plot of integrated dose and dose rate information on area maps referenced in EPIP 1.1.4 (date, time, color code).

6.1.10.2 Summary of meteorological conditions, past changes in conditions and potential changes germaine to radioactive material transport.

6.1.10.3 Areas of highest integrated dose and dose rate.

6.1.10.4 Population areas of greatest concern.

6.1.10.5 Summary of monitoring and dose calculation efforts to date.

6.1.10.6 Planned monitoring and dose calculations in progress.

6.1.11 Complete the Emergency Notification Follow-up Message for reporting of the event. Use Figure 2, EPIP 1.1.5, "Start-up and Operation of EOF". Provide completed form to the Emergency Manager.

6.1.12 After the release has been terminated, consider retrieval of the "Emergency" TLDs (refer to EPIP 1.1.12 Implementation of Radiological Environmental Monitoring Program).

6.2. Analysis of Dose Projection for Potential Airborne Releases

6.2.1 If the potential exists for a significant release of radioactive material from the plant, perform an analysis of potential offsite consequences as follows:

6.2.1.1 Determine the approximate releasable curie content of the containment.

6.2.1.2 Determine the most probable release path, i.e. ground release, stack release or building ventilation release.

6.2.1.3 Determine dose projection calculations based on release of this material under present and various meteorological conditions using the affected plant procedure for offsite dose calculations; Prairie Island Nuclear Generating Plant procedure F3-13, "Offsite Dose Calculations", or Monticello Nuclear Generating Plant procedure, A.2-406, "Offsite Dose Projection".

6.2.1.4 Assess the probability of a total rapid release vs a continuous slow release for an extended period of time. Perform dose calculations for most likely release mode and worse case mode.

6.2.1.5 Determine the population areas in risk.

6.2.2 Determine any protective action recommendations that are prudent. These recommendations should be made, plotted on Figure 1, and forwarded to the Emergency Manager using the guidance in this procedure.

6.2.3 Provide the Emergency Manager with current assessment information. A summary report should be prepared at periodic intervals as other duties and information permit. The summary report should include the following:

6.2.3.1 Plot of most probable and worse case integrated dose on an area map.

6.2.3.2 Meteorological basis for the plot and potential for improvement or degradation of meteorological conditions.

6.2.3.3 Sectors of highest potential dose and population centers of concern.

6.2.3.4 Efforts underway to better determine the magnitude of the potential release.

6.2.4 Complete the Emergency Notification Follow-up Message using Figure 2, EPIP 1.1.5, "Start-up and Operation of EOF". Provide the completed form to the Emergency Manager.

6.3 Assessment of Liquid Releases

6.3.1 Obtain offsite monitoring data in accordance with Corporate EPIP 1.1.10, "Offsite Surveys".

6.3.2 Develop a followup report to the Emergency manager which includes the following:

6.3.2.1 Results of offsite monitoring.

6.3.2.2 Release status and potential for resumption or termination.

6.3.2.3 Dilution considerations and projected concentration of radioactive material at the nearest public water intake structure.

6.3.3 If the release is at Monticello, contact the TSC and obtain the expected arrival time of the radioactive material at the Minneapolis and St. Paul water intake structures.

6.3.4 If necessary, contact the state EOC and recommend that Minneapolis and St. Paul water intakes be closed. (Use Figure 1.)

6.4 Assessment for Re-Entry

6.4.1 Obtain offsite monitoring data in accordance with Corporate EPIP 1.1.10, Offsite Surveys.

6.4.2 Prepare a report to the Emergency Manager which includes:

6.4.2.1 Summary of offsite monitoring results, including exposure rates, contamination levels, and isotopic information

6.4.2.2 Calculated values for the one-year integrated exposures, whole body and thyroid, which would be experienced by an individual allowed unrestricted re-entry to the affected area. (Use procedure in TAS B.)

7.0 GUIDANCE FOR RECOMMENDING PROTECTIVE ACTION

NOTE:

1. The values given in sections 7.1, 7.2 and 7.3 are conservative NSP guidance for recommending protective action to the state(s). This guidance is to be used at the discretion of the Emergency Manager and is based upon the following:

   [1]The dose expressed is based on 1/4 of the EPA lower limit dose for evacuation.

   [2]The thyroid dose expressed is based on child thyroid dose.

   [3]The dose expressed is based on RG 8.13.

   [4]The dose expressed is based on the EPA lower limit dose for evacuation.

   These recommendations are based on actual offsite doses or a high degree of confidence that doses are actually expected offsite.

2. For a General Emergency, refer to Tab C - Flow Chart for General Emergency Offsite Protective Decisions. (Reference: NUREG 0654, Appendix 1).

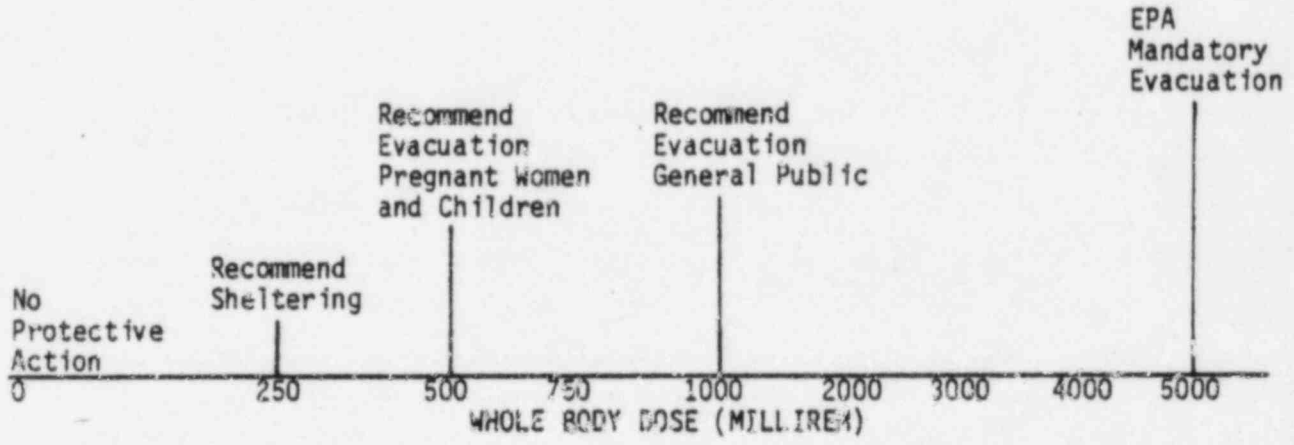
3. All protective action recommendations should be discussed with the State(s) Health Department.

4. The EPA Guidelines for Recommended Protective Actions located in TAB A shall serve as the maximum levels.

5. Further guidance may be found in Appendix C, Protective Action Guidance, NSP Corporate Nuclear Emergency Plan.

TABLE 1

NSP CONSERVATIVE GUIDANCE FOR
PROTECTIVE ACTION RECOMMENDATIONS
(see note in Section 7.0)



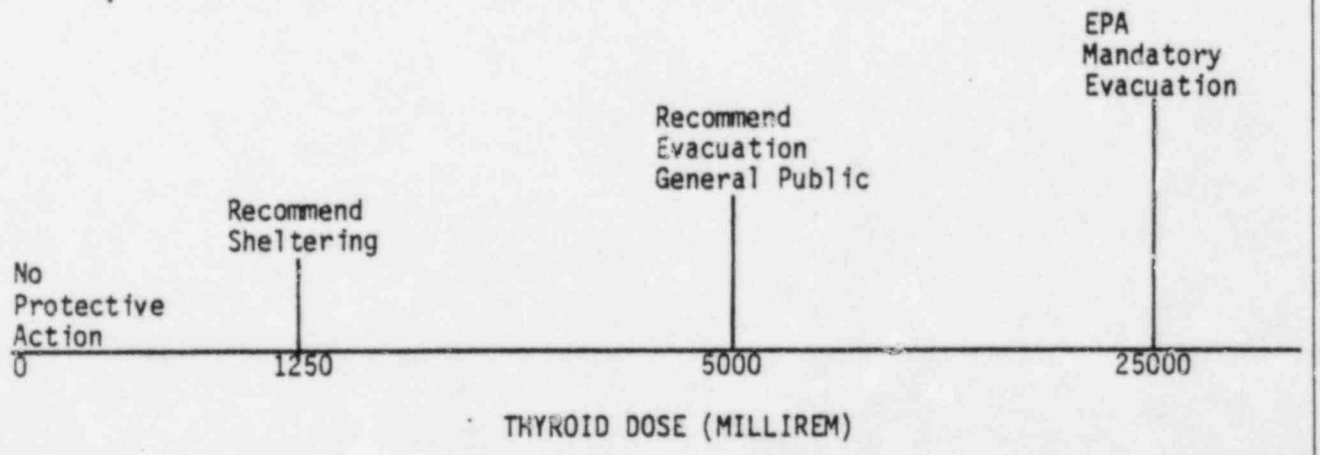
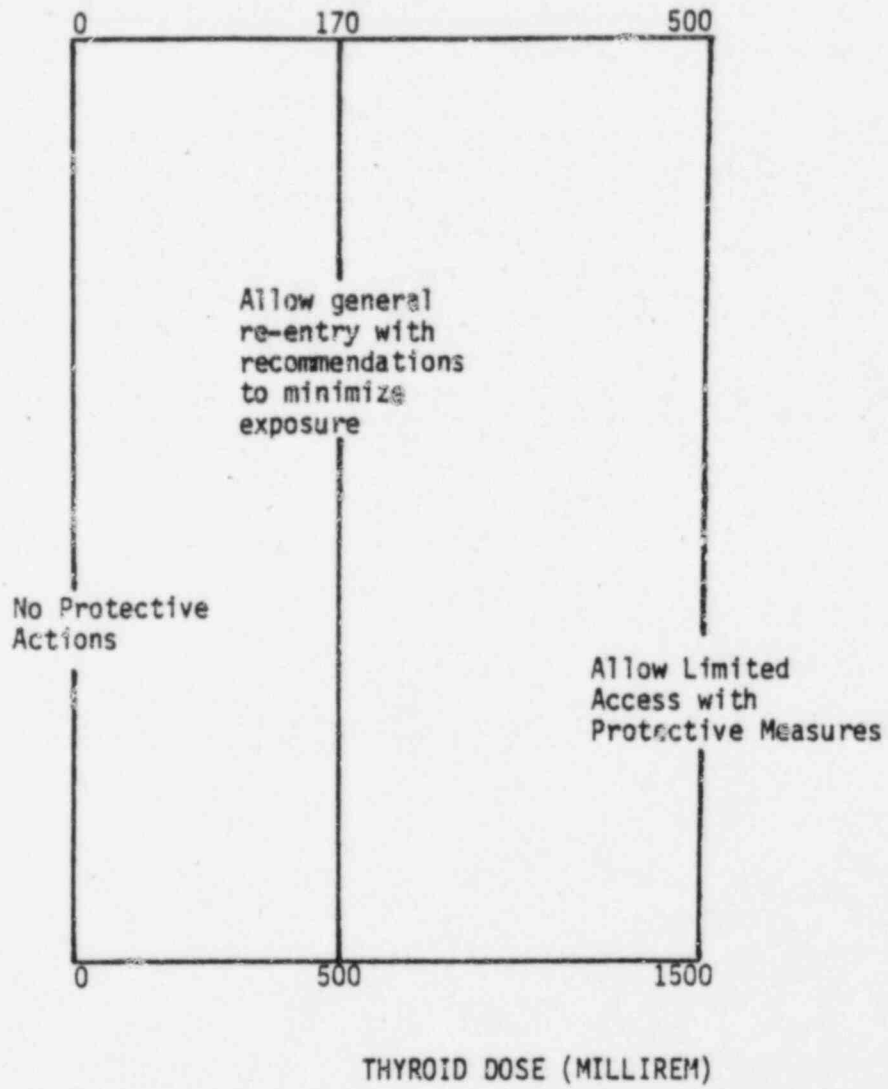


TABLE 2

NSP CONSERVATIVE GUIDANCE
FOR ALLOWING RE-ENTRY
(see Section 8.2)



7.1 No Protective Actions will be recommended up to 250 mRem whole body dose or 1250 mRem Thyroid dose [1,2] (see note)

7.2 Sheltering

7.2.1 Sheltering is a protective action which involves members of the general public taking cover in a building that can be made relatively air tight. Generally, any building suitable for winter habitation, with windows and doors closed and ventilation turned off, would provide reasonably good protection for about two hours; but would be ineffective after that period due to natural ventilation of the structure. Sheltering is an appropriate protective action for the following:

7.2.1.1 Severe incidents in which an evacuation cannot be implemented because of the rapid passage of the plume ("puff" release).

7.2.1.2 When an evacuation is indicated, but local constraints, such as inclement weather, road condition, etc., dictate that directing the public to seek shelter is a more feasible and effective protective measure than evacuation.

7.2.1.3 As a precautionary measure, while a determination of the need to evacuate is made.

7.2.2 Sheltering of the general public may be recommended at 250 mRem whole body dose or 1250 mRem thyroid dose[1,2] (see note)

7.3 Evacuation

7.3.1 Timely evacuation of members of the population is the most effective protective action. There are, however, disadvantages and constraints that may make evacuation inappropriate. Evacuation is an appropriate protective action for the following:

7.3.1.1 Situations where the lead time between declaration of the emergency and population relocation is compatible with plume movement.

7.3.1.2 Situations which do not provide for advance warning, but for which substantial reductions in population dose can be made by avoiding exposure to residual radioactivity (plume fallout) in wake of sudden severe incidents.

7.3.2 Evacuation of pregnant women and children may be recommended at 500 mRem whole body dose.[3] (see note)

7.3.3 Evacuation of the general public may be recommended at 1000 mRem whole body dose, or 5000 mRem thyroid dose.[4] (see note)

7.3.4 Evacuation Time Estimates are located in Appendix D to the Corporate Nuclear Emergency Plan.

7.4 Public Alert & Notification System (PANS)

NOTE: It is the responsibility of the state(s) to activate this system.

7.4.1 A Site Area Emergency and a protective action such as sheltering or evacuation has been recommended for the public within all, or a portion of, the 10 mile Emergency Planning Zone (EPZ) surrounding each plant.

7.4.2 A General Emergency classification has been declared at either the Monticello or Prairie Island Nuclear Generating Plant.

7.4.3 The Emergency Manager shall, if necessary, recommend to the Minnesota Division of Emergency Services (DES) and the Wisconsin Division of Emergency Government (WDEG) activation of the Public Alert and Notification System when a protective action guideline (PAG) is recommended.

7.4.4 The State(s) Duty Officer will be responsible for activating the Public Alert & Notification System which includes development of messages for the public.

7.4.5 If the State EOCs are not activated and the emergency requires immediate activation, make such a recommendation directly to the County Sheriffs.

Monticello Area
- Sherburne County
- Wright County

Prairie Island Area
- Goodhue County
- Dakota County
- Pierce County

7.4.6 The Public Alert & Notification System for alerting the public in the 10 mile Emergency Planning Zone (EPZ) surrounding each plant consists of the following:

- Fixed sirens for 100% coverage throughout the 5 mile zone and in population centers in the 5-10 mile zone.

- Emergency vehicles with sirens and public address in the 5-10 mile areas not covered by fixed sirens.
- National Oceanic and Atmospheric Administration (NOAA) activated tone alert radios in institutional, educational, and commercial facilities.
- The Emergency Broadcast System (EBS) which has access to television and radio stations within the area.

The primary means of alerting the public to an impending notification will be the use of fixed and mobile sirens. Once alerted, the public should turn to local commercial broadcast messages as the primary means of notification for conditions. Should there be more than one PAG during an incident and they are determined at different times, this procedure shall be repeated.

7.5 Close Minneapolis and St Paul Water Intakes (for Monticello liquid release).

7.5.1 This protective action should be recommended as determined necessary by Section 6.3 of this procedure.

8.0 Guidance for Recommending Contamination Control and Re-entry

8.1 Contamination Control (food, water, milk, etc.)

8.1.1 On a timely basis considering the needs of the emergency effort and the personnel resources available, the extent of radiological contamination within the 10 mile and 50 mile emergency planning zones should be assessed. This can be accomplished by implementing the "Radiological Environmental Monitoring Program", EPIP 1.1.12 or by examination of environmental monitoring data from the state. This may not be part of the initial Protective Action effort.

8.1.2 As information becomes available, determinations concerning the need for offsite protective actions within the 50 mile EPZ should be made. These determinations should be made in accordance with the environmental guidance of the State Protective Action Guides provided in the Corporate Emergency Plan, Appendix C, and the State of Minnesota Radiological Emergency Response Plan.

8.1.3 Provide any recommendations for contamination control to the state(s).

8.2 Guidance for Recommending Re-entry

Following a general evacuation, re-entry may be recommended according to the following:

8.2.1 On an individual basis, persons with valid, urgent needs for access may be allowed to re-enter under the following conditions:

8.2.1.1 The expected whole body dose commitment does not exceed 500 mrem/yr;

8.2.1.2 The expected thyroid dose commitment does not exceed 1500 mrem/yr; and

8.2.1.3 Precautions are taken to minimize exposure.

8.2.2 The general population may be allowed to re-enter if the following applies:

8.2.2.1 The expected whole body dose commitment does not exceed 170 mrem/yr; and

8.2.2.2 The expected thyroid dose commitment does not exceed 500 mrem/yr.

TAB A

EPA GUIDELINES FOR RECOMMENDED PROTECTIVE ACTIONS
(WHOLE BODY AND THYROID DOSE FROM EXPOSURE TO A GASEOUS PLUME)

Projected Dose (Rem) to The Population	Recommendation Actions	Comments
Whole Body <1 Thyroid <5	No planned protective actions. Issue an advisory to seek shelter and await further instructions. Monitor environmental radiation levels.	Previously recommended protective actions may be reconsidered or terminated.
Whole Body 1 to <5 Thyroid 5 to <25	Seek shelter as a minimum. Consider evacuation. Evacuate unless constraints make it impractical. Monitor environmental radiation levels. Control access.	If constraints exist, special consideration should be given for evacuation of children and pregnant women.
Whole Body 5 and above Thyroid 25 and above	Conduct mandatory evacuation. Monitor environmental radiation levels and adjust area for mandatory evacuation based on these levels. Control access.	Seeking shelter would be an alternative if evacuation were not immediately possible.
Projected Dose (Rem) To Emergency Workers		
Whole Body 25 Thyroid 125	Control exposure of emergency team members to these levels except for lifesaving missions. (Appropriate controls include time limitations, respirators and thyroid prophylaxis.)	Although respirators and thyroid prophylaxis should be used where effective to control dose to emergency workers, Thyroid dose should not be the limiting factor for lifesaving missions.
Whole Body 75	Control exposure of emergency team members performing a lifesaving mission to this level. (Control of time exposure will be most effective.)	

TAB A

GUIDELINES FOR CONTAMINATION OF HUMAN FOOD AND ANIMAL FEED*

Preventive PAGs -

1.5 rem projected dose commitment to thyroid
0.5 rem projected dose commitment to whole body, bone marrow, or any other organ

Response Levels Preventive PAG

	I-131	Cs-134	Cs-137	Sr-90	Sr-89
Initial Activity Area Deposition (uCi/m^2)	0.13	2	3	0.5	8
Forage Concentration (uCi/kg) (Fresh Weight)	0.05	0.8	1.3	0.18	3
Peak Milk Activity (uCi/liter)	0.015	0.15	0.24	0.009	0.14
Total Intake (uCi)	0.09	4	7	0.2	2.6

Emergency PAGs -

15 rem projected dose commitment to the thyroid
5 rem projected dose commitment to the whole body, bone marrow, or any other organ

Response Levels for Emergency PAG

	I-131		Cs-134		Cs-137		Sr-90		Sr-89	
	Infant	Adult	Infant	Adult	Infant	Adult	Infant	Adult	Infant	Adult
Initial Activity Area Deposition (uCi/m^2)	1.3	18	20	40	30	50	5	20	80	1600
Forage Concentration (uCi/kg)	0.5	7	8	17	13	15	1.8	8	30	700
Peak Milk Activity (uCi/liter)	0.15	2	1.5	3	2.4	4	0.09	0.4	1.4	30
Total Intake (uCi)	0.9	10	40	70	70	80	2	7	26	400

*Reference: Accidental Radioactive Contamination of Human Food and Animal Feeds; Food and Drug ADministration Recommendations for State and Local Agencies, Federal Register, October 22, 1982.

TAB A
RECOMMENDED PROTECTIVE ACTIONS

ACCIDENT PHASE	EXPOSURE PATHWAY	EXAMPLES OF ACTIONS TO BE RECOMMENDED
EMERGENCY PHASE 1 (0.5 to 24 hours)*	Inhalation of gases, radioiodine, or particulate	Evacuation, shelter, access control, respiratory protection, prophylaxis (thyroid protection).
	Direct whole body exposure	Evacuation, shelter, access control
	Ingestion of milk	Take cows off pasture, prevent cows from drinking surface water, discard contaminated milk, or divert to stored products, such as cheese.
INTERMEDIATE PHASE 2	Ingestion of fruits and vegetables	Wash all produce, or impound produce, delay harvest until approve substitute uncontaminated produce.
	Ingestion of water	Cut off contaminated supplies, substitute from other sources, filter, demineralize.
(24 hours* to 30 days)	Whole body exposure and inhalation	Relocation, decontamination, access control.
LONG TERM PHASE 3	Ingestion of food and water contaminated from the soil either by resuspension or uptake through roots.	Decontamination, condemnation, or destruction of food; deep plowing, condemnation, or alternate use of land.
(Over 30 days)*	Whole body exposure from deposition material or inhalation of resuspended material.	Relocation, access control, decontamination, fixing of contamination, deep plowing.

1 Emergency Phase - Time period of major release and subsequent plume exposure.

2 Intermediate Phase - Time period of moderate continuous release with plume exposure and contamination of environment.

3 Long Term Phase - Recovery period.

* "Typical" Post-Accident time periods.

TAB A

REPRESENTATIVE SHIELDING FACTORS FROM GAMMA CLOUD SOURCE

Structure or Location	Shielding Factor (a)	Representative Range
Outside	1.0	—
Vehicles 1.0		—
Wood-Frame House (b) (No Basement)	0.9	—
Basement of Wood House	0.6	0.1 to 0.7 (c)
Masonry House (No Basement)	0.6	0.4 to 0.7 (c)
Basement of Masonry House	0.4	0.1 to 0.5 (c)
Large Office or Industrial Building	0.2	0.1 to 0.3 (c, d)

(a) The ratio of the dose received inside the structure to the dose that would be received outside the structure.

(b) A wood frame house with brick or stone veneer is approximately equivalent to a masonry house for shielding purposes.

(c) This range is mainly due to different wall materials and different geometries.

(d) The shielding factor depends on where the personnel are located within the building (e.g., the basement or an inside room).

SELECTED SHIELDING FACTORS FOR AIRBORNE RADIONUCLIDES

Wood house, no basement	0.9
Wood house, basement	0.6
Brick house, no basement	0.6
Brick house, basement	0.4
Large Office or Industrial Building	0.2
Outside	1.0

*Taken from SAND 77-1725 (Unlimited Release)

TAB A

REPRESENTATIVE SHIELDING FACTORS FOR SURFACE DEPOSITED RADIONUCLIDES

STRUCTURE OR LOCATION	REPRESENTATIVE SHIELDING FACTOR[a]	REPRESENTATIVE RANGE
1 m above an infinite smooth surface	1.00	—
1 m above ordinary ground	0.70	0.47 - 0.85
1 m above center of 50-ft roadways, 50% decontaminated	0.55	0.4 - 0.6
Cars on 50-ft road;		
Road fully contaminated	0.5	0.4 - 0.7
Road 50% decontaminated	0.5	0.4 - 0.6
Road fully decontaminated	0.25	0.2 - 0.5
Trains	0.40	0.3 - 0.5
One and two-story wood-frame house (no basement)	0.4	0.2 - 0.5
One and two-story block and brick house (no basement)	0.2 [b]	0.04 - 0.40
House basement, one or two walls fully exposed:	0.1 [b]	0.03 - 0.15
One story, less than 2 ft of basement, walls exposed	0.5 [b]	0.03 - 0.07
Two stories, less than 2 ft of basement, walls exposed	0.03 [b]	0.02 - 0.05
Three- or four-story structures, 5000 to 10,000 ft^2 per floor;		
First and second floors:	0.05 [b]	0.01 - 0.08
Basement	0.01 [b]	0.001 - 0.07
Multi-story structures, 10,000 ft - per floor:		
Upper floors	0.01 [b]	0.001 - 0.02
Basement	0.005 [b]	0.001 - 0.015

(a) The ratio of dose received inside the structure to the dose that would be received outside the structure.

(b) Away from doors and windows.

* Taken from SAND 77-1725 (Unlimited Release)

TAB B

DETERMINATION OF ONE-YEAR DOSE COMMITMENT AS CRITERIA FOR RE-ENTRY TO EVACUATED AREAS

Inputs: - Ground deposition, Q, in uCi/m^2 of radionuclides whose composition has been determined by laboratory analyses or portable MCA.

- Exposure rate, R_o, 3' above contaminated ground determined by field measurements. Used to confirm calculated dose rates.

Assume: - Soil-to-air re-suspension factor of 10^{-6} uCi/m^3 per uCi/m^2 (units of m^{-1}) for inhalation pathway.

- Breathing rate of 0.91 m^3/hr.

Find: - Projected one-year dose to individuals re-entering evacuated area, sum of external and internal doses.

_____ External: $\sum_{i=1}^{i=n} (D.F.)_i$ mrem/hr/pCi/m^2 x Q_i uCi/m^2 x 10^6 pCi/uCi x 1.44 T_i $(1-e^{-\lambda_i t})$

* Dose factors can be obtained from Table E-6 of Reg. Guide 1.109.

_____ Inhalation: $\sum_{i=1}^{i=n}$ 0.91 m^3/hr x Q_i uCi/m^2 x 10^6 pCi/uCi x 10^{-4} m^{-1} x (D.F.)** mrem/pCi x 1.44 T_i $(1-e^{-\lambda_i t})$

** Dose factors for inhaled radionuclides can be obtained from Tables E-7 to E-10 of Reg. Guide 1.109. Use most restrictive D.F. listed (infant to adult).

i = identified isotope

t = integration period (use 1 year)

T_i = Effective environmental half-life of isotope i. Use radiological half-life, unless better information available.

Q_i = Ground concentration in uCi/m^2 of isotope i.

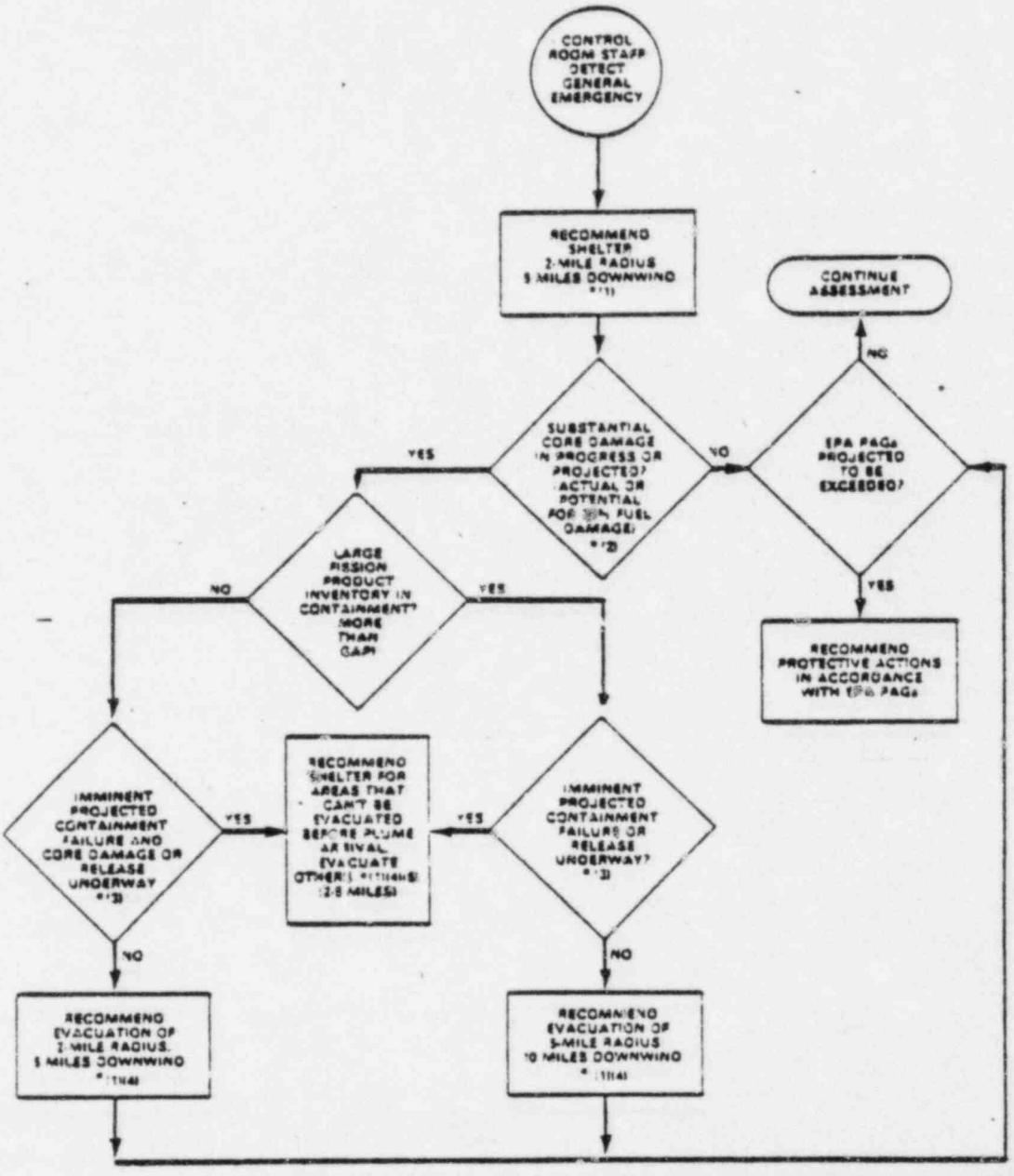
_____ Ingestion :(To be determined)

Note: For times when the ground is show-covered, assume ingestion pathway exposure to be negligible.

TAB C

FLOW CHART FOR GENERAL EMERGENCY OFFSITE PROTECTIVE DECISIONS

The following actions will be based on predetermined observable instrumentation and plant status indicators (EALs) contained in the emergency plan and that have been reviewed by offsite officials. However, responsible offsite officials must decide on the feasibility of implementing the protective actions at the time of the accident.



SOURCE: Appendix 1 NUREG-0654 FEMA-REP-1 Rev 1

*(1) SITUATIONS REQUIRING URGENT ACTION BY OFFSITE OFFICIALS
(Based on Control Room Indicators, No Dose Projections Required)
- 15-Minute Decisionmaking, Activation of Alerting System and EBS Message

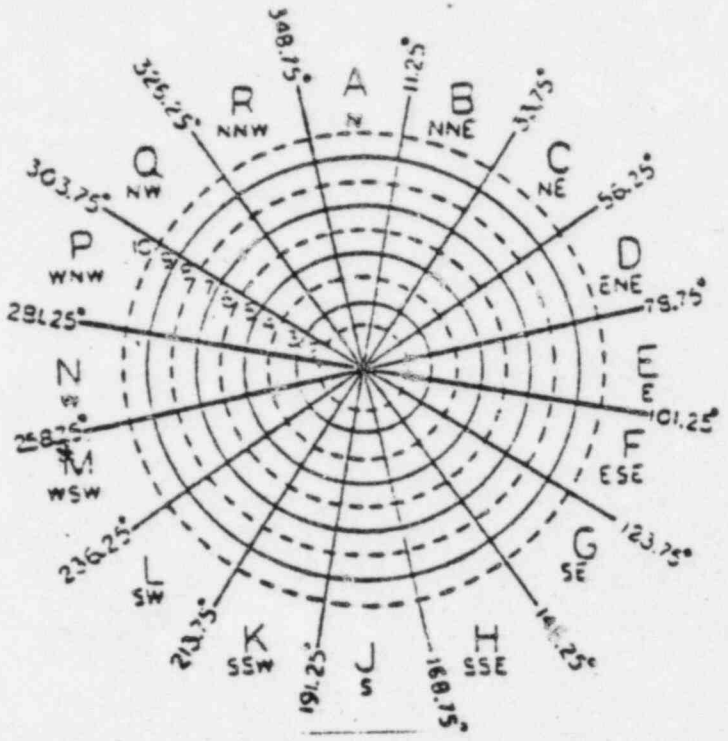
*(2) Actual or projected release of 20% gap from core or loss of physical control of the plant to intruders.

*(3) "Puff" release (rate much greater than designed leak rate).

*(4) For all evacuations, shelter the remainder of the plume EPZ and promptly relocate the population affected by any ground contamination following plume passage.

*(5) Concentrate on evacuation of areas near the plant (e.g., may be time to evacuate 2-mile radius and not the 5-mile radius).

FIGURE 1
PROTECTIVE ACTION RECOMMENDATION CHECKLIST



NOTE:

- o When this form is telecopied to the state, a call must be initiated by the EM to explain the basis for any recommendation.
- o This form may be used in conjunction with an Emergency Notification Follow-up Message.
- o Designate affected zones as follows: S for sheltering E for evacuation

Date _____
Time _____ Wind direction/speed _____° (From) At _____ (mph)

PROTECTIVE ACTION:

- ☐ SHELTER — Sector(s) _____ Mile(s)_____ Sector(s) _____ Mile(s)_____
- ☐ CONSIDER EVACUATION OF PREGNANT WOMEN AND CHILDREN
- ☐ EVACUATION — Sector(s) _____ Mile(s)_____ Sector(s) _____ Mile(s)_____
- ☐ ACTIVATE PUBLIC ALERT & NOTIFICATION SYSTEM
- ☐ CLOSE MINNEAPOLIS & ST PAUL WATER INTAKES (for Monticello liquid release)
- ☐ CONTAMINATION CONTROL (food, water, milk) — Sector(s) _____ Mile(s)_____ Sector(s) _____ Mile(s)_____
- ☐ CONSIDER TERMINATION OF PROTECTIVE ACTIONS IN PROGRESS

Justification for Protective Action Recommendations: _____

Prepared by: _____ Approved by: _____
Emergency Manager/Emergency Director

Form 17.491(11-83)

NUCLEAR GENERATION DEPARTMENT NORTHERN STATES POWER COMPANY	CORPORATE NUCLEAR EMERGENCY PLAN IMPLEMENTING PROCEDURE NUMBER: EPIP 1.1.18 REV: 0
PREPARED BY: Gary Hudson Adm. Emergency Preparedness	EFFECTIVE DATE: December 21, 1983
REVIEWED BY: Fred [illegible] Gen Supt Rad Prot & Chemistry	TITLE: 1.1.18 CONTROL OF RADIOACTIVE MATERIALS AT THE EOF
APPROVED BY: [illegible] General Manager Nuclear Plants	

1.0 Purpose and Objective

The purpose of this procedure is to control radioactive materials and limit contamination at the EOF. The access point for potentially contaminated personnel and sample transport paths are also defined.

2.0 Conditions and Prerequisites

This procedure is to be initiated when any or all of the following conditions have occurred:

2.1 Radioactive samples have been sent from the plant to the EOF for counting.

2.2 Contaminated plant personnel have been transported to the EOF for decontamination.

2.3 A release of radioactive materials has occurred and samples from the offsite survey teams are being returned to the EOF for counting.

2.4 Emergency response personnel which may have been exposed to a plume or other radioactive materials require access to the EOF.

3.0 Organization and Responsibilities

3.1 Overall Responsibility - Emergency Manager

3.2 In Charge - Radiation Protection Support Supervisor

3.3 Assistance - EOF Coordinator
- Radiation Protection Specialist

4.0 Responsibilities

4.1 Radiation Protection Support Supervisor (RPSS)

4.1.1 Responsible for control of radioactive materials and limiting contamination at the EOF.

4.1.2 Supervise the set up and operation of access control procedures for samples and potentially contaminated personnel entering the EOF.

4.1.3 Initiate surveys of the EOF to determine habitability and contamination areas.

Note:

EPIP 1.1.13, "Protective Guidelines for EOF Personnel and Evacuation" provides guidance to the EM for limiting personnel exposure.

4.2 EOF Coordinator

4.2.1 Assist in the establishment of a radiological control point for access to the EOF by providing personnel to assist the Radiation Protection Specialist.

4.2.2 Relocate the security access to a point near the receiving area if any of the conditions identified in Section 2.0 of this procedure occur. (see figure 1).

Note:

At the discretion of the EOF Coordinator, personnel may be allowed to exit the EOF other than through the potentially contaminated access control area. Prior to exiting however, all personnel must follow security procedures for leaving the EOF.

4.3 Radiation Protection Specialist

4.3.1 Establish radioactive material control measures as specified in Section 5.0 of this procedure.

4.3.2 Control access of potentially contaminated personnel to the EOF.

4.3.3 Control receipt and transport of samples within the EOF.

4.3.4 Direct personnel decontamination measures in accordance with EPIP 1.1.16.

4.3.5 Complete surveys within the EOF as required by the RPSS.

4.3.6 Direct facility decontamination activities as required.

5.0 Procedure

5.1 Personnel Access

5.1.1 Instruct the guards to lock the front entrances and establish a security point near the receiving area (see figure 1). Signs should be posted on the front doors instructing all personnel to use the rear entrance.

5.1.2 Ensure that the airlock door and all other doors to the EOF are closed.

5.1.3 Establish a barrier rope from point A to points B & C (see Figure 1) for contamination control and radiological screening. This will establish an EOF access holding area.

5.1.4 Set up a step off pad and frisker at points E & F (see Figure 1).

5.1.5 Direct personnel entering the EOF to pass through control point E, using the frisker to detect contamination as they do so.

5.1.6 Personnel which have been screened and are not contaminated should be allowed access to the EOF in accordance with EPIP 1.1.17, "Personnel Monitoring at the EOF". Personnel not involved with EOF activities (e.g. evacuated Plant personnel) should be instructed to assemble in one of the unoccupied classrooms.

5.1.7 Contaminated personnel should be instructed to assemble in the EOF access holding area.

5.1.8. Personnel should be decontaminated in accordance with EPIP 1.1.16, "Off-site Personnel and Vehicle Monitoring and Decontamination".

Note: The decontamination shower drains to a 1000 gallon liquid waste holding tank which is equipped with a high level alarm. There is a 4" withdrawal pipe outside the receiving access door for pumping out this tank.

5.1.9 After decontamination, personnel shall be checked at Frisker Point F and allowed access to the EOF.

5.2 Sample Access

5.2.1 Establish barriers and step off pads as specified in Section 5.1 of this procedure.

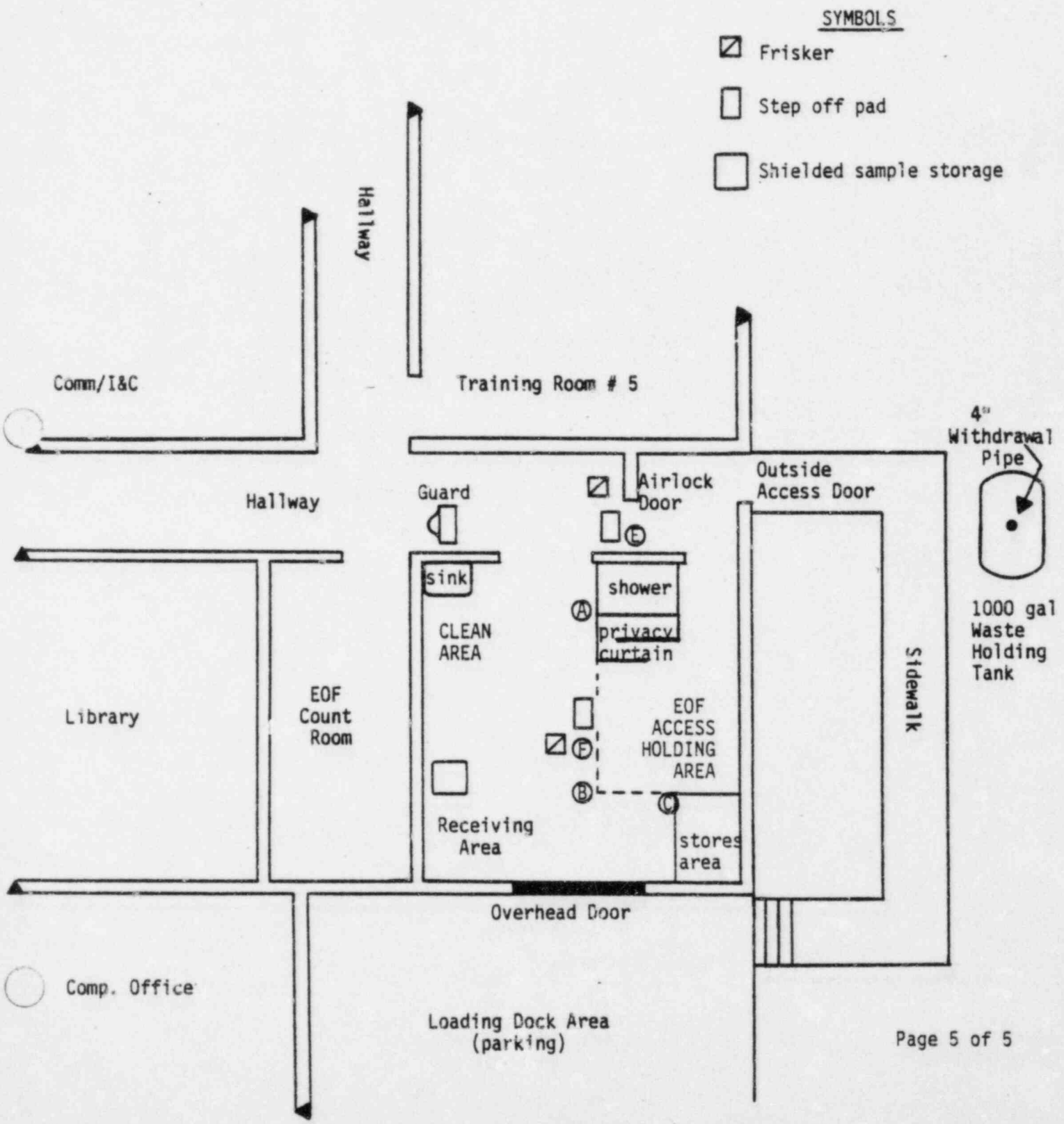
5.2.2 The access guard shall ensure that all samples are held at SOP Point E until released by a Radiation Protection Specialist.

5.2.3 The Radiation Protection Specialist assigned to the EOF Count Room shall ensure that, prior to transporting samples to the EOF Count Room, all samples are bagged or rebagged as necessary and dose rates are checked, as necessary, before passing through clean areas.

5.2.4 If necessary, samples should be rebagged and stored in the shielded sample storage area.

Figure 1

Access Control for Radioactive Materials at the EOF



NUCLEAR GENERATION DEPARTMENT NORTHERN STATES POWER COMPANY	CORPORATE NUCLEAR EMERGENCY PLAN IMPLEMENTING PROCEDURE NUMBER: EPIP 1.2.1 REV: 3
PREPARED BY: Gary Hudson Adm. Emergency Preparedness	EFFECTIVE DATE: December 21, 1983
REVIEWED BY: Gen Supt Rad Prot & Chemistry	TITLE: 1.2.1 EMERGENCY PLAN TRAINING
APPROVED BY: General Manager Nuclear Plants	

1.0 PURPOSE AND OBJECTIVE

The purpose of this procedure is to specify the training requirements for NSP and support agency emergency response plan personnel. Documentation requirements are also specified. Detailed outlines of the training topics are to be provided in the lesson plans.

2.0 CONDITIONS AND PREREQUISITES

2.1 Personnel assigned emergency response activities shall receive training as described in this procedure.

2.2 Emergency Plan Training is conducted in accordance with the Emergency Plan Training Program.

3.0 ORGANIZATION AND RESPONSIBILITIES

3.1 Overall Responsibility - General Manager Headquarters Nuclear Group

3.2 In Charge - Manager, Production Training

3.3 Assistance - Production Training Staff

4.0 RESPONSIBILITIES

4.1 General Manager Headquarters Nuclear Group

4.1.1 Responsible for overall development of the Emergency Response Training Program

4.2 General Supt. Radiation Protection & Chemistry

4.2.1 Administration of the overall NSP Emergency Preparedness Program.

4.3 Manager of Production Training

4.3.1 Administration of the NSP Emergency Response Training Program.

4.3.2 Development and conduct of the Emergency Plan Training Program.

4.3.3 Development of training program course content.

4.3.4 Assignment of program instructors.

4.3.5 Scheduling of personnel for emergency response training.

4.3.6 Coordination of the Emergency Response Training program with scheduled emergency response drills and exercises.

4.4 Department Managers

4.4.1 Scheduling subordinate personnel to attend emrgency plan training in accordance with schedules developed by Production Training Department.

5.0 PROCEDURE

5.1 Training Requirements for the Corporate Emergency Organization

5.1.1 Corporate Overview Training

a. All corporate personnel assigned emergency response duties shall annually receive Corporate Overview Training which generally encompasses the following areas:

1) Introduction to Emergency Planning
2) Summary of NUREG 0654/FEMA - Rep-1 and Emergency Planning Criteria
3) Corporate Emergency Response Plan
4) Summary of Site Emergency Plans
5) Summary of Minnesota State Emergency Plan

5.1.2 Specialized Training

a. All personnel assigned the responsibility for filling the Power Production Management Position shall annually receive training which generally encompasses the following areas:

1) Corporate Overview Training
2) HQEC Orientation
3) Corporate Implementing Procedure Training

b. All personnel assigned the responsibility for filling the Emergency Manager position shall annually receive training which generally encompasses the following areas:

1) Corporate Overview Training
2) Emergency Manager Training
3) EOF Coordinator Training
4) Protective Action Guide Training
5) EOF Orientation
6) HQEC Orientation

c. All personnel assigned the responsibility to fill the EOF Coordinator position shall annually receive EOF Coordinator training which generally encompasses the following areas:

1) Corporate Overview Training
2) EOF Coordinator Training
3) Emergency Manager Training
4) Protective Action Guide Training
5) EOF Orientation
6) Communication Training

NOTE: Only EOF Coordinators authorized to assume Emergency Manager responsibilities are required to receive EM and PAG training.

d. All System Dispatchers who have Emergency Plan responsibilities shall annually receive training which generally encompasses the following areas:

1) Corporate Emergency Plan Implementing Procedures - Notification

e. All personnel assigned emergency organization responsibilities which require their presence in the HQEC shall annually receive HQEC training which generally encompasses the following areas:

1) Corporate Overview Training
2) HQEC Orientation
3) Corporate Implementing Procedure Training

f. All personnel assigned emergency organization responsibilities which require their presence in the EOF shall annually receive EOF training which generally encompasses the following areas:

1) Corporate Overview Training
2) EOF Orientation
3) Corporate Implementing Procedure Training

g. All personnel assigned the responsibility for filling the Radiation Protection Support Supervisor position shall annually receive training which generally encompasses the following areas:

1) Corporate Overview Training
2) EOF Orientation
3) Corporate Implementing Procedure Training
4) Protective Action Guide Training

5.2 Training Requirements for the Plant Emergency Organizations

5.2.1 Plant Overview Training

a. All plant personnel assigned emergency response duties shall annually receive Plant Overview Training which generally encompasses Plant Emergency Response Plan/Procedures.

b. For initial training an overview of the interface between Plant Emergency Plans, Corporate Plan, and State Plans should be presented.

5.2.2 Specialized Training

a. All plant personnel assigned emergency response duties for in-plant radiation protection functions shall annually receive Emergency Radiation Protection Specialist training which generally encompasses the following areas:

1) Plant Overview Training
2) Plant Emergency Plan Implementing Procedures
3) Activation of Emergency Plan
4) Radiological Surveillance and Control Training

b. All plant personnel assigned the responsibility to fill the Radiological Emergency Coordinator position shall annually receive special training which generally encompasses the following areas:

1) Plant Overview Training
2) Protective Action Guide Training
3) Accident Assessment
4) Activation of Emergency Plan
5) Plant Emergency Plan Implementing Procedures

c. All personnel who are assigned responsibility to fill the Emergency Director position shall annually receive training which generally encompasses the following areas:

1) Plant Overview Training
2) Classification of Emergencies Training

3) Activation of Emergency Organization
4) Protective Action Guide
5) Accident Assessment

d. All personnel who are assigned responsibility to fill the Emergency Communicator and/or Assembly Point Coordinator positions shall annually receive training which generally encompasses the following areas.

1) Plant Overview Training
2) Roles of Emergency Communicator and Assembly Point Coordinator

5.3 Training Requirements for Outside Organizations

5.3.1 State and Local

a. Hospital and emergency medical personnel shall be trained annually in the following areas:

1) Basic Radiation Protection and Contamination Control
2) Plant Emergency Response Plan and Implementing Procedures

b. Local Fire Department personnel shall be trained annually in the following areas:

1) Basic Radiation Protection and Contamination Control
2) Site Access Procedures
3) Plant Fire Fighting Equipment and Aspects of Fire Fighting in Contaminated Areas

c. Local and State Police department personnel shall be trained annually in the following areas:

1) Specific Plant Emergency Response Plan (as applicable to offsite notification and response)

d. Local and state agencies shall receive initial training in and subsequent training as part of annual drills in the following areas:

1) Plant and Corporate Emergency Response Plan Overview
2) Interfaces between NSP and outside agencies

e. Training for media and public information personnel shall be performed on an annual basis by the Communications Department. Training for these personnel shall be performed in the following areas:

1) The Corporate Emergency Response Plan and Organization

2) The Nature and Effects of Radiation
3) Corporate Communications of Public Information

5.3.2 Vendors

a. Vendors will receive necessary training upon request.

5.4 Scheduling of Emergency Preparedness Training

5.4.1 Corporate and Plant Training Schedule

a. The Manager Production Training shall produce an annual schedule that covers the required training. This schedule should cover the time period from April 1 to March 30 of the succeeding year. A 3 month grace period is allowed for additional training.

b. Scheduled training may be in the form of lectures (live or video tape), exercises, drills, reading assignments or practical factor training. Subsequent annual training may be documented through reading assignments, attendance of scheduled lectures, or participation in drills, and drill critiques. The Manager Production Training shall forward a summary report of completed training to the General Supt. Rad. Prot. & Chemistry. This summary should be submitted on an annual basis (based on Emergency Plan training annual cycle).

c. Training that is specifically applicable to either the Monticello and/or Prairie Island Plants will be conducted and/or coordinated by the Production Training Staff. In order to adequately document completion of this training the Manager, Production Training, shall provide the plant training supervision with a list of the required training to be conducted by the plant. The plant training supervision will schedule the listed training in the plant's training program and complete the list by supplying the scheduled dates. The completion of the scheduled training will be documented and returned to the Manager, Production Training, for documentation on the corporate schedule. The Manager, Production Training, shall forward a summary report of completed training to the Gen. Supt. Rad. Prot. & Chemistry. Training that is part of a continuous program of qualification at the plant sites, such as the first aid or the fire fighting programs, satisfies the requirements of this instruction.

5.5 Documentation

5.5.1 Activities accomplished to meet the requirements of this procedure shall be documented. When training has been completed, the instructor shall forward the following documentation to the Manager Production Training (corporate and state gov't agencies) or Plant Training Superintendent (plant specific).

a. Training lesson plan or outline
b. Lecture quiz (if applicable)
c. Attendance record
d. Quiz grades (if applicable)

5.5.2 The Manager Production Training shall ensure that all outside organizations and corporate personnel assigned to the emergency response team complete the required training. He shall schedule additional training as necessary to ensure all response team members maintain proficiency in their emergency plan actions.

NUCLEAR GENERATION DEPARTMENT NORTHERN STATES POWER COMPANY	CORPORATE NUCLEAR EMERGENCY PLAN IMPLEMENTING PROCEDURE NUMBER: EPIP 1.2.2 REV: 3
PREPARED BY: Gary Hudson Adm. Emergency Preparedness	EFFECTIVE DATE: December 21, 1983
REVIEWED BY: Gen Supt Rad Prot & Chemistry	TITLE: 1.2.2 EXERCISES AND DRILLS
APPROVED BY: General Manager Nuclear Plants	

1.0 PURPOSE AND OBJECTIVE

The purpose of this procedure is to specify the responsibilities and requirements for conducting drills and exercises. Drills and Exercises are conducted to test the Corporate and Plant Nuclear Emergency Response Organizations, Plans, Implementing Procedures, facilities, and equipment.

2.0 CONDITIONS AND PREREQUISITES

Exercises and drills should be conducted in accordance with the NSP Drill and Exercise Program.

3.0 ORGANIZATION AND RESPONSIBILITIES

3.1 Overall Responsibility - General Manager Headquarters Nuclear Group

3.2 In Charge - Gen. Supt. Rad. Prot. & Chemistry
- Manager Production Training

3.3 Assistance - Production Training Sections

4.0 RESPONSIBILITIES

4.1 General Manager Headquarters Nuclear Group

4.1.1 Management responsibility for development, implementation, and maintenance of the Drill and Exercise Program.

4.2 General Manager Nuclear Plants

4.2.1 Responsible for approval of drill schedule.

4.2.2 Responsible for authorizing the conduct of major exercises specified in the program.

4.3 Gen. Supt. Rad. Prot. & Chemistry

4.3.1 Responsible to ensure that applicable regulatory requirements are met.

4.3.2 Responsible for coordinating pre-exercise drills and exercises with the activities of all involved NSP organizations, state and local officials, and the NRC, as appropriate.

4.3.3 Responsible for reviewing drill and exercise critiques, and tracking identified deficiencies.

4.4 Manager Production Training

4.4.1 Administrative responsibility for the development, implementation and maintenance of the Drill and Exercise Program.

4.4.2 Responsible for the conduct of drills and exercises.

4.4.3 Responsible for coordinating the Emergency Response Training Program with the Drill and Exercise Program.

4.4.4 Responsible for development of drill/exercise scenarios.

4.4.5 Responsible for assignment of observers/controllers for the conduct of the Drill and Exercise Program.

4.4.6 Responsible for assigning individuals to correct deficiencies identified as a result of drills or exercises.

4.4.7 Responsible for revision to the Training Program as required to correct deficiencies identified during drills/exercises.

4.4.8 Responsible for developing a schedule of drills as specified in the program.

4.4.9 Responsible for verifying completion of the drill schedule.

4.4.10 Responsible for approval of plant drill scenario packages.

4.4.11 Responsible for preparation of drill and exercise critiques.

4.4.12 Responsible for maintaining records associated with the Drill and Exercise Program.

4.5 Plant Manager

4.5.1 Responsible for providing personnel to assist in the development of scenarios.

4.5.2 Responsible for providing personnel to serve as drill and exercise observers/controllers.

4.5.3 Responsible for assisting in the conduct of drills and exercises at plant sites by providing personnel to participate in the drills and exercises as scheduled.

5.0 DRILL AND EXERCISE PROGRAM DEVELOPMENT

5.1 A comprehensive program of drills and exercises shall be developed and maintained.

5.2 The program shall describe the administrative organization for planning, conducting and documenting drills and exercises.

5.3 The program shall describe all the necessary drills and exercises required to maintain NSP personnel qualifications in emergency preparedness activities. These requirements shall satisfy 10 CFR Part 50, Appendix E and the guidelines provided in NUREG-0654 and IE Information Notice No. 82-44.

NUCLEAR GENERATION DEPARTMENT NORTHERN STATES POWER COMPANY	CORPORATE NUCLEAR EMERGENCY PLAN IMPLEMENTING PROCEDURE NUMBER: EPIP 1.2.3 REV: 3
PREPARED BY: Gary Hudson Adm. Emergency Preparedness REVIEWED BY: Gen Supt Rad Prot & Chemistry APPROVED BY: General Manager Nuclear Plants	EFFECTIVE DATE: December 21, 1983 TITLE: 1.2.3 MAINTENANCE OF EMERGENCY PLANS AND PROCEDURES

1.0 PURPOSE AND OBJECTIVE

This procedure and Nuclear Generation Departmental Procedures establish a system to govern the generation, identification, revision, distribution, and inventory of the Corporate Nuclear Emergency Plan and Corporate Nuclear Emergency Plan Implementing Procedures. It also provides for periodic reviews of plans and procedures and specifies other administrative programs that support the emergency preparedness effort.

2.0 CONDITIONS AND PREREQUISITES

2.1 Maintenance of emergency plans and procedures is supported by the Operational Quality Assurance Program.

3.0 ORGANIZATION AND RESPONSIBILITIES

3.1 Overall Responsibility - Gen. Supt. Rad. Prot. & Chemistry.

3.2 In Charge - Administrator Emergency Preparedness.

4.0 RESPONSIBILITIES

4.1 Gen. Supt. Rad. Prot. & Chemistry

4.1.1 Maintenance of the Corporate Nuclear Emergency Plan and Corporate Nuclear Emergency Plan Implementing Procedures.

4.1.2 Review of Plant Nuclear Emergency Plans.

4.1.3 Scheduling of exercises.

4.1.4 Scheduling of an Annual Independent Review of the Emergency Preparedness Program to include:

a. An evaluation for adequacy of interfaces with state and local governments.

b. Drills & Exercises.

c. Emergency Plans & Implementing Procedures.

d. Training (capabilities).

e. Facilities & Equipment.

4.1.5 Establish management controls to ensure that corrective actions identified as a result of NRC Inspection Reports, Drill and Exercise Critiques, and Annual Reviews of the Emergency Preparedness Program are implemented.

4.1.6 Maintain the Headquarters Emergency Center (HQEC).

4.1.7 Maintain the Public Alert and Notification Systems (PANS).

4.1.8 Annual Internal review, update, and certification of emergency plans and agreements.

4.1.9 Corporate Emergency Plan Surveillance Program.

4.1.10 Funding for state and local emergency preparedness.

4.2 Administrator Emergency Preparedness

4.2.1 Preparation of the Corporate Nuclear Emergency Plan and Corporate Nuclear Emergency Plan Implementing Procedures.

NUCLEAR GENERATION DEPARTMENT NORTHERN STATES POWER COMPANY	CORPORATE NUCLEAR EMERGENCY PLAN IMPLEMENTING PROCEDURE NUMBER: EPIP 1.2.4 REV: 3
PREPARED BY: Gary Hudson Adm. Emergency Preparedness	EFFECTIVE DATE: December 21, 1983
REVIEWED BY: Gen Supt Rad Prot & Chemistry	TITLE: 1.2.4 SURVEILLANCES
APPROVED BY: General Manager Nuclear Plants	

1.0 PURPOSE AND OBJECTIVE

This procedure establishes a Surveillance Program to maintain the Corporate Nuclear Emergency Plan, Implementing Procedures, response facilities and equipment.

2.0 CONDITIONS AND PREREQUISITES

The HQEC and EOFs have been established and equipped.

3.0 ORGANIZATION AND RESPONSIBILITIES

3.1 Overall Responsibility - Gen. Supt. Rad. Prot. & Chem.

3.2 In Charge
- Gen. Supt. Rad. Prot. & Chem.
- Manager Production Training
- Plant Managers

3.3 Assistance
- Production Training
- Plants

4.0 CORPORATE NUCLEAR EMERGENCY PLAN SURVEILLANCE REQUIREMENTS

4.1 Emergency Operations Facility (EOF)

	Procedure	Frequency
1.	Communication Test (federal, state, local)	Monthly
2.	Communication Test (equipment check)	Quarterly
3.	Inventory non-HP Equipment	Quarterly
4.	Inventory HP Equipment	Quarterly
5.	Operational Test of HVAC	Quarterly
6.	HVAC HEPA Filters	once per operating cycle or once every 18 months

4.2 Headquarters Emergency Center (HQEC)

	Procedure	Frequency
1.	Communication Test	Monthly
2.	Inventory	Quarterly

4.3 Corporate Surveillances

	Procedure	Frequency
1.	Telephone Number Verification	Quarterly
2.	Independent Review of Emergency Preparedness	Annually
3.	Internal Update and Review	Annually

5.0 RESPONSIBILITIES

5.1 Gen. Supt. Rad. Prot. & Chemistry

5.1.1 Responsible for ensuring that the required surveillance procedures are developed to maintain corporate plans, procedures, facilities and equipment.

5.1.2 Responsible for maintaining the following surveillance procedures:

- HQEC Communication Test
- HQEC Inventory
- Telephone Number Verification
- Independent Review
- Internal Update Review

5.1.3 Responsibilities that are required to maintain the above Surveillance Procedures include:

- Development and revision of surveillance procedures.
- Scheduling of surveillances.
- Conduct of surveillances.
- Initiation and resolution of corrective action for discrepancies noted as a result of the surveillances.
- Records
  - Completed surveillance procedures
  - Copies of revisions to surveillance procedures
  - Completed surveillance schedules

5.2 Manager Production Training

5.2.1 Responsible for the following EOF Surveillance Procedures:

- Communication Test (federal, state and local)
- Communication Test (equipment check)
- Inventory non-HP equipment
- Operational Test of HVAC
- HVAC HEPA Filters

5.2.2 Responsibilities that are required to maintain the above Surveillance Procedures include:

- Development and revision of surveillance procedures.
- Scheduling of surveillances.
- Conduct of surveillances.
- Initiation and resolution of corrective action for discrepancies noted as a result of the surveillance.
- Records
  - Completed surveillance procedures
  - Copies of revisions to surveillance procedures
  - Completed surveillance schedules

5.3 Plants Managers

5.3.1 Responsible for the following EOF Surveillance Procedure:

- Inventory of HP equipment

5.3.2 Responsibilities that are required to maintain the above Surveillance Procedure include:

- Development and revision of surveillance procedures.
- Scheduling of surveillances.
- Conduct of surveillances.
- Initiation and resolution of corrective action for discrepancies noted as a result of the surveillance.
- Records
  - Completed surveillance procedures
  - Copies of revisions to surveillance procedures
  - Completed surveillance schedules

PREPARED BY: Gary Hudson	**TITLE:** DOCUMENT CONTROL FOR THE NSP CORPORATE NUCLEAR EMERGENCY PLAN AND IMPLEMENTING PROCEDURES
REVIEWED BY: E C Ward	
APPROVED BY: David Musolf	EFFECTIVE DATE: [illegible]

1.0 Purpose

The purpose of this procedure is to establish a system to govern the generation, identification, revision, distribution, and inventory of Corporate Nuclear Emergency Plans and Corporate Nuclear Emergency Plan Implementing Procedures. This procedure will ensure that, in the event of a nuclear plant emergency, all plan and procedure holders shall have access to current Corporate Nuclear Emergency Plan and Corporate Nuclear Emergency Plan Implementing Procedures.

2.0 Scope

This procedure governs document control for the Corporate Nuclear Emergency Plans and Corporate Nuclear Emergency Plan Implementing Procedures. The following topics are presented:

Section	Topic
6.1	Review and Approval of Corporate Nuclear Emergency Plan/Implementing Procedures
6.2	Document Control for Corporate Nuclear Emergency Plan Manuals
6.3	Document Control for Corporate Nuclear Emergency Plan Implementing Procedure Manuals
6.4	Distribution of Plan/Procedure Manuals and Revision Packages
6.5	Filing Requirements
6.6	Required Inventories
6.7	Required Records

3.0 Applicability

This procedure shall apply to the Corporate Nuclear Emergency Plan and Corporate Nuclear Emergency Plan Implementing Procedures.

4.0 Definitions

None

5.0 Responsibilities

5.1 The Assistant Administrator Emergency Preparedness shall be responsibile for:

1. Preparation of the Corporate Nuclear Emergency Plan and changes thereto.

2. Preparation of Corporate Nuclear Emergency Plan Implementing Procedures and changes thereto.

5.2 Manager Nuclear Environmental Services shall be responsible for:

1. Review of the Corporate Nuclear Emergency Plan and changes thereto.

2. Review of the Corporate Nuclear Emergency Plan Implementing Procedures and changes thereto.

3. Notifying plant management of changes within the Corporate Nuclear Emergency Plan and Corporate Nuclear Emergency Plan Implementing Procedures that affect the Plant Nuclear Emergency Plan/Implementing Procedures.

4. Submittal of plan or procedure revisions to the Nuclear Regulatory Commission.

5. Document Control measures as delineated within Section 6.2-6.7 for the Corporate Nuclear Emergency Plan and Corporate Nuclear Emergency Plan Implementing Procedures.

6.0 Instructions

6.1 Review and Approval of the Corporate Nuclear Emergency Plan and Corporate Nuclear Emergency Plan Implementing Procedures

6.1.1 Proposed revisions to the NSP Corporate Nuclear Emergency Plan or Corporate Nuclear Emergency Plan Implementing Procedures shall be submitted to the Assistant Administrator Emergency Preparedness.

6.1.2 The Assistant Administrator Emergency Preparedness shall:

1. Conduct a review of the proposed change.

2. Determine the nature of the change and its effect on other related documents.

3. Forward a revised copy of the affected document to the Manager Nuclear Environmental Services for review.

6.1.3 The Manager Nuclear Environmental Services shall:

1. Review the proposed revision.

2. Determine if the change decreases effectiveness of the plan and if the change will require NRC approval prior to implementation.

3. Determine if the change affects the Plant Emergency Plan or the Plant Emergency Plan Implementing Procedures and if so, advise plant management.

4. If determined to be satisfactory, forward the proposed change to the D rector of Nuclear Generation (Plan) or General Manager Nuclear Plants (Procedures) for approval.

6.1.4 When the proposed change has been approved, revised pages of the Corporate Nuclear Emergency Plan or Implementing Procedures shall be prepared and distributed in accordance with Sections 6.2, 6.3, and 6.4.

6.1.5 [redacted]

6.2 Document Control Measures for Corporate Nuclear Emergency Plan Manuals

6.2.1 When revisions to the plan section of the Emergency Plan manuals are generated, they shall:

1. Include revised manual title page, if necessary.

2. Include revised Table of Contents, if necessary.

3. Include a revised Record of Revision page which lists the current plan pages and the appendices. Appendix pages do not have to be individually listed on the Record of Revision page due to special distribution requirements found in later sections.

4. Include documentation of preparation, review, and approval signature for new revisions to the manual. Normally, this documentation is found on the Record of Revision page.

5. Include markings on revised plan pages to indicate changes, such as the use of sidelining.

6. Include current revision numbers on revised plan pages. This number shall correspond to the Record of Revision Rev number.

7. Include page numbers composed of two digits [(plan section number) - (page number)] on each revised plan page.

8. Be distributed as single page revisions in lieu of distributing entire sections of the Plan or the entire Plan.

9. Be distributed in accordance with the requirements of section 6.4.3.

6.2.2 When revisions to Appendix A, Letters of Agreement are generated, they shall:

1. Include a revised Table of Contents for Appendix A listing all Letters of Agreement.

2. Be revised individually or in total.

3. Be distributed in accordance with section 6.4.3.

6.2.3 When a revision to Appendix B, Emergency Radiation Environmental Monitoring Program is generated, it shall:

1. Be made as a complete document in lieu of page revisions.

2. Be distributed in accordance with Section 6.4.3.

6.2.4 When revisions to Appendix C, Protective Action Guidance, are generated:

1. The revisions shall be made as complete documents in lieu of page revisions.

2. The revision shall be distributed in accordance with Section 6.4.3.

6.2.5 When revisions to Appendix D1-D3 are generated:

1. The revision shall be made as a complete document, e.g. Appendix D1.

2. The revision shall be distributed in accordance with Section 6.4.3.

6.2.6 When revisions to Appendix E, NSP Cross Reference Index (Corporate) are generated:

1. The revision shall be made as a complete document.

2. The revisions shall be distributed in accordance with section 6.4.3.

[redacted]

6.3.1 [redacted]

1. [redacted]

2 [redacted]

3 [redacted]

5. [redacted]

[redacted]

6.4 Distribution of Plan/Procedure Manuals and Revision Packages

Distribution of Corporate Nuclear Emergency Plan and Corporate Nuclear Emergency Plan Implementing Procedure Manuals shall be administered as indicated in the following paragraphs.

6.4.1 Distribution lists shall be prepared, approved and utilized by the Assitant Administrator Emergency Preparedness and shall include:

1. Name of manual holder.
2. Professional or job title of manual holder.
3. Address of manual holder.
4. Telephone number (if necessary).
5. Assigned controlled copy number.

6.4.2 [redacted]

4. [redacted]

5. [redacted]

6. [redacted]

6.4.3 Revision package to the Corporate Nuclear Emergency Plan should include:

1. Transmittal manifest.
2. Distribution list.
3. Acknowledgement of Receipt.
4. Title Page, if necessary.
5. Record of Revision Page.
6. Table of Contents, if necessary.
7. Revised pages with changes marked.

[redacted]

6. Summary of changes, if necessary.

6.5 Departmental Filing Requirements

6.5.1 Corporate Nuclear Emergency Plan filing should include:

1. Copy of Revision Package to: History File.

2. NRC submittal letter to:
   - EP-Gov't-NRC-Correspondence Plan file.
   - Monticello Plant NRC - I & E Correspondence file.
   - Prairie Island Plant NRC - I & E Correspondence file.

3. Transmittal Manifest to:
   EP-Transmittal Manifest-Plan file.

4. Returned Acknowledgement of Receipts to:
   EP-Acknowledgement of Receipt-Plan-Holding file.

5. Certification Slip to:
   EP-Acknowledgement of Receipt-Plan-Certification file (when all acknowledgement of receipts have been returned).

[redacted]

1 [redacted]

[redacted]

3. [redacted]

4. [redacted]:

5. Certification Slip to:
   EP-Acknowledgement of Receipt-Procedures-Certification file (when all Acknowledgement of Receipts have been returned).

6.6 Inventories

6.6.1 Corporate Nuclear Emergency Plans and Corporate Nuclear Emergency Plan Implementing Procedures should be inventoried at a minimum of once each two-year period.

6.6.2 Inventory is defined as requesting the individual, to whom the copy is assigned, to complete a page check against the most current listing of pages or procedures (Record of Revision page).

6.6.3 Inventories should be initiated by request from the Manager Nuclear Environmental Services.

6.6.4 Requests for inventory should include instructions for performing, documenting, and returning the results of the inventory to the Manager Nuclear Environmental Services.

6.6.5 Requests for inventory may be included within transmittal manifests for revision packages and a returned acknowledgement of receipt will provide documentation of completion.

6.6.6 Discrepancies noted during the inventory should be reported to the Manager Nuclear Environmental Services.

6.6.7 Selected copies may further be audited by NSS Department Personnel to ensure that they are up to date.

[redacted]

Retention Time

Departmental records are established by Nuclear Support Services (NSS) to facilitate an administrative management process. Departmental records do not require specialized storage. The following records should be maintained in NSS:

6.7.1 Historical Copies

1. Revision packages to the Corporate Nuclear Emergency Plan including appendices.

Affected Life of Plant

[redacted]

[redacted]

	Retention Time
[redacted]	
[redacted]	2 years
[redacted]	2 years
3. Changes to document control procedure	2 years
4. Results of inventories	2 years
[redacted]	
1. Corporate Nuclear Emergency Plan	Indefinite
[redacted]	Indefinite

6.7.4 Media Conversion

1. Records that are required for the affected life of the plant or indefinitely may be stored on microfilm.

2. Conversion to microfilm should follow standard departmental procedures.

6.7.5 Outdated Records

Document control records which have elapsed their specified retention times may be disposed of.