

RADIOLOGICAL EMERGENCY RECEPTION PLAN
FOR
NUCLEAR POWER PLANT INCIDENTS
FOR
OTOE COUNTY

This Plan complies with Title VI
of the Civil Rights Acts of 1964 (P.L. 88-352)
in that it was developed and actions described will be carried out
without discrimination against anyone
due to color, race, national origin, religion, sex, age, or handicap.

Prepared By:
The Radiological Emergency Preparedness Division
Nebraska Emergency Management Agency,
in cooperation with
Otoe County Emergency Management

30-January-2015
Revision One

OTOE COUNTY RADIOLOGICAL EMERGENCY RESPONSE PLAN

PREFACE

This Radiological Emergency Plan establishes the policies, plans, and guidelines that will allow Otoe County emergency response organizations to function effectively as a team should an emergency incident occur at the Cooper Nuclear Station.

The plan is consistent with Federal guidelines and the State of Nebraska Radiological Emergency Response Plan.

Organization of this plan is designed to enhance a functional approach to specific responsibilities through the incorporation of the following components:

Basic Plan: Serves as an overview of Otoe County's approach to emergency management, assigns responsibilities, and defines broad policies, plans and procedures.

Annexes: Seven functional Annexes that address the task areas deemed critical to emergency response and recovery.

Attachments: Abbreviated checklists defining specific tasks by time phase as well as other supporting information are attached where needed.

This Plan supersedes all previous Emergency Reception Plans for Nuclear Power Plant Incidents.

WHEREAS, the Board of Commissioners of Otoe County, Nebraska, pursuant to Nebraska Statute, is vested with the authority of administering the affairs of Otoe County, Nebraska, and

WHEREAS, it has been determined that an Emergency Reception Plan for Nuclear Power Plant incidents was originally developed and approved January 1, 2002, to provide for a cooperative response to the prospective need for the evacuation of prescribed portions of Nemaha County and for the resultant influx of evacuees into the City of Nebraska City; and;

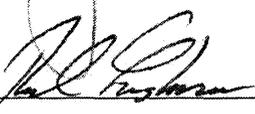
WHEREAS, the Board of Commissioners of Otoe County, deems it advisable and in the best interest of Otoe County to review and update said Emergency Reception Plan for Nuclear Power Plant Incidents every four years;

NOW, THEREFORE, BE IT RESOLVED by the Board of Commissioners of Otoe County, Nebraska that the original Emergency Reception Plan for Nuclear Power Plant Incidents, approved January 1, 2002, be and is hereby revised and updated in accordance with the Nuclear Regulatory Commission and Federal Emergency Management Agency.

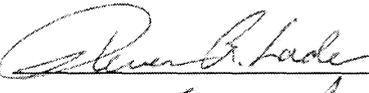
Passed and approved this 13th day of October, 2015

Board of County Commissioners
Otoe County, Nebraska





CR Hauptman







Attest:



RESOLUTION 2680-15

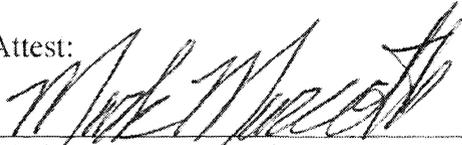
BE IT RESOLVED BY THE MAYOR AND COMMISSIONERS OF THE CITY OF NEBRASKA CITY, NEBRASKA:

That in order to provide a coordinated effort and response to an emergency situation at the Cooper Nuclear Station which could result in an influx of evacuees into the City of Nebraska City, the City Council of Nebraska City deems it advisable and prudent to approve the attached Otoe County Radiological Emergency Reception Plan for Nuclear Power Plant Incidents

Passed and Approved this 21st day of September, 2015.




Bryan Bequette, Mayor

Attest:

Mark Marcotte, City Clerk – Treasurer

OTOE COUNTY RADIOLOGICAL EMERGENCY RECEPTION PLAN
SIGNATURE PAGE

We, the undersigned have reviewed the Radiological Emergency Reception Plan for Nuclear Power Plant Incidents for Otoe County and the community of Nebraska City. We accept the responsibilities pertaining to our organization as defined in the plan and will respond as required in the event of an incident at the Cooper Nuclear Station.

Otoe County Sheriff

Date

Nebraska City Fire & Rescue
Fire Chief

Date

Nebraska City Fire & Rescue
Rescue Chief

Date

Nebraska City Police Department

Date

Otoe County Emergency Management Agency

Date

St. Mary's Hospital (Nebraska City, NE)

Date

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OTOE COUNTY

RADIOLOGICAL EMERGENCY RECEPTION PLAN

BASIC PLAN

I. AUTHORITIES

Authority for this plan is contained in: The Reissue Revised Statutes of Nebraska, July 1996, 81-829.36 to .75 Nebraska Emergency Management Act; the State Emergency Operations Plan (1 March 2000); the State Radiological Emergency Response Plan for Nuclear Power Plant Incidents (15 April 2001); the Otoe County Resolution establishing the Otoe County Civil Defense Agency (currently doing business as: Otoe County Emergency Management (2 September 1981)). All normal working and mutual aid agreements established between city and county agencies apply. There are agreements between the American Red Cross and the State Department of Social Services (now known as Health and Human Services), which support the reception and care of evacuees.

II. DEFINITION OF TERMS

- A. Congregate Care (Lodging & Feeding) Facility: A public or private building located in a safe reception area and capable of housing evacuees.
- B. Emergency Classification Levels: An emergency classification scheme for use in defining action levels relating to nuclear power plant incidents. These are consistent with guidelines contained in NUREG 0654 and are defined in detail in Annex A. The emergency classes are:
 - 1. Notification of Unusual Event
 - 2. Alert
 - 3. Site Area Emergency
 - 4. General Emergency
- C. Emergency Alert System (EAS): The Emergency Alert System is composed of AM, FM and TV broadcast stations and non-government industry entities operating on a voluntary, organized basis during emergencies at the national, state, or operational levels.
- D. Emergency Operating Center (EOC): The protected site from which Otoe County government officials exercise direction and control in an emergency. The Otoe County EOC is located in the Otoe County Courthouse, Nebraska City, Nebraska.
- E. Emergency Operating Facility (EOF): The location for licensee, federal, state and local operations for the evaluation and coordination of all activities related to an emergency at a nuclear power plant. For the Cooper Nuclear Station, the EOF is

located at the site of the station near Brownville, Nebraska. An alternate EOF (AEOF) is located in the Nemaha County Multiplex Building, Auburn, Nebraska.

- F. Emergency Planning Zone (EPZ): A generic area around a commercial nuclear facility used to assist in off-site emergency planning and the development of a significant response base. For commercial nuclear power plants, EPZs of about 10 and 50 miles are delineated for the plume and ingestion pathways respectively:
1. Plume Exposure Pathway EPZ: This zone is defined by five subareas based on landmark descriptions around the nuclear facility. Government and/or individual actions may be necessary within this radius to provide protection from possible health hazards associated with direct exposure to or inhalation of, releases of radioactive materials resulting from an incident. This plan addresses emergency response for this 10-mile EPZ and all reference to EPZ in this plan are for the 10-mile area. The risk population within this area has been identified (See Annex A) and this plan developed for implementing any necessary protective actions.
 2. Ingestion Exposure Pathway EPZ: This zone is defined by a 50-mile ring around the nuclear facility. The principal exposure in this EPZ would be from ingestion of contaminated water or foods such as milk or fresh vegetables. This plan does not address specific protective actions for this EPZ since the primary response would be multi-jurisdictional in nature and the responsibility of appropriate state and federal agencies such as the Department of Agriculture. Examples of specific protective actions are contained in the State Radiological Emergency Response Plan.
- G. Emergency Protective Actions: Measures taken after an off-site release of nuclear radiation to prevent or minimize radiological exposures to persons in the threatened area. Examples of emergency protection actions as discussed in this plan are: Area access control, in-house shelter, medical prophylaxis, decontamination, respiratory protection, and evacuation.
- H. EOC Staff: The Emergency Management Director and members of the emergency management organization tasked to operate the Emergency Operating Center during disasters. Also includes key coordinating and supporting staff positions that function only during disasters such as: Communications Officer; Public Information Officer; Medical Coordinator, etc.
- I. Emergency Worker: A person or persons who are primarily responsible for carrying out emergency functions. Emergency functions include radiological monitoring, firefighting services, law enforcement, medical and health services, rescue activities, area security functions, communications, evacuation measures, welfare services, and other related functions assigned by competent authority to protect the health, safety, and property of the general populace. Emergency workers are listed in three categories:

- **Emergency Worker Category (1):**

The particular emergency worker assignment for first response.

- **Emergency Worker Category (2):**

Whether they will be working in a potentially high exposure rate area [greater than 0.1 Roentgens per hour (R/h)]. Areas inside the plume emergency planning zone (EPZ) should be considered category (2).

Emergency workers assigned to categories (1) or (2) include the following: radiation monitors, police and law enforcement, firemen, rescue personnel, ambulance crews, evacuation vehicle/bus drivers, essential services or utility personnel, and personnel carrying out backup alerting or traffic control functions. They may be exposed to the airborne release while carrying out their missions. Consequently, the means for measuring the radiation exposure of these personnel should be available at the beginning of the nuclear accident.

- **Emergency Worker Category (3):**

Whether they will be working in a potentially low exposure rate area (less than 0.1 R/h). Areas outside the plume EPZ should be considered in category (3).

The following are examples of emergency worker activities that should be performed in category (3), a low exposure rate area: dosimeter issuance and collection, and dose record keeping at dispatch locations for radiological monitors, emergency workers, and environmental/agricultural sampling team collectors; traffic and access control points for reentry, emergency operating centers; counting laboratories; communication centers; reception centers where evacuees are monitored for contamination; decontamination facilities; hospitals and other medical facility personnel.

- J. **Exclusion Area** (Nuclear Power Plant Incident): The area surrounding a nuclear power plant in which the licensee has the authority to determine all activities including exclusion or removal of personnel/property from that area. The term is synonymous with "on-site".
- K. **Executive Group**: The control group in the Emergency Operating Center during emergency operations. Consists of the Chief Executives (County Board Chair, etc.) of the affected jurisdictions and/or their deputies.
- L. **Hostile Action Based**: A hostile action is an act toward a nuclear power plant or its personnel that includes the use of violent force to destroy equipment, take hostages, and/or intimidate the licensee to achieve an end. This includes attack by air, land, and/or water using guns, explosives, projectiles, vehicles, or other devices used to deliver destructive force.

- M. Health Physics Professional (HPP): A person who is registered with or meets the qualifications of registration as a Plenary Member with the Health Physics Society.
- N. In-House Shelter: This protective action could be recommended in the event of a short-term or low-level radioactive release where evacuation actions are not warranted. Taking in-house shelter means staying indoors (in a residential, commercial or public building), closing all windows and openings to the outside area and turning off all air conditioners or fans vented to the outside.
- O. NEMA: Nebraska Emergency Management Agency.
- P. Off-Site Nuclear Incident: An incident affecting area outside the plant site and which may pose a hazard to the public requiring community response. Implies initiation of off-site notification procedures for local and state governments as well as assessment and government decisions necessary to implement emergency protective actions.
- Q. On-Site Nuclear Incident: An incident which affects the plant on-site area only, and poses no significant threat to public health.
- R. Post Emergency: Post emergency actions, as used in this plan, are defined as follows:
 - 1. Relocation – A protective action that is taken during this phase to avoid chronic exposure to gamma radiation from deposited material in areas where the projected first year dose exceeds the relocation protective action guide. For further details, see State RERP, Basic, paragraph V.K.
 - 2. Reentry – The process of temporary reentry of individuals into a restricted zone under controlled conditions. Once relocation has been implemented, individuals will only be allowed to reenter the established restricted zone on a need only basis. For further details, see State RERP, Basic, paragraph V.K.
 - 3. Return – The process of reoccupying areas cleared for unrestricted residence or use by previously evacuated or relocated population. Individuals will only be allowed to return once areas have been monitored and it has been determined that the area has not been significantly contaminated by the plume. For further details, see State RERP, Basic, paragraph V.K.
- S. Radiological Emergency: A type of radiological incident that poses an actual or potential hazard to public health or safety or loss of property.
- T. Reception Area: An area at least 5 miles, and preferably 10 miles, beyond the plume exposure (10-mile) EPZ consisting of one or more congregate care facilities. Falls City and Nebraska City have been designated as joint reception areas for the Cooper Nuclear Station.

- U. Registration Center: A single facility located in each reception area that will provide for registration of evacuees. Assignments to congregate care space and feeding facilities will be made at the registration centers. Locator files of evacuees will be maintained at each registration center. A radiological monitoring point and a decontamination station may be established at or near the registration center.
- V. State Liaison Team: An emergency state government field direction and control activity deployed in support of a serious incident at a nuclear power plant. Field activities of this element will be coordinated by the Governor's Authorized Representative (GAR). The Nebraska State Patrol communications vehicle and other appropriate state agency liaison personnel, to include a Public Information Officer, may be located near this facility. Radio communications will be maintained with the State EOC and the plant Emergency Operating Facility (EOF). The State Liaison team will also be able to support short range radio communications for key state agency personnel operating in the vicinity of the plant. The call sign for the Nebraska Emergency Management Agency's MOT/MOC the call sign for the Nebraska State Patrol Communications Van is "Unit 509".

III. SITUATION

- A. Nebraska City is situated approximately 20 miles north of Cooper Nuclear Station. Its location places it outside of the area where residents could receive direct effects from a radiological incident occurring at the Station. Because of this, and ease of access, Nebraska City has been selected as a reception area for residents of Nemaha County who could be required to evacuate. The population within the 10-mile Emergency Planning Zone (EPZ) totals 2,964. This figure is derived from information reported in the Evacuation Time Study, Nemaha and Richardson Counties, Nebraska.
 - 1. In the unlikely situation of a full evacuation of the 10-mile EPZ, 1,671 residents from Nemaha County could be directed to Nebraska City.
 - 2. The above figures represent a "worst case" scenario. It is anticipated that the actual numbers of residents evacuated would be significantly less as only those portions of the EPZ actually under risk would be evacuated. Additionally, it is anticipated that many of these people would obtain shelter from friends and relatives outside the 10-mile EPZ.
 - 3. While there is a high probability that Nebraska City would receive something less than the allocated 1,671 evacuees, this plan identifies 1,958 available lodging spaces which would more than adequately accommodate the maximum expected.
- B. Evacuation Routing: Evacuees traveling to the Nebraska City reception area will be routed as follows: (See Annex C, Attachment 2)
 - 1. by best available routing to U.S. Highway 75;

2. North on U.S. Highway 75 to 2nd Corso, Nebraska City;
 3. East on 2nd Corso to the parking area at the Middle School, Nebraska City.
- C. Persons in Group Quarters (Care Facilities/Institutionalized): There are no Care Facilities located within the 10-mile EPZ. This does not include persons in apartments or educational institutions.
- D. Persons without Vehicles: Persons without private transportation would be evacuated by buses from central assembly points (locations of these points would be announced via the media) or from their homes in the case of the elderly or other special needs considerations. NPPD conducts a survey of all persons within the 10-mile EPZ annually and Nemaha and Richardson Counties maintain a list of those persons who responded they would need assistance if an evacuation was required.
- E. Types of Incidents/Emergencies Affecting Local Government: Under current Nuclear Regulatory Commission (NRC) criteria, four classes of Emergency Classification Levels (ECLs) have been established. The classes are:
1. NOTIFICATION OF UNUSUAL EVENT

Events are in progress or have occurred which indicate a potential degradation of the level of safety of the station or indicate a security threat to facility protection has been initiated. No releases of radioactive material requiring off-site response or monitoring are expected unless further degradation of safety systems occurs
 2. ALERT

Events are in progress or have occurred which involve an actual or potential substantial degradation of the level of safety of the station or a security event that involves probable life-threatening risk to site personnel or damage to site equipment because of intentional malicious dedicated efforts of HOSTILE ACTION. Any releases are expected to be limited to small fractions of the EPA Protective Action Guideline exposure levels.
 3. SITE AREA EMERGENCY

Events are in progress or have occurred which involve actual or likely major failures of station functions needed for the protection of the public or security events that result in intentional damage because of intentional malicious dedicated efforts of HOSTILE ACTION:

4. GENERAL EMERGENCY

Events are in progress or have occurred which involve actual or imminent substantial core degradation or melting with potential for loss of containment integrity or security events that result in an actual loss of physical control of the facility. Release of radioactive material can be reasonably expected to exceed EPA Protective Action Guideline exposure levels off-site for more than the immediate site area.

IV. ASSUMPTIONS AND PLANNING FACTORS

A. Emergency Evacuation could be required. Under these conditions:

1. The decision to evacuate could occur day or night and there could be little control over the start time.
2. Because evacuations cannot be staged or stretched out, there may be maximum traffic congestion. Voluntary evacuation will not have occurred.
3. There would not normally be time to obtain manpower support from the National Guard and the State Patrol. Local government resources will be severely stressed.
4. Evacuees will have little preparation time and will require maximum support in reception areas, particularly in the areas of food, bedding, and clothes.

B. Voluntary Evacuation could occur after the public has been advised of a potential problem or danger, even though the situation does not warrant an official evacuation.

1. Voluntary evacuation in excess of 50% of the residents is a possibility if there is an extended danger period.
2. News of any incident at the station site may cause some voluntary evacuation.
3. If emergency evacuation is directed for a small area or sector, then voluntary evacuation of adjacent areas should be expected.
4. A large percentage of voluntary evacuees will leave because they have a place to go such as relatives, friends, summer house, etc. An announcement of possible insurance reimbursement will result in greater voluntary evacuation.
5. Nebraska City and Otoe County, as a designated reception area, could expect some requests for lodging and feeding, even if no official reception centers have been announced. The most likely point of contact will be local Law Enforcement.

- C. Precautionary Evacuation could be initiated if an initially safe situation appears to be deteriorating or if potentially hazardous actions are going to take place in the Nuclear Power Plant. Under these conditions:
1. The evacuation can be carefully controlled especially since the start time can be selected for best conditions.
 2. Supplemental manpower resources can be in place.
 3. Reception areas and shelters can be prepared to receive evacuees.
 4. Traffic control points can be established and the evacuation staged (staggered departure times) thereby reducing traffic congestion.
 5. Evacuees would be better prepared and could take food, bedding, ample clothing, and other supplies.
 6. Prior voluntary evacuation activity will probably have occurred therefore relieving congestion.
- D. Lodging assignments will be based on no less than 40 square feet per person.
- E. Designated evacuation routes will utilize only hard surface all-weather roads. State and Federal highways used receive priority snow removal by the Department of Roads, and may be expected to be open at all times. Movement planning factors will be 1,000 cars per hour per lane of traffic with movement rate of 30 miles/hour. For planning purposes, 2.7 persons per vehicle will be used (1990 Census Data estimates for persons in households with vehicles).
- F. Timely and accurate information will be provided by plant authorities to local, State, and Federal officials and agencies.
- G. Certain State and Federal agencies will become available to both advise and assist local governments shortly after an emergency situation develops having off-site consequences. It is important to note, however, local governments must be prepared to function without outside assistance with actions taken based only on information received from the plant.
- H. The Heartland/ Cornhusker American Red Cross will assist upon arrival in the operation of lodging and feeding facilities, operation of mobile canteens, registration of evacuees, and health and welfare inquiries.

V. RESPONSIBILITIES

Nebraska City and Otoe County will provide for reception and care of evacuees in support of Nemaha County. This plan defines the tasks that must be accomplished to ensure the welfare of evacuees. Many of the tasks are those normally accomplished on a day-to-day basis. However, some are unique to a radiological incident and require special emphasis. Primary and supporting responsibility has been assigned as shown in the Functional Responsibility Chart, Attachment 1. Detailed tasks are covered in the Action Guides, Attachment 1 to each Annex. The key operational staff necessary to accomplish Direction and Control of Reception activities is outlined on Page A-1. The conduct of all operations and reception and care activities is the responsibility of the staff. Control for both Otoe County and Nebraska City will be carried out at the Emergency Operations Center (EOC) located in the County Courthouse, Nebraska City. Key reception and care staff will be located at the registration center in the Nebraska City Middle School, 217 South 9th Street. General responsibilities are as follows:

- A. Direction and Control: This function is fulfilled by the Emergency Management Director. By Statute, the conduct of all emergency operations in Otoe County is the responsibility of the Chair of the County Board, and, the Mayor of Nebraska City. This responsibility is delegated to the Emergency Management Director. (See Annex A)
- B. Communications and Warning: The Communications Officer is responsible for establishing and maintaining adequate communications between the EOC and agencies involved. Amateur Radio volunteer communications resources may be used in support of the local EOC. (See Annex B)
- C. Law Enforcement and Traffic Control: The County Sheriff and Police Chiefs of incorporated communities are responsible for all law enforcement, traffic control, and security functions and within their respective jurisdictions. (See Annex C)
- D. Fire and Rescue: The Nebraska City Fire Chief serves as a member of the EOC staff. He and all fire district chiefs are responsible for fire control, and rescue activities in their fire districts. (See Annex D)
- E. Public Information: The Public Information Officer (PIO) is responsible for keeping the public advised as to the local situation. All public information activity will be coordinated with the State EOC. (See Annex E)
- F. Health and Medical: Under this plan Otoe County Emergency Management will be assisted by qualified persons in the evaluation of health and medical problems. The Health Officer will coordinate with the Radiological Officer (RO) for coordination of radiological monitoring and decontamination activities. (See Annex F)
- G. Radiological Monitoring: The County Emergency Management Director is encouraged to develop a pool of trained radiological Monitors. These Monitors, if available, can be called upon during a radiological incident by DHHS, Div. of

Public Health officials. The Otoe County Radiological Officer (RO) is responsible for the coordination of local monitoring assistance at the decontamination center. (See Annex F)

- H. Reception and Care: The American Red Cross will coordinate the registration, lodging, and feeding of evacuees. State Health & Human Services and the Salvation Army can provide assistance in the reception and care operations. (See Annex G)
- I. Resource Management: The allocation and control of local government resources is the responsibility of the Board of County Commissioners and the Mayors/Chief Elected Officials of the political subdivisions. The Otoe County Emergency Management Director will have the overall responsibility of resource management and will appoint a Resource Coordinator to manage and oversee this responsibility. The County Emergency Board, and various supervisors and department heads of local government agencies and private organizations will be responsible for managing the resources of their individual agencies and organizations and coordinating with the Resource Coordinator. The Resource Coordinator will act as the primary resource advisor to the Executive Group, County Emergency Board, and the Otoe County Emergency Management Director. The County Emergency Management Director will request State Support (via State EOC) in the event local resources are inadequate to meet requirements. (See Annex A)

VI. CONCEPT OF OPERATIONS

- A. Notification: In the event of an incident/emergency affecting the Cooper Nuclear Station, initial notification will be made to the Nebraska State Patrol (NSP) by Plant personnel. The State Patrol will alert essential State agencies and affected local governments. Otoe County will be notified by one, or all, of the following:
 - 1. Nebraska State Patrol: NAWAS radio communications to the Otoe County Warning Point, public service telephone, or radio communications, State Radio System (SRS).
 - 2. State EOC: Public service telephone or NAWAS radio communications to the Nebraska City Warning Point.
 - 3. Nemaha County: Public service telephone or Sheriff's Radio
 - 4. Cooper Nuclear Station: Public service telephone.
- B. Alerting of Key Officials: On receipt of notification of an incident at the power plant the Otoe County Sheriff's Department communicator on duty will take action to notify key city and county officials. These key officials should assemble at the Emergency Operating Center and be prepared to evaluate information, effect coordination, and make reception decisions.

- C. Coordination: Vital information will be forwarded to Otoe County by the State EOC and Nemaha County EOC. Coordination will be accomplished between the State EOC and DHHS, Div. of Public Health.
- D. Evacuation Decisions: A decision or recommendation to evacuate will normally be arrived at jointly by all levels of government and based upon the assessment and recommendations of DHHS, Div. of Public Health. When a decision is made, action will begin as soon as possible; therefore, preparations for reception will occur immediately after alerting. Nemaha County will notify the Otoe County EOC when evacuation is pending or beginning.
- E. Reception and Care Operations: Emergency Response Action Guides for Reception and Care have been provided which define specific tasks and assign responsibility for those tasks. Resource data and other material that would be useful in accomplishing tasks are contained in the Otoe County Resource Directory.
- F. Radiological Monitoring: Since there is a possibility that some evacuees could have received small amounts of radioactive contamination either on themselves or on their vehicles, it will be necessary that a monitoring station and decontamination point be established at the registration center located at the Nebraska City Middle School. Vehicles which are contaminated will be directed to a specially designated area to be decontaminated. Persons who have received contamination will be directed to the personnel decontamination station before entering the registration area. Replacement clothing may be provided by the Red Cross when required.

VII. PLANNING, TRAINING AND EXERCISING

- A. This Radiological Emergency Reception Plan provides the framework and resources data with which Nebraska City and Otoe County can receive and care for residents within 10 miles of Cooper Nuclear Station who could be required to evacuate because of an incident at the station. However, further planning, training, and exercising actions are necessary to make this plan as responsive as possible. The Otoe County Emergency Management Director is responsible for coordinating the accomplishment of the following actions:
 - 1. Developing and maintaining current EOC staffing, alerting, and training lists/rosters.
 - 2. Maintain the currency of all telephone numbers. These listings will be reviewed and updated quarterly. Federal and state agencies and private organizations will advise local government of telephone and personnel changes as they occur.
 - 3. Developing sufficient radiological monitoring team capabilities so that 20% of the total EPZ population, including any identified transients, can be monitored

in a 12-hour period and be able to sustain a 24-hour capability over a protracted period of time.

4. Attendance and participation in emergency worker training sessions conducted by the Cooper Nuclear Station staff and disaster preparedness training courses/radiological emergency response training conducted by the Nebraska Emergency Management Agency or Local EMA. Refer to the Nebraska Radiological Training Program.
 5. Augmenting emergency supply resources and radiological monitoring equipment and maintaining current resource lists.
 6. Local Emergency Management Agency and Cooper Nuclear Station in conjunction with the Nebraska Emergency Management Agency, schedule periodic workshops in the functional area of emergency public information to include procedures and responsibilities of the County Public Information Officer.
 7. Conducting annual reviews of this Radiological Emergency Reception Plan and modifying it as necessary. Changes will be published and promptly distributed to the agencies listed in the front of this document.
 8. Exercising the plan annually in conjunction with the Nuclear Power Plant and State of Nebraska exercises. Exercises will include the testing of radiological instruments, equipment, communications and decontamination procedures. Each local government agency involved will participate in critiques of all exercises and will recommend changes to this plan to correct deficiencies noted. Each agency head will ensure corrective actions are implemented.
- B. The Radiological Programs Manager, Nebraska Emergency Management Agency has the overall authority and responsibility for Radiological Emergency Response Planning. The Otoe County Emergency Management Director is responsible for assisting in coordinating, developing and updating those portions of the local plans relating to their given jurisdiction. For further information regarding training, refer to Attachment 2, and the Nebraska State Radiological Training Manual for Nuclear Power Plant incidents.

FUNCTIONAL RESPONSIBILITY CHART

	Direction & Control	Communications & Warning	Law Enforcement & Traffic Control	Fire	Rescue	Public Information	Health & Medical	Reception & Care	Radiological Monitoring	Resource Management
Chair, County Board	(P)	S	S	S		S	S	S	S	(P)
Mayor, Nebraska City	(P)	S	S	S		S	S	S	S	(P)
Emergency Management Director	(P)	S	S	S		S	S	S	S	(P)
Sheriff	S	S	(P)					S		S
Chief of Police, Nebraska City	S	S	(P)					S		S
Fire Chief, Nebraska City	S	S	S	(P)				S		S
Rescue Chief Nebraska City Rescue					(P)		(P)			
Communications Officer	S	(P)	S	S				S		S
Public Information Officer	S					(P)		S		
Radiological Officer	S						S	S	(P)	S
American Red Cross	S							(P)		
USDA County Emergency Board	S							S		S
Salvation Army	S							S	S	
Resource Coordinator										(P)

(P) P = Primary Responsibility

S = Support Responsibility

OTOE COUNTY RERP
 REVISION ONE

- I. **NEMA Radiological Off-Site Response Training:** The NEMA REP Division conducts specialized radiological emergency response training for those who may be called upon to assist in a nuclear power station incident. Orientation training is also given to key State and local officials. These sessions are tailored to meet the needs of the organizations concerned as developed during staff visits, drills and exercises. These training sessions are offered annually and NEMA or County Emergency Management Agency Directors or Regional Coordinators maintain training records. The training sessions for local State and local agencies are as follows:

<u>COURSE TITLE</u>	<u>LENGHT</u>	<u>CONTENT</u>
A. <u>Emergency Worker</u>	1 Hour	<ul style="list-style-type: none"> - Purpose - Emergency Planning Zone (EPZ) Concepts - Emergency Classifications - County RERP - Types of Radiation - Background Radiation - Units of Measurement - Exposure - Contamination - Contamination Control Measures - Dosimetry - Radiation Exposure Forms & Dose Cards - Use of Potassium Iodide (KI)

This training is for personnel who could be exposed to or contaminated by radiation while in the performance of duties related to a response to nuclear power station incident.

B. <u>Emergency Operations Center (EOC)</u>	1-2 Hours	<ul style="list-style-type: none"> - Purpose - Direction & Control - Public Notification - Implementation of Protective Actions - Communication Links - Traffic and Access Control - Transportation of School Children and Special Needs Groups - Activation and Operation of Relocation Centers - Purpose of Message Control - Recording Messages Sent and Received -
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This training is for personnel who work in the State/County EOCs during a nuclear power station incident.

C. <u>Traffic and Access Control</u>	1-2 Hours	<ul style="list-style-type: none"> - Purpose - Personnel Functions - Primary Evacuation Routes - Decontamination Station(s) - Return, Re-Entry, and Relocation -
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This training is for law enforcement personnel and other personnel who would man Traffic Control Points or Access Control Points, as applicable, along evacuation routes, or into the 10-mile Emergency Planning Zone or Restricted Areas in the event of nuclear power station incident.

<u>COURSE TITLE</u>	<u>LENGHT</u>	<u>CONTENT</u>
D. <u>Radiological Monitoring</u>	2-3 Hours	<ul style="list-style-type: none"> - Purpose - Radiological Instrumentation Survey Meters, Dosimeters and Portal Monitors (as applicable) - Contamination & Contamination Control - Frisking Techniques - Decontamination Techniques

This training is for those personnel who would use radiological instruments to monitor emergency workers and/or the general public for radioactive contamination in the event of a nuclear power station incident.

E. <u>Medical Response</u>	1-2 Hours	<ul style="list-style-type: none"> - Purpose - Ambulance/Rescue Vehicle Preparation - Victim/Patient Wrap, Package & Transport - Hospital Routes - Contamination Control Procedures
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This training is for EMTs, ambulance, and fire rescue crews who would respond to call involving an incident at or near a nuclear power station involving victim(s)/patient(s) who are contaminated by radioactive materials.

F. <u>Communications</u>	1Hour	<ul style="list-style-type: none"> - Purpose - Primary Evacuation Routes - Landmark Descriptions - Alert Notifications - Siren Activations - Information Flow - EAS Messages - Public Emergency Information Messages - Timed Message Releases
--------------------------	-------	--

This training is for personnel who would be involved in keeping the general public informed in the event of an incident at a nuclear power station, including alert and notification warning.

- II. Personnel for which the above training has been targeted are listed in Training Tables.
 - A. Attachment 1 is a Table reflecting who should receive the above training in the counties affected by the Cooper Nuclear Station.
 - B. Attachment 2 is a Table reflecting who should receive the above training in the counties affected by the Fort Calhoun Nuclear Station
- III. Nuclear power stations are responsible to provide site specific emergency response training for those off-site emergency organizations that may be called upon to provide assistance in the

OTOE COUNTY RERP
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event of an emergency. Each nuclear station holds an annual training meeting for key management members of off-site response agencies. These meetings are attended by State and local government representatives to include counterparts from contiguous states. Selected private agencies with emergency response capabilities may also attend. The nuclear power stations will also be responsible to conduct other specialized training following reference (a). Training records and related information are retained by the utility concerned.

- IV. Nebraska Statute (85-805) requires the Radiation Control Center (the University of Nebraska Medical Center [UNMC]) to provide education programs for nuclear safety with emphasis on preventative medical and radiological protection in industry.

NOTE: The following training matrix for Cooper Nuclear Station and Fort Calhoun Nuclear Station counties have changed slightly in that the Nebraska Educational Television and Radio have been added to both matrixes and any reference to Sarpy County for the Fort Calhoun Nuclear Radio Station Matrix has been deleted.

COOPER NUCLEAR STATION TRAINING MATRIX FOR AFFECTED AGENCIES

TYPE TRAINING →	EMERGENCY WORKER	EMERGENCY OPERATIONS CENTER	TRAFFIC & ACCESS CONTROL	RADIOLOGICAL MONITORING & DECONTAMINATION	MEDICAL RESPONSE	COMMUNICATIONS
AGENCY/STAFF ↓						
EMERGENCY MANAGEMENT (STATE EOC):						
Emergency Management Staff		X				
State Liaisons	X	X				
Communications	X	X				X
EOF Field Team		X				
Joint Information Center		X				X
<u>NEBRASKA STATE AGENCIES IN EOC</u>						
Department of Agriculture		X				
Department of Insurance		X				
Department of Roads		X				
Game and Parks Commission		X				
Health & Human Services System		X				
National Guard		X				
State Patrol Headquarters		X				
<u>VOLUNTEER AGENCIES IN EOC</u>						
Amateur Radio Operators/RACES		X				X
American Red Cross		X				
Salvation Army		X				
Seventh Day Adventists		X				

COOPER NUCLEAR STATION TRAINING MATRIX FOR AFFECTED AGENCIES (Continued)

TYPE TRAINING →	EMERGENCY WORKER	EMERGENCY OPERATIONS CENTER	TRAFFIC & ACCESS CONTROL	RADIOLOGICAL MONITORING & DECONTAMINATION	MEDICAL RESPONSE	COMMUNICATIONS
AGENCY/STAFF ↓						
EMERGENCY MANAGEMENT (LOCAL EOCs):						
<u>OTOE COUNTY</u>						
Otoe County Emergency Manager	X	X				
Mayor, Nebraska City		X				
Commissioners, Otoe County		X				
Emergency Management Staff		X				
Communications		X				X
Health Officer		X				
Nebraska City Police Chief		X	X			
Nebraska City Fire Chief	X	X		X		
Nebraska City Public Works Chief		X	X			
Otoe County Sheriff		X	X			
Otoe County Roads Department		X	X			
Public Information Officer		X				X
Radiological Officer	X	X		X		
Reception and Care Center Coord.		X				
Social Services		X				

COOPER NUCLEAR STATION TRAINING MATRIX FOR AFFECTED AGENCIES (Continued)

TYPE TRAINING →	EMERGENCY WORKER	EMERGENCY OPERATIONS CENTER	TRAFFIC & ACCESS CONTROL	RADIOLOGICAL MONITORING & DECONTAMINATION	MEDICAL RESPONSE	COMMUNICATIONS
AGENCY/STAFF ↓						
EMERGENCY MANAGEMENT (LOCAL EOCs):						
<u>NEMAHA COUNTY</u>						
Nemaha County Emergency Manager		X				
Commissioners, Nemaha County		X				
Mayors/Chairs, Towns/Villages		X				
Emergency Management Staff		X				
Communications		X				X
Health Officer		X				
Auburn Police Chief	X	X	X			
Auburn Fire Chief		X	X	X		
Auburn Public Works Chief		X	X			
Nemaha County Sheriff		X	X			
Nemaha County Roads Department		X	X			
Public Information Officer		X				X
Radiological Officer	X	X		X		
Social Services		X				

OTOE COUNTY RERP
REVISION ONE

COOPER NUCLEAR STATION TRAINING MATRIX FOR AFFECTED AGENCIES (Continued)

TYPE TRAINING →	EMERGENCY WORKER	EMERGENCY OPERATIONS CENTER	TRAFFIC & ACCESS CONTROL	RADIOLOGICAL MONITORING & DECONTAMINATION	MEDICAL RESPONSE	COMMUNICATIONS
AGENCY/STAFF ↓						
EMERGENCY MANAGEMENT (LOCAL EOCs):						
<u>RICHARDSON COUNTY</u>						
Richardson County Emergency Manager	X	X	X	X		X
Commissioners, Richardson County		X				
Mayors/Chairs, Towns/Villages		X				
Emergency Management Staff		X				
Communications		X				
Health Officer		X		X		
Falls City Police Chief		X	X			
Falls City Fire Chief	X	X	X	X		
Falls City Public Works Chief		X	X			
Richardson County Sheriff		X	X			
Richardson County Roads Department		X	X			
Public Information Officer		X				X
Radiological Officer		X				
Reception and Care Center Coordinator	X	X		X		
Social Services		X				

OTOE COUNTY RERP
REVISION ONE

Nemaha County Sheriff's Office	X		X			
Nemaha County Sheriff's Office Dispatch						X
<u>RICHARDSON COUNTY</u>						
Falls City Police Department	X		X			
Richardson County Sheriff's Office	X		X			
Richardson County Sheriff's Dispatch						X

COOPER NUCLEAR STATION TRAINING MATRIX FOR AFFECTED AGENCIES (Continued)

TYPE TRAINING →	EMERGENCY WORKER	EMERGENCY OPERATIONS CENTER	TRAFFIC & ACCESS CONTROL	RADIOLOGICAL MONITORING & DECONTAMINATION	MEDICAL RESPONSE	COMMUNICATIONS
AGENCY/STAFF ↓						
FIRE DEPARTMENTS:						
<u>OTOE CO. & MUTUAL AID DEPT.s</u>						
Burr Fire Department	X			X		
Douglas Fire Department	X			X		
Dunbar Fire Department	X			X		
Nebraska City Fire Department	X			X	X	
Otoe Fire Department	X			X		
Palmyra Fire Department	X			X		
Syracuse Fire Department	X			X		
Talmage Fire Department	X			X		

Unadilla Fire Department	X			X		
Cook Fire Department – Johnson County	X			X		
<u>NEMAHA CO. MUTUAL AID DEPT.s</u>						
Auburn Fire Department	X			X	X	
Brock/Julian Fire Department	X			X		
Elk Creek Fire Department	X			X		
Johnson Fire Department	X			X		
Nemaha Fire Department	X			X		
Peru Fire Department	X			X		
Stella Fire Department	X			X		
Talmage Fire Department	X			X		

COOPER NUCLEAR STATION TRAINING MATRIX FOR AFFECTED AGENCIES (Continued)

TYPE TRAINING →	EMERGENCY WORKER	EMERGENCY OPERATIONS CENTER	TRAFFIC & ACCESS CONTROL	RADIOLOGICAL MONITORING & DECONTAMINATION	MEDICAL RESPONSE	COMMUNICATIONS
AGENCY/STAFF ↓						
FIRE DEPARTMENTS CONTINUED:						
<u>RICHARDSON CO. & MUTUAL AID DEPTS.</u>						
Dawson Fire Department	X			X		
Falls City Fire Department	X			X	X	
Falls City Rural Fire Department	X			X		
Humbolt Fire Department	X			X		
Humbolt Rural Fire Department	X			X		

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Rulo Fire Department	X			X		
Salem Fire Department	X			X		
Shubert Fire Department	X			X		
Stella Fire Department	X			X		
Verdon Fire Department	X			X		
HOSPITAL, AMBULANCE, & FIRE RESCUE:						
<u>NEMAHA COUNTY</u>						
Nemaha County Hospital (Auburn)	X			X	X	
Nemaha County Ambulance (Auburn)	X			X	X	
Auburn Fire Rescue Squad	X			X	X	
University of Nebraska Medical Center	IN HOUSE			IN HOUSE		
SCHOOLS:						
<u>NEMAHA COUNTY</u>						
None						
TRANSPORATION:						
<u>NEMAHA COUNTY</u>						
Auburn Public Schools	X					

COOPER NUCLEAR STATION AFFECTED TRAINING MATRIX FOR AGENCIES (Continued)

TYPE TRAINING →	EMERGENCY WORKER	EMERGENCY OPERATIONS CENTER	TRAFFIC & ACCESS CONTROL	RADIOLOGICAL MONITORING & DECONTAMINATION	MEDICAL RESPONSE	COMMUNICATIONS
AGENCY/STAFF ↓						
EMERGENCY/PUBLIC INFORMATION:						
National Weather Service, Valley						X

OTOE COUNTY RERP
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VOLUNTEERS:						
<u>OTOE COUNTY</u>						
RECEPTION & CARE FACILITY	X			X		
<u>NEMAHA COUNTY</u>						
EMERGENCY WORKER DECON	X			X		
<u>RICHARDSON COUNTY</u>						
RECEPTION & CARE FACILITY	X			X		
VOLUNTEER RADIOLOGICAL MONITORS:						
Outside Area Fire Departments	X			X		
Outside Area Law Enforcement	X			X		
Outside Area Medical Personnel	X			X	X	
Other Agencies	X					

LETTERS OF AGREEMENT

<u>Page</u>	<u>Organizational Agreements With Otoe County</u>
27	Nebraska City Public Schools (Transportation and Drivers)
28	Nebraska City Middle School (Registration Center)
29	Nebraska City Senior High School (Registration Center)
30	Hayward School (Registration Center)
31	North Side Elementary School (Registration Center)
32	Nebraska City Fire / Cooper Nuclear Station (Fire Protection Support)



ALL SCHOOLS ARE MEMBERS OF THE NORTH CENTRAL ASSOCIATION



NEBRASKA CITY PUBLIC SCHOOLS

Dr. Jeffrey Edwards, Superintendent

Brian Hoover, Principal
High School
141 Steinhart Park Road
402-873-3360 FAX 402-873-3831

Central Office
215 North 12th Street
Nebraska City, Nebraska 68410
402-873-6033 FAX 402-873-6030
www.nbcityps.org

Scot Davis, Principal
Hayward Elementary
306 S14th Street
402-873-6641 FAX 402-873-9274

Dr. Jenny Powell, Principal
Middle School
909 1st Corso
402-873-5591 FAX 402-873-5641

David Stickrod
Director of Student Services
402-873-6033

Tony Little, Principal
Northside Elementary
1200 14th Avenue
402-874-9193 FAX 402-874-9200

November 9, 2010

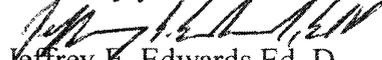
Superintendent
Nebraska City Public Schools
215 N 12th Street
Nebraska City NE 68410

Gregg Goebel
Otoe County Emergency Management Agency
11th Street and Central Avenue
Nebraska City NE 68410

Dear Gregg;

This letter is to confirm that the Nebraska City Public Schools will provide transportation support to the Otoe County Emergency Management Agency in case of a radiological emergency connected with the Cooper Nuclear Station. This support will include busses and drivers to assist in moving affected county residents between the reception center and congregate care centers in Nebraska City.

Sincerely yours,


Jeffrey E. Edwards Ed. D.
Superintendent



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Tony Little, Principal
Northside Elementary
1200 14th Avenue
402-874-9193 FAX 402-874-9200

November 9, 2010

Nebraska City Middle School
217 S 9th Street
Nebraska City NE 68410

Gregg Goebel
Otoe County Emergency Management Agency
11th Street and Central Avenue
Nebraska City NE 68410

Dear Gregg;

This letter is to confirm that the Nebraska City Middle School will be made available as a Registration Center to support evacuees from Nemaha County should it become necessary during an emergency.

We also understand that other than the facility itself, the school is not obligated to provide any food, drink, or materials for those using the registration center. Those items, along with the personnel to staff the center, will be coordinated for by the County's Emergency Management Director during time of emergency.

Sincerely yours,

Jeffrey E. Edwards Ed. D.
Superintendent

Dr. Jenny Powell
Principal



NEBRASKA CITY PUBLIC SCHOOLS



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Tony Little, Principal
Northside Elementary
1200 14th Avenue
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November 9, 2010

Nebraska City High School
141 Steinhart Park Road
Nebraska City NE 68410

Gregg Goebel
Otoe County Emergency Management Agency
11th Street and Central Avenue
Nebraska City NE 68410

Dear Gregg;

This letter is to confirm that the Nebraska City High School will be made available as a Registration Center to support evacuees from Nemaha County should it become necessary during an emergency.

We also understand that other than the facility itself, the school is not obligated to provide any food, drink, or materials for those using the registration center. Those items, along with the personnel to staff the center, will be coordinated for by the County's Emergency Management Director during time of emergency.

Sincerely yours,

Jeffrey E. Edwards Ed. D.
Superintendent

Brian Hoover
Principal



ALL SCHOOLS ARE MEMBERS OF THE NORTH CENTRAL ASSOCIATION



NEBRASKA CITY PUBLIC SCHOOLS

Dr. Jeffrey Edwards, Superintendent

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Dr. Jenny Powell, Principal
Middle School
909 1st Corso
402-873-5591 FAX 402-873-5641

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David Stickrod
Director of Student Services
402-873-6033

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Tony Little, Principal
Northside Elementary
1200 14th Avenue
402-874-9193 FAX 402-874-9200

November 9, 2010

Hayward Elementary School
306 S 14th Street
Nebraska City NE 68410

Gregg Goebel
Otoe County Emergency Management Agency
11th Street and Central Avenue
Nebraska City NE 68410

Dear Gregg;

This letter is to confirm that the Hayward Elementary School will be made available as a Registration Center to support evacuees from Nemaha County should it become necessary during an emergency.

We also understand that other than the facility itself, the school is not obligated to provide any food, drink, or materials for those using the registration center. Those items, along with the personnel to staff the center, will be coordinated for by the County's Emergency Management Director during time of emergency.

Sincerely yours,

Jeffrey E. Edwards Ed. D.
Superintendent

Scot Davis
Principal



NEBRASKA CITY PUBLIC SCHOOLS

Dr. Jeffrey Edwards, Superintendent

Brian Hoover, Principal
High School
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Middle School
909 1st Corso
402-873-5591 FAX 402-873-5641

David Stickrod
Director of Student Services
402-873-6033

Tony Little, Principal
Northside Elementary
1200 14th Avenue
402-874-9193 FAX 402-874-9200

November 9, 2010

Northside Elementary School
1200 14th Avenue
Nebraska City NE 68410

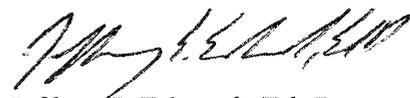
Gregg Goebel
Otoe County Emergency Management Agency
11th Street and Central Avenue
Nebraska City NE 68410

Dear Gregg;

This letter is to confirm that the Northside Elementary School will be made available as a Registration Center to support evacuees from Nemaha County should it become necessary during an emergency.

We also understand that other than the facility itself, the school is not obligated to provide any food, drink, or materials for those using the registration center. Those items, along with the personnel to staff the center, will be coordinated for by the County's Emergency Management Director during time of emergency.

Sincerely yours,


Jeffrey E. Edwards Ed. D.
Superintendent


Tony Little
Principal

AGREEMENT NO 95A-C51

FIRE PROTECTION SUPPORT FOR COOPER NUCLEAR STATION

THIS AGREEMENT is entered into effective the 1st day of October 2005, by and between NEBRASKA PUBLIC POWER DISTRICT, a public corporation and political subdivision of the State of Nebraska with offices at Columbus, Nebraska, hereinafter referred to as the DISTRICT, and the CITY OF NEBRASKA CITY - VOLUNTEER FIRE DEPARTMENT, a municipal organization with offices located at Nebraska City, Nebraska, and organized under the laws of the State of Nebraska hereinafter referred to as the FIRE DEPARTMENT.

ARTICLE I – SCOPE OF SERVICES

The FIRE DEPARTMENT agrees to provide fire protection services to the District Cooper Nuclear Station (CNS); located in Nemaha County, Nebraska, as follows:

- A. The FIRE DEPARTMENT owns and operates fire-fighting equipment and provides fire protective service through volunteer firefighters who make up the FIRE DEPARTMENT. The FIRE DEPARTMENT shall promptly respond to any emergency call for fire fighting services at CNS with a fully equipped fire fighting force of no more than ten (10) firefighters, including one officer and one pump operator, and shall immediately contact the CNS Fire Chief upon arrival at the scene, except under conditions as allowed for in Article IX. The FIRE DEPARTMENT must be in compliance with all federal fire-safety requirements and maintain such status.
- B. The regular members of the volunteer FIRE DEPARTMENT shall make training visits to CNS for the purpose familiarizing firefighters with CNS site conditions and coordinating with the CNS Fire Brigade. FIRE DEPARTMENT members shall be provided the opportunity to participate in (1) CNS fire drill each year.

Note: In the event an actual fire emergency or drill at CNS results in multiple departments arriving to provide fire fighting services, CNS Fire Brigade personnel will coordinate the support functions of all off-site departments.

ARTICLE II - CAPABILITIES

The FIRE DEPARTMENT shall maintain a minimum membership of thirty (30) qualified, competent firefighters to perform the services described herein.

The FIRE DEPARTMENT shall be required to make available to its members and participate in at least one (1) orientation-training trip to CNS during each year.

ARTICLE III - SCHEDULE

The FIRE DEPARTMENT and the DISTRICT shall coordinate the scheduling of FIRE DEPARTMENT personnel training visits to CNS.

ARTICLE IV - COMPENSATION AND TERMS OF PAYMENT

A. Compensation

The DISTRICT agrees to pay the FIRE DEPARTMENT a total fixed sum of \$10,000.00 for the 2005-2006 fiscal year to perform the services described herein. Funding for each fiscal year thereafter shall be determined by mutual agreement between the FIRE DEPARTMENT and the DISTRICT. In addition, the DISTRICT shall compensate the FIRE DEPARTMENT at an hourly rate of \$200.00 for a pumper truck and \$300.00 for an aerial truck when the vehicles are utilized for DISTRICT purposes in excess of twenty four (24) hours per year accumulative including travel time. DISTRICT purposes includes but is not limited to being on site for fire events and stand-bys.

It is expressly understood and agreed that payments made by the DISTRICT to the FIRE DEPARTMENT under this Agreement shall be used solely to pay for the costs of training personnel and providing equipment to assist CNS regarding fire protection support.

B. Invoicing

The FIRE DEPARTMENT shall invoice the DISTRICT at the beginning of each fiscal year in accordance with Article IV paragraph A above. Each invoice shall be submitted in duplicate and shall clearly reference *this* Agreement number and the time period covered.

All invoices shall be sent to:

Accounts Payable
Nebraska Public Power District
P.O. Box 499
1414 15th Street
Columbus, Nebraska 68602-0499

C. Terms of Payment

Invoices received by the DISTRICT in accordance with paragraph B above shall be paid no later than thirty (30) calendar days after receipt.

In the event the DISTRICT takes exception to any invoiced items(s) the DISTRICT may withhold payment of said items(s). In such a case the DISTRICT shall promptly notify the FIRE DEPARTMENT explaining the item(s) questioned, the reason for the exception, and what information or documentation the DISTRICT requires before payment will be made.

ARTICLE V - TERM OF AGREEMENT

The term of the Agreement shall be for an initial (1) year period beginning October 1, 2005, and shall continue thereafter from year to year until terminated by one of the parties or by mutual agreement of the parties. A mutual agreement between both parties for paying the annual cost to provide CNS fire protection support for the following year shall be the basis for the annual extension of the Agreement.

In the event it appears the FIRE DEPARTMENT will be unable to meet and/or support the above schedule or any portion thereof, the FIRE DEPARTMENT shall promptly notify the DISTRICT of such in writing.

ARTICLE VI - DISTRICT APPROVAL AND SUPERVISION

The FIRE DEPARTMENT shall provide to the DISTRICT, on an annual basis, the names of the members of the FIRE DEPARTMENT and their status in the DEPARTMENT'S training program.

ARTICLE VII - TERMINATION

The DISTRICT shall have the right to terminate, with or without cause, all or any portion of the services described herein and to cancel this Agreement forthwith.

The FIRE DEPARTMENT shall have the right, upon 30 days written notice to the DISTRICT, to terminate, with or without cause, all or any portion of the services described herein and to cancel this Agreement forthwith.

ARTICLE VIII - ASSIGNMENTS

The DISTRICT and the FIRE DEPARTMENT each for itself, binds itself, its principals, successors, assigns, and legal representatives of such party with respect to this Agreement.

This Agreement and all obligations arising there under shall not be assigned or transferred by the FIRE DEPARTMENT without the previous written consent of the DISTRICT.

In the event that this Agreement is terminated, for any reason, any remaining portions of the payments made hereunder by the DISTRICT, which are not expended pursuant to the terms of this Agreement, shall be refunded to the DISTRICT within sixty (60) days of such termination.

ARTICLE IX - RESPONSIBILITY

The FIRE DEPARTMENT agrees that it will provide, in connection with the services to be performed hereunder, the standards of care, skill and diligence normally provided by a fire department of a city of the first class.

The FIRE DEPARTMENT will maintain in inventory and make available to the DISTRICT five hundred (500) gallons of AR-AFFF foam. The DISTRICT agrees to compensate the FIRE DEPARTMENT the actual cost for the amount of foam used on site and including transportation charges.

The FIRE DEPARTMENT will maintain and provide an AERIAL LADDER TRUCK with a ladder rated length of at least 100' as a part of its normal response to a request for assistance from the DISTRICT. It is further understood that this AERIAL LADDER TRUCK may be unavailable during times of vehicle maintenance, repair, or while the vehicle is in service. In addition, the FIRE DEPARTMENT'S officer retains the authority to delay response to, or remove and relocate the AERIAL LADDER TRUCK and personnel back to Nebraska City after notifying the DISTRICT'S on site Incident Commander without creating any liability for breach of this agreement by virtue of such delay, removal, and/or relocation.

The DISTRICT hereby releases the FIRE DEPARTMENT from any liability which may result from the fire protection service supplied under this Agreement, which are performed according to the standards of care, skill and diligence normally provided, by a fire department.

The DISTRICT shall be liable to the FIRE DEPARTMENT for personal injuries and/or equipment damages resulting from negligent acts or omissions committed by the DISTRICT, which occur as a result of providing actual fire protection or training at CNS.

The FIRE DEPARTMENT shall save the DISTRICT, and its officers, directors, and employees, harmless from and against all claims, demands, suits, actions, payments and judgments arising from personal injuries or otherwise, resulting from negligent acts or omissions committed by FIRE DEPARTMENT personnel in the execution of the services to be provided under this Agreement.

First and foremost the primary responsibility of the Nebraska City Fire Department is to the jurisdiction of Nebraska City Fire Department. In the case of an incident occurring within the jurisdiction of the Nebraska City Fire Department, before, during or after the FIRE DEPARTMENT is on site at the DISTRICT facilities. The FIRE DEPARTMENT'S officer retains the authority to delay response to, or remove and relocate personnel and equipment back to Nebraska City after notifying the DISTRICT'S on site incident commander without creating any liability for breach of this agreement by virtue of such delay, removal and relocation.

ARTICLE X - SITE REQUIREMENTS

When performing services hereunder on-site at DISTRICT facilities, the FIRE DEPARTMENT shall comply with all security, safety, health physics, and administrative rules, and procedures of the work site.

ARTICLE XI - NOTES

The FIRE DEPARTMENT and the DISTRICT shall each designate a representative authorized to act in its behalf and, when necessary, will designate alternate or additional persons. The following designated representatives shall have full authority to direct all affairs with respect to the performance of services hereunder.

All notices and reports provided for in this Agreement shall be in writing and delivered to the parties at the following address unless changed by written notice:

CITY OF NEBRASKA CITY - VOLUNTEER FIRE DEPT.
1409 Central Avenue
Nebraska City, Nebraska 68410
Attn: Fire Chief: Alan Viox

Nebraska Public Power District Cooper Nuclear Station
P.O. Box 98
Brownville, NE 68321
Attn: Station Fire Marshall: Kent Newcomb

All notices and reports shall only be effective when they are actually delivered.

ARTICLE XII – WAIVERS OF DEFAULT

Waiver by the DISTRICT of any default by the FIRE DEPARTMENT shall not be deemed a waiver of any other default.

ARTICLE XIII – CONTROLLING LAW

This Agreement is deemed to have been effectively entered into in the State of Nebraska and it shall be interpreted and controlled by the laws of said state. The parties agree that any action arising out of or related to the Agreement brought by the FIRE DEPARTMENT in any court against the DISTRICT shall be brought only in the federal or state courts in and for the State of Nebraska.

ARTICLE XIV - ENTIRE AGREEMENT

This Agreement constitutes the entire Agreement between the parties and has been approved by the Mayor and Council of the City of Nebraska City. It supersedes all prior or contemporaneous communications, representation or agreements, whether oral or written, with respect to the subject matter hereof. There have been no inducements by either party other than those herein expressed. No modifications or revisions to this Agreement hereafter made between the parties shall be binding on either party unless reduced to writing and signed by an authorized representative of the party sought to be bound thereby.

The terms and conditions contained in this Agreement shall exclusively govern all dealings between the DISTRICT and FIRE DEPARTMENT with regard to fire protection services. Any additional or different terms contained in any other document or communication shall be of no effect and not binding upon the DISTRICT or the FIRE DEPARTMENT unless reduced to writing and incorporated herein by amendment.

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be executed by their duly authorized officers as of the day and year first above mentioned.

NEBRASKA PUBLIC POWER DISTRICT

NEBRASKA CITY VOLUNTEER FIRE DEPT.

By _____

By _____

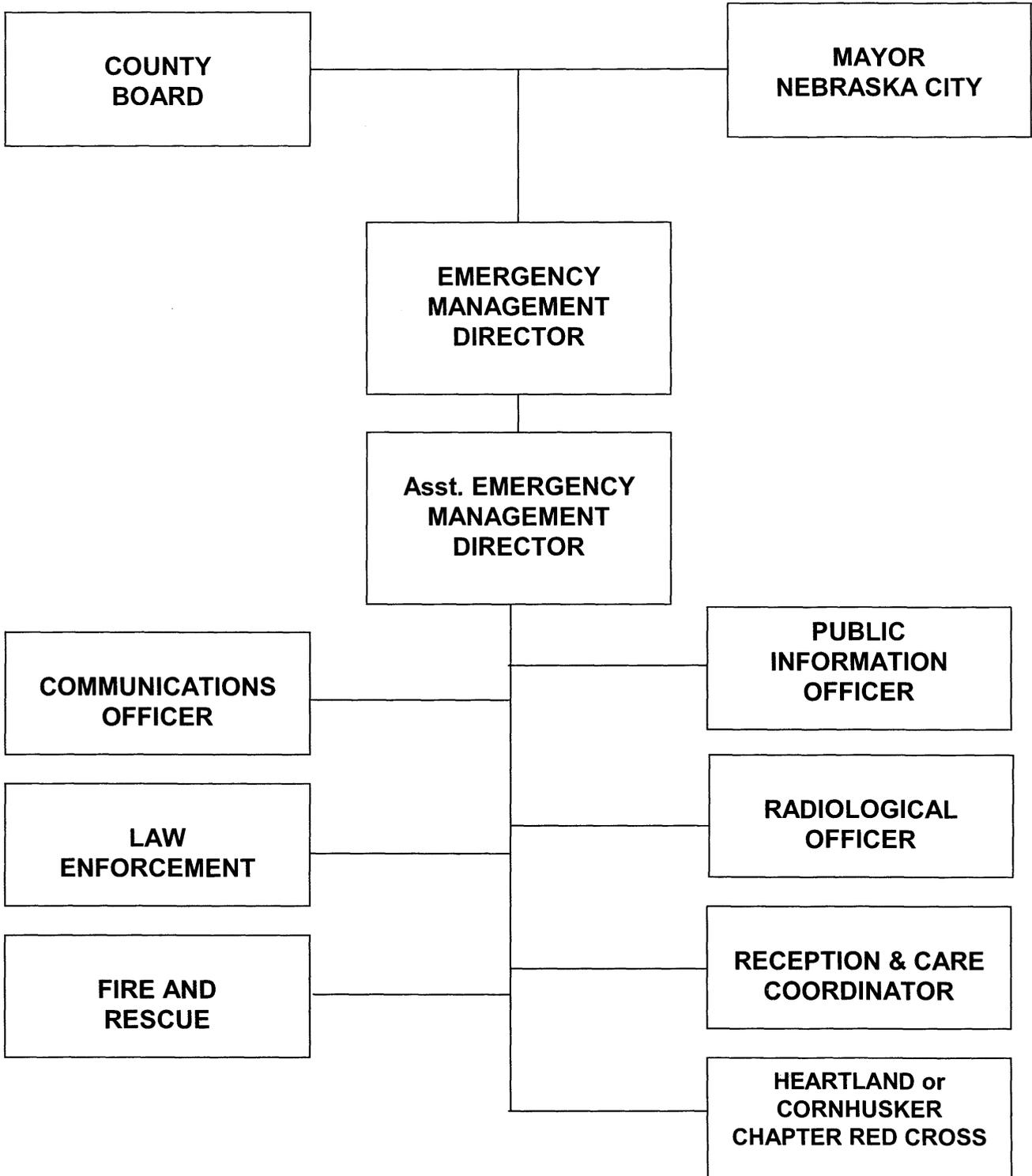
Title _____

Title _____

FID _____

**DIRECTION AND CONTROL
ORGANIZATION CHART**

OTOE COUNTY



DIRECTION AND CONTROL

I. PURPOSE

The purpose of this Annex is to provide guidelines for centralized and coordinated management of emergency response activities.

II. SITUATION

- A. The Otoe County Emergency Operating Center (EOC) is located in the County Courthouse, 1021 Central Avenue, Nebraska City.
- B. The EOC has an emergency power source and the capability for the selective restriction of access to a place or resource.
- C. The Chief Executives of each political subdivision are responsible for issuing a local Declaration of Emergency. The decision to issue a declaration would be based on the current situation and the probability that Nebraska City would receive evacuees.

III. ORGANIZATION/RESPONSIBILITIES

- A. The Direction and Control function is carried out by the Emergency Operating Staff which is comprised of the County Emergency Management Director, EOC Staff members, Executive Heads of government, and Key officials as required. The Executive Heads of government are responsible for their respective village, city, or county emergency operations.
- B. EOC Staff members, as designated in the functional annexes, are appointed or approved by the Chief Executives and are responsible for carrying out emergency operations and advising the Executive Group on matters pertaining to their areas of responsibilities.

IV. CONCEPT OF OPERATIONS

- A. Activation of the EOC for Otoe County:
 - 1. Otoe County Emergency Management or Otoe County Sheriffs officials will be notified at the ALERT and may activate the EOC.
 - 2. The Emergency Management Director will determine the level of staffing required, based on the situation, and alert the appropriate personnel, agencies, and organizations.

3. Once activated, the EOC will operate on a 24-hour basis. Staffing and shift assignments will be determined by the Emergency Management Director to meet situational needs.

B. EOC operations:

1. Security for the EOC is provided by the Otoe County Sheriff's Department and the Nebraska City Police Department, if available, however, access control is the selective restriction of access to a place in the event that law enforcement is tasked elsewhere.
2. The EOC contains updated maps of Otoe County and its cities and villages, status boards required for tracking significant event/actions, and detailed maps of Nebraska City.
3. The Emergency Management Director oversees the management of the EOC activities including message logs and the message/information flow system.

C. Coordination and Control:

1. Emergency operations conducted in Otoe County will be as directed by the Chair of the County Board of Commissioners and/or respective Mayors/Chief Elected Officials and coordinated with the Otoe County Emergency Management Director.
2. Coordination and supervision of all emergency operations will be through the appropriate key EOC staff, or their representatives, in order to provide for the most efficient management of resources.
3. Periodic briefings will be conducted by the Otoe County EOC Staff regarding current status of reception and care operations.

D. Return:

Upon the determination by DHHS, Div. of Public Health, that the environmental conditions in the affected areas are safe for public access, a recommendation to relax protective actions and begin return operations will be made to the Governor's Authorized Representative. Once the determination has been made that evacuees can return home, return activities will be coordinated with the Nemaha County EOC. When Nemaha County Officials have notified Otoe County Officials they are ready to receive evacuees, return will begin.

LIST OF ATTACHMENTS

<u>Attachment #</u>	<u>Item</u>	<u>Page</u>
1	Emergency Response Checklist	A-5
2	Executive Group/EOC Staff/EOC Support Staff	A-7
3	Emergency Contact List	A-8
4	Sub-Area Population Map	A-10
5	50-Mile Ingestion Pathway Map	A-11
6	Emergency Action Levels for Nuclear Power Facilities	A-12

Emergency Management Director

NOTIFICATION OF AN UNUSUAL EVENT: Unusual events are in process or have occurred which indicate a potential degradation of the level of safety of the plant.

Actions Required: Once notified by dispatcher, no further action required. Begin review procedures.

Release Potential: No releases of radioactive material requiring off-site response or monitoring are expected unless further degradation of safety systems occurs.

ALERT: Events are in process or have occurred which involve an actual or potential substantial degradation of the level of safety of the plant.

Actions Required:

- (1) Alert key officials.
- (2) Determine availability of resources which may be needed.
- (3) Alert American Red Cross.
- (4) Review manpower requirements and mutual aid agreements.

Release Potential: Any releases are expected to be limited to small fractions of the EPA Protective Action Guidelines exposure levels.

SITE AREA EMERGENCY: Events are in process or have occurred which involve actual or likely major failures of plant functions needed for protection of the public.

Actions Required:

- (1) Activate EOC.
- (2) Establish and maintain liaison with State EOC and Nemaha County.
- (3) Determine approximately how many residents and transients are affected within the plume exposure zone (EPZ) which may be directed to evacuate to Nebraska City.
- (4) Alert registration, decontamination, and congregate care facilities.
- (5) Verify with Sheriff probable traffic control points, obtain status of evacuation routes.
- (6) Alert public works personnel of the priority for road maintenance effort to evacuation routes.
- (7) Review with the Executive Group PAR recommendations, manpower/equipment requirements for implementing mutual aid, and criteria for issuing Emergency Declaration.

Release Potential: Any releases are not expected to exceed EPA Protective Action Guideline exposure levels.

Emergency Management Director

GENERAL EMERGENCY: Events are in process or have occurred which involve actual or imminent substantial core degradation or melting with potential for loss of containment integrity.

Actions Required: (1) Coordinate emergency transportation for evacuees, as required.
(2) Monitor support operations and advise services of situation.
(3) Coordinate with Nemaha County.
(4) Provide reports of traffic movement and operational status to State EOC and Nemaha County EOC.

Release Potential: Releases can be reasonably expected to exceed EPA Protective Action Guideline exposure levels for more than the immediate site area.

POST EMERGENCY PHASE: Events that begin immediately after evacuation procedures have been implemented. Consists of Relocation, Reentry, and Return.

Actions Required: (1) Determine resource requirements to support re-entry recovery activities.
(2) Alert public works personnel of need for priority of road maintenance efforts to support return of evacuees.
(3) Confirm with Nemaha County EOC that the affected area is safe for public access and the evacuees should begin reentry.
(4) Prepare reports and deliver to EOC.

OTOE COUNTY

EXECUTIVE GROUP/EOC STAFF/EOC SUPPORT STAFF

POSITION

MAYOR – NEBRASKA CITY

CHAIR – OTOE COUNTY COMMISSIONERS

OTOE COUNTY EMERGENCY MANAGEMENT DIRECTOR

Asst. OTOE COUNTY EMERGENCY MANAGEMENT DIRECTOR

SHERIFF

NEBRASKA CITY POLICE CHIEF

NEBRASKA CITY FIRE CHIEF

NEBRASKA CITY RESCUE CHIEF

RADIOLOGICAL OFFICER

RECEPTION & CARE COORDINATOR

AMERICAN RED CROSS REPRESENTATIVE

EMERGENCY CONTACT LIST

LOCAL GOVERNMENTS

BUSINESS PHONE

OTOE COUNTY

EOC/ Emergency Management	873-9588
Sheriff	873-9560
Chief Deputy	873-9598
Board of Commissioners (switch board number)	873-9500

NEMAHA COUNTY

EOC/Emergency Management	274-2552
Sheriff	274-3139
Board of Commissioners	274-4060

RICHARDSON COUNTY

EOC/Emergency Management	245-5130
Sheriff	245-2479
Board of Commissioners	245-2911

STATE AGENCIES

BUSINESS PHONE

NEBRASKA EMERGENCY MANAGEMENT AGENCY

Duty Officer/Emergency	471-7421
Assistant Director	471-7410
Operations Officer	471-7414
REP Planners	471-7213/7420/7408

DHHS, DIV OF PUBLIC HEALTH

24-Hour	471-7421
ER Manager	471-2168
Alternate	471-4545

ENVIRONMENTAL QUALITY, Department of

Water and Oil Spills	471-2186
Air Pollution Control	471-2186
Water and Waste Management	471-2186
Director	471-2186

NEBRASKA STATE PATROL (Lincoln)
Communications

471-4545

DHHS
Director

471-3121

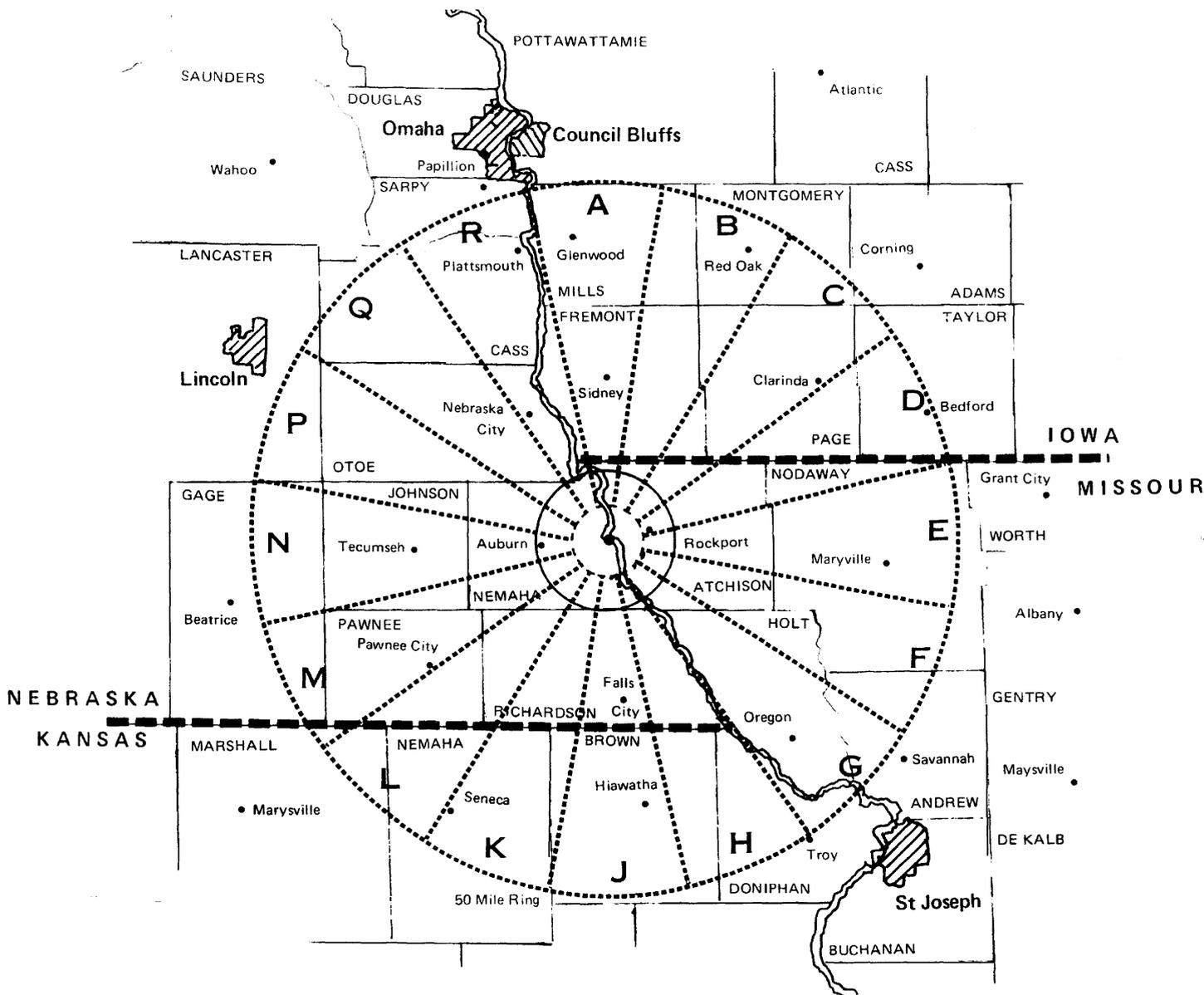
EMERGENCY CONTACT LIST

NON-GOVERNMENTAL AGENCIES

BUSINESS PHONE

AMERICAN RED CROSS Lancaster County 24-Hour Douglas County 24-Hour	441-7038 800-987-4272
SALVATION ARMY – OMAHA Commanding Office Field Representative	474-6263 898-5942
ADVENTIST DISASTER RESPONSE Disaster Consultant	489-6047
AMERICAN BAPTIST MEN DISASTER RELIEF Nebraska Disaster Relief Coordinator	308-236-9732
INTERCHURCH MINISTRIES OF NEBRASKA Executive	476-3391
MENNONITE DISASTER SERVICE Coordinator	761-2453
OMAHA AMBULANCE COMPANY – OMAHA 24-Hour	345-6666
NEBRASKA PUBLIC POWER DISTRICT – COLUMBUS NPPD Corporate Office	563-5392

50-Mile Ingestion Pathway Zone – Cooper Nuclear Station



EMERGENCY ACTION LEVELS FOR NUCLEAR POWER FACILITIES

Four classes of Emergency Action Levels are established in NUREG 0654, Appendix 1, November, 1980, each with associated General Response actions. The classes are:

NOTIFICATION OF UNUSUAL EVENT

ALERT

SITE AREA EMERGENCY

GENERAL EMERGENCY

The rationale for the NOTIFICATION and ALERT classes is to provide early and prompt notification of minor events which could lead to more serious consequences given operator error or equipment failure or which might be indicative of more serious conditions which are not yet fully realized. A gradation is provided to assure fuller response preparation for more serious indicators. The SITE AREA EMERGENCY class reflects conditions where some significant releases are likely or are occurring but where a core melt situation is not indicated based on current information. In this situation, full mobilization of emergency personnel in the near site environs is indicated as well as dispatch of monitoring teams and associated communications. The GENERAL EMERGENCY class involves actual or imminent substantial core degradation or melting with the potential for loss of containment.

Descriptions of each class and response actions are contained in the following pages of Attachment 6.

NOTIFICATION OF UNUSUAL EVENT

Classification Description

Events are in progress or have occurred which indicate a potential degradation of the level of safety of the station or indicate a security threat to facility protection has been initiated. No releases of radioactive material requiring off-site response or monitoring are expected unless further degradation of safety systems occurs.

Purpose

The purpose of off-site notification is to:

1. Assure that the first step in any response later found to be necessary has been carried out.
2. Bring the operating staff to a state of readiness.
3. Provide systematic handling of UNUSUAL EVENTS information decision-making.

Nuclear Power Station Actions

The nuclear power station has the responsibility of classifying the event based on their Emergency Action Levels (EALs).

State and/or Local Off-site Authority Actions

1. Provide fire or security assistance, if requested.
2. Consider modified increased readiness measures for State EOC.
3. Escalate to a more severe class, or
4. Continue to monitor until verbal close-out of present event.

ALERT

Classification Description

Events are in progress or have occurred which involve an actual or potential substantial degradation of the level of safety of the station or a security event that involves probable life-threatening risk to site personnel or damage to site equipment because of intentional malicious dedicated efforts of HOSTILE ACTION. Any releases are expected to be limited to small fractions of the EPA Protective Action Guideline exposure levels.

Purpose

The purpose of off-site alert is to:

4. Assure that emergency response personnel are readily available to respond if the situation becomes more serious or to perform confirmatory radiation monitoring, if required.
5. Provide off-site authorities current status information.

Nuclear Power Station Actions

The nuclear power station has the responsibility of classifying the event based on their Emergency Action Levels (EALs).

State and/or Local Off-site Authority Actions

5. Provide fire or security assistance, if requested.
6. Augment resources and bring primary response centers to standby status.
7. If necessary, Governor proclaims Disaster Emergency condition. The Governor's Authorized Representative (GAR) may dispatch key emergency response personnel, including radiological monitoring teams with associated equipment and communications to the Power Station EOF. State agencies and local government will be alerted to assume standby status.
8. Prepare to provide confirmatory off-site radiation monitoring and ingestion pathway dose projections if actual releases substantially exceed technical specification limits.
9. Escalate to a more severe classification level, if applicable, or
10. Maintain ALERT status until verbal close out or reduction of emergency class.

SITE AREA EMERGENCY

Classification Description

Events are in progress or have occurred which involve actual or likely major failures of station functions needed for the protection of the public or security events that result in intentional damage because of intentional malicious dedicated efforts of HOSTILE ACTION:

1. Toward site personnel or equipment that could lead to the likely failure of, or
2. Prevents effective access to equipment needed for the protection of the public.

Any releases are not expected to exceed EPA Protective Action Guideline exposure levels except near the site boundary.

Purpose

The purpose of the SITE AREA EMERGENCY is to:

6. Assure that emergency response centers are manned.
7. Assure that radiological monitoring teams are dispatched.
8. Assure that personnel required for evacuation of near-site areas are at duty stations if the situation becomes more serious.
9. Provide consultation with off-site authorities, and
10. Provide updates for the public through off-site authorities.

Nuclear Power Station Actions

The nuclear power station has the responsibility of classifying the event based on their Emergency Action Levels (EALs).

State and/or Local Off-site Authority Actions

11. Provide requested assistance following established support procedures.
12. If the protective action of "in-house shelter" near the site is desirable, activate public notification system within at least two miles of the nuclear power station.
13. Activate the State EOC. The Governor proclaims Disaster Emergency condition. Dispatch key emergency radiological response personnel to station EOF.
14. Augment resources by activating local government EOCs and other required local emergency response services.

15. Activate public notification of emergency status and provide periodic update.
16. Notify FEMA.
17. Provide off-site radiological monitoring results to nuclear power stations and others and jointly assess the situation. (State)
18. Continuously assess information from nuclear power station and off-site monitoring with regard to the need for changes to the protective actions already initiated and for mobilizing evacuation resources. (State)
19. Recommend placing milk animals within 10 miles of the nuclear power station on stored feed and covered water.
20. Establish a Joint Information Center (JIC) and provide periodic press briefings or news releases. (State)
21. Maintain the SITE AREA EMERGENCY status until closeout or reduction of emergency classification level, or
22. Escalate to a GENERAL EMERGENCY classification.

NOTE: For emergency operations in response to incidents at the Cooper and Fort Calhoun Nuclear Power Station's public notification systems will always be activated at the declaration of a SITE AREA EMERGENCY even if no protective actions are required.

GENERAL EMERGENCY

Classification Description

Events are in progress or have occurred which involve actual or imminent substantial core degradation or melting with potential for loss of containment integrity or security events that result in an actual loss of physical control of the facility. Release of radioactive material can be reasonably expected to exceed EPA Protective Action Guideline exposure levels off-site for more than the immediate site area.

Purpose

The purpose of the GENERAL EMERGENCY is to:

11. Initiate predetermined protective actions for the public.
12. Provide continuous assessment of information from the nuclear power station and off-site organization measurements.
13. Initiate additional measures as indicated by actual or potential releases.
14. Provide consultation with off-site authorities, and
15. Provide updates for the public through off-site authorities.

Nuclear Power Station Actions

The nuclear power station has the responsibility of classifying the event based on their Emergency Action Levels (EALs).

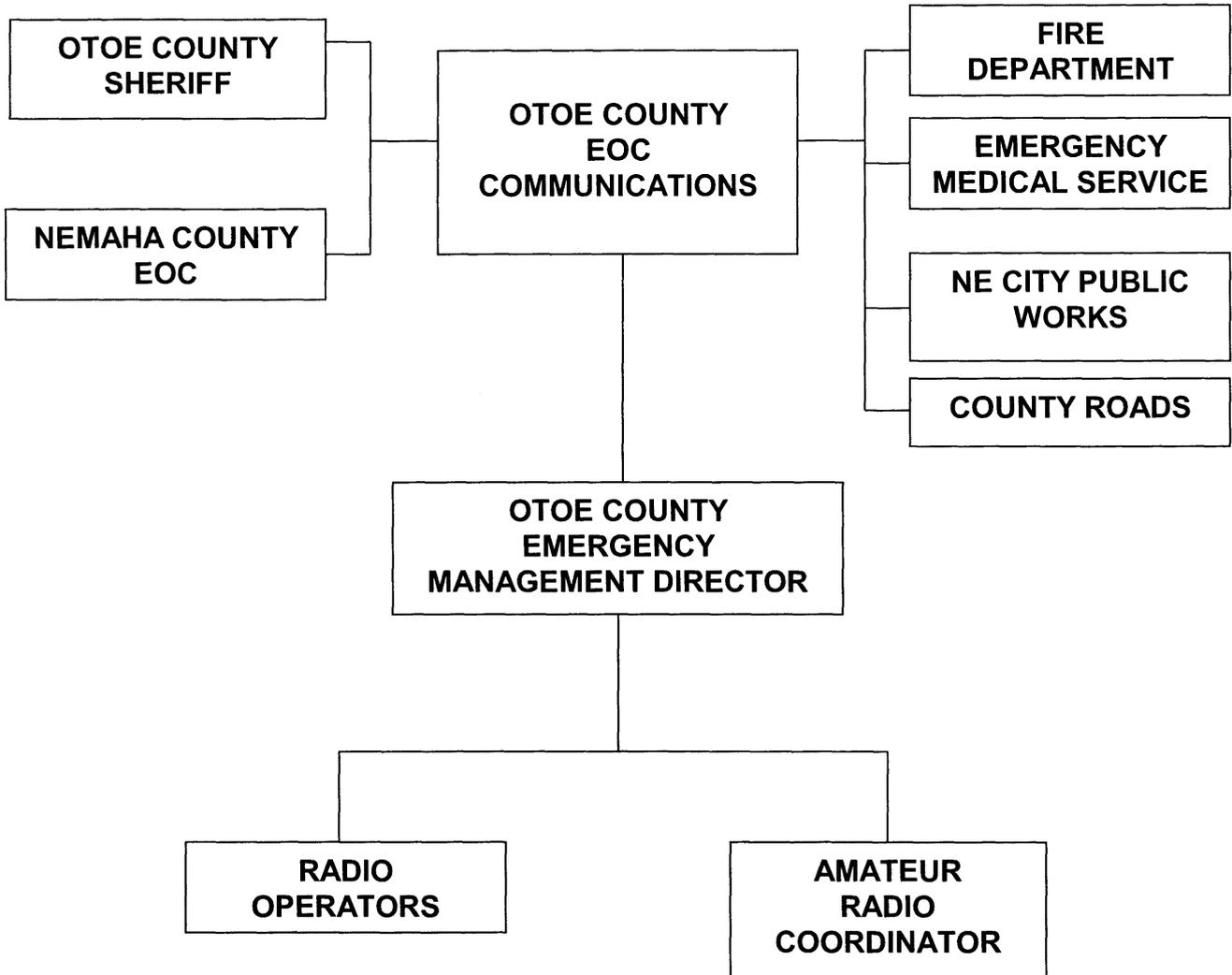
State and/or Local Off-site Authority Actions

23. Provide requested assistance following established support procedures.
24. Activate the State EOC. The Governor proclaims Disaster Emergency condition. Dispatch key emergency radiological response personnel to Station EOF.
25. Augment resources by activating local government EOCs and other required local emergency response services.
26. Recommend or direct evacuation or shelter of at least a 2-mile radius.
27. Provide off-site monitoring results to nuclear power station and others and jointly assess the situation. (State)
28. Notify FEMA.

29. Continuously assess information from nuclear power station and off-site monitoring with regard to the need for changes to the protective actions already initiated and for mobilizing evacuation resources. (State)
30. Assess the need to extend the evacuation/shelter distance, as needed. (State)
31. Establish a Joint Information Center (JIC) and provide periodic press briefings or news releases. (State)
32. Maintain GENERAL EMERGENCY status until closeout or reduction of emergency classification level, or reduction of emergency class.

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**COMMUNICATION AND WARNING
ORGANIZATION CHART**



COMMUNICATIONS AND WARNING

I. PURPOSE

This Annex provides information and guidance concerning available communications systems within Otoe County.

II. SITUATION

- A. The emergency communications and warning system is located in the Otoe County Law Enforcement Communications Center, Nebraska City. It is staffed on a 24-hour basis by dispatch personnel assigned to the Otoe County Communications Center.
- B. Otoe County Law Enforcement Communications Center, Nebraska City, is the NAWAS warning point.

III. ORGANIZATION/RESPONSIBILITIES

- A. The Otoe County Communications Coordinator, dispatcher, emergency manager or assigned individual, is responsible for the communications and warning function and supervises all activities within the communications center.
- B. Specific responsibilities and tasks are contained in the Communications Officer Action Guide (Attachment 1). Some general areas of responsibility are:
 - 1. EOC Communications Officer: responsible for maintaining communications within the Otoe County EOC and for processing reports and information directed to the State EOC.
 - 2. Radio Operators: responsible for handling radio traffic, maintaining communications logs, and handling messages expeditiously.
 - 3. Amateur Coordinator: Coordinates and solicits support of amateur operators and equipment to establish radio nets to provide expanded communications during emergencies.

IV. CONCEPT OF OPERATIONS

- A. Otoe County will receive initial notification of an incident/emergency at Cooper Nuclear Station by:
 - 1. Nebraska State Patrol,

2. State EOC,
 3. Nemaha County Sheriff's Department,
 4. Nebraska City/Otoe County NAWAS warning point,
 5. Cooper Nuclear Station.
- B. The Sheriff's Dispatcher will notify the Otoe County Emergency Management Director and appropriate city/county officials.
- C. The Emergency Management Director will notify key EOC Staff and officials, as appropriate.
- D. Initial and update information may be received via telephone or 2-way radio. Forms are provided (Attachments 3) which may be duplicated to assist in recording this information. These are standard forms developed for state and local governments, therefore, all items listed may not be applicable to Otoe County.
- E. Communication requirements for Nebraska City/Otoe County emergency operations are as follows:
1. Otoe County EOC will have communications with:
 - a. Auburn and Nemaha County
 - b. Falls City and Richardson County
 - c. State EOC
 - d. Law Enforcement
 - e. Reception Center
 - i. Registration Area
 - ii. Decontamination Area
 2. Primary communications will be by direct line through public service telephone.
 3. Secondary communications (back-up) will be by two-way radio.
 4. Communications between Otoe, Nemaha, and Richardson Counties may also utilize an established pager system.

5. Nebraska City/Otoe County Communications Resources are summarized in Attachment 4 of this Annex.

V. ADMINISTRATION AND LOGISTICS

A. Staffing

The Otoe County Communications Supervisor is responsible for all staffing relating to maintaining 24-hour communications.

B. Training

The Otoe County Emergency Management Director is responsible for ensuring that personnel assigned to the EOC are adequately trained to use the equipment and understand the operating procedures of the EOC.

C. Plan Maintenance

The Communications Officer will be responsible for assisting the Emergency Management Director in the maintenance and improvement of this Annex. The Annex will be reviewed, updated, and modified as necessary, but not less than annually. Periodic testing of the communication system will vary. Local governments within the EPZ will test monthly, local emergency operating centers will be done annually.

LIST OF ATTACHMENTS

<u>Attachment #</u>	<u>Item</u>	<u>Page</u>
1	Communications Officer Action Guide	B-5
2	Information Flow/Notification Channels	B-7
3	Radiological Incident Reporting	B-9
4	Otoe County Communications	B-11
5	Sheriff's Department Action Guide	B-12

Communications Officer

NOTIFICATION OF AN UNUSUAL EVENT: Unusual events are in process or have occurred which indicate a potential degradation of the level of safety of the plant.

Actions Required: No action required.

Release Potential: No releases of radioactive material requiring off-site response or monitoring are expected unless further degradation of safety systems occurs.

ALERT: Events are in process or have occurred which involve an actual or potential substantial degradation of the level of safety of the plant.

Actions Required:

- (1) Review and update emergency staff assignments.
- (2) Determine availability of resources which may be needed.
- (3) Establish communications with State EOC, Nemaha County EOC, and Richardson County EOC.
- (4) Perform radio checks on all communications equipment.

Release Potential: Any releases are expected to be limited to small fractions of the EPA Protective Action Guidelines exposure levels.

SITE AREA EMERGENCY: Events are in process or have occurred which involve actual or likely major failures of plant functions needed for protection of the public.

Actions Required:

- (1) Alert communications staff and volunteer organizations.
- (2) Coordinate emergency installation of communications equipment (additional telephones, radios, etc.) as required.
- (3) Implement message handling system and instruct staff on contents and use.
- (4) Coordinate with Reception & Care Coordinator for communications requirements in congregate care facilities anticipated for use in the event of an evacuation of the plume EPZ.
- (5) Provide for maintenance of detailed logs of all communication traffic.

Release Potential: Any releases are not expected to exceed EPA Protective Action Guideline exposure levels.

Communications Officer

GENERAL EMERGENCY: Events are in process or have occurred which involve actual or imminent substantial core degradation or melting with potential for loss of containment integrity.

Actions Required:

- (1) Fully staff EOC Communications Center.
- (2) Re-evaluate communications requirements and assign communications staff as required.
- (3) Maintain communications with State EOC, Nemaha County EOC, and Richardson County EOC.
- (4) Support traffic control communications as needed.

Release Potential: Releases can be reasonably expected to exceed EPA Protective Action Guideline exposure levels for more than the immediate site area.

POST EMERGENCY PHASE: Events that begin immediately after evacuation procedures have been implemented. Consists of Relocation, Reentry, and Return.

Actions Required:

- (1) Re-evaluate communications requirements and assign communications staff as required.
- (2) Maintain communications with State EOC, Nemaha County EOC, and Richardson County EOC.
- (3) Support traffic control communications as needed.
- (4) Collect all communications logs and copies of messages and deliver to Emergency Management Director.
- (5) Maintain operation of EOC Communications Center until directed to terminate by Emergency Management Director.

Information Flow for Radiological Response - Narrative

Once the County EOCs, the State EOC, and the Forward Command Post (FCP) have become operational (no later than SITE AREA), the information flow will be as follows:

The primary notification method of the plant status by Cooper Nuclear Station will be via the dedicated (COP) phone. This is a direct phone line to the Law Enforcement Building in Auburn, the Nemaha County EOC, the SEOC, and the State Patrol. The information provided is documented on the Nuclear Plant Emergency Notification Form (NPENF), Attachment 5. The Protective Actions are only *recommendations* by Cooper Nuclear Station, and counties should not implement actions based solely on these recommendations.

Immediately after completing the dedicated (COP) phone conversation, Cooper Nuclear Station personnel will fax the notification form to Otoe and Richardson Counties. The SEOC will back up all notification form faxes to Otoe and Richardson Counties with a phone call confirming receipt.

Once the notification form is received, each jurisdiction will begin planning in accordance with their REP Plan. By utilizing the information contained on the notification form and applying it to their REP Plan, the following information is available to the potential host counties: (a) the sectors--areas--of evacuation; (b) the evacuation routes to be used; (c) the number of evacuees to expect; (d) when an evacuation is imminent.

Based on the above information, the potential host county can begin preparation for receiving evacuees.

Exceptions to the REP Plan, or the inability to execute the plan by any of the counties must be conveyed to the SEOC immediately. The SEOC will disseminate this information as appropriate.

Emergency Public Information (EPI) messages (other than the Initial EAS message) are released from the SEOC. Once an EPI message is released, a copy will be faxed to the counties and the JIC. The SEOC will back up these EPI messages with phone calls to the counties involved.

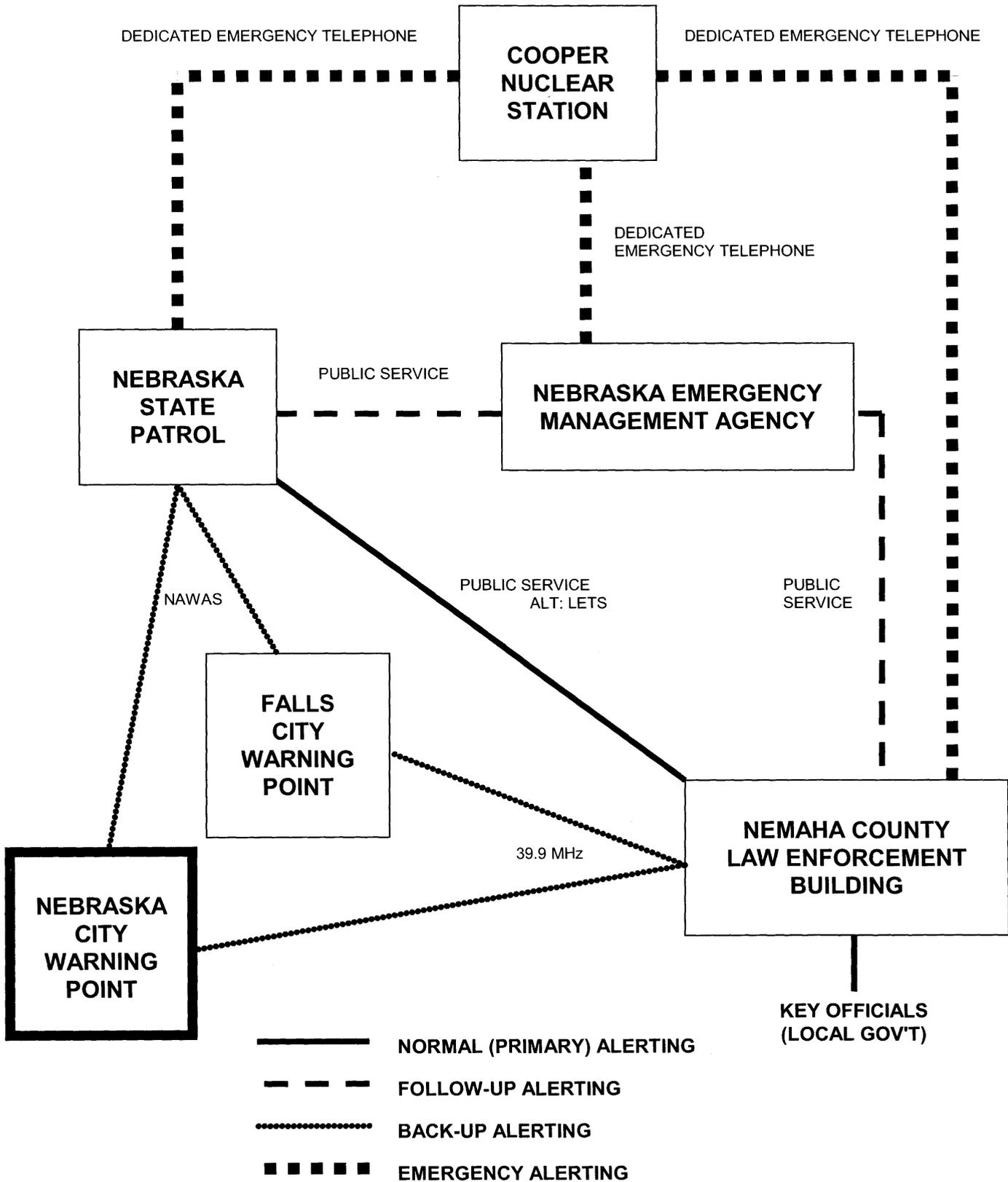
Once an EPI message is received by a host county stating an evacuation has commenced, actions to receive evacuees should begin.

The SEOC will coordinate with the Nemaha County EOC on the content of the Protective Action Recommendations contained in the EPI messages. This coordination will normally be over the telephone.

Press releases are coordinated by the JIC with the FCP. Copies of these releases will be faxed by the JIC to the SEOC. The SEOC then faxes these releases to the EOF and counties.

The decision for Emergency Workers to take Potassium Iodide (KI) will be made by the ER Manager, DHHS, DIV of Public Health. The Emergency Management Director responsible for issuing the KI will be informed of this decision via fax, normally from the FCP. This decision can be confirmed by telephone with the SEOC.

LOCAL GOVERNMENT NOTIFICATION CHANNELS



RADIOLOGICAL INCIDENT REPORTING

SUBJECT

INITIAL REPORT TO OFF-SITE GOVERNMENT AGENCIES

UPDATE REPORT TO OFF-SITE GOVERNMENT AGENCIES

This form will be used by the Communications Center for recording appropriate data received from either the nuclear facility, Nebraska State Patrol, Nebraska Emergency Management Agency, or other state officials.

<input type="checkbox"/> Emergency		<input type="checkbox"/> This is a Drill		
Notification Report Number: _____		Time of Transmittal: _____		
<input type="checkbox"/> Initial Report (Complete Sections 1-7 only)		<input type="checkbox"/> Follow-Up Report		
1) Name of CNS Communicator: _____		Call Back Number: 402-825-_____		
2) Classification: <input type="checkbox"/> NOUE; <input type="checkbox"/> Alert; <input type="checkbox"/> Site Area; <input type="checkbox"/> General		EAL Number: _____		
Event Declared (Date/Time): _____		Event Terminated (Date/Time): _____		
3) Meteorological Conditions	Wind Speed: _____ MPH	Wind From: _____ Degrees	Precipitation: <input type="checkbox"/> YES; <input type="checkbox"/> NO	
Stability Class: <input type="checkbox"/> A; <input type="checkbox"/> B; <input type="checkbox"/> C; <input type="checkbox"/> D; <input type="checkbox"/> E; <input type="checkbox"/> F; <input type="checkbox"/> G				
4) NOUE Airborne Release Values: There <input type="checkbox"/> is <input type="checkbox"/> no Release of Radioactive Material Greater than NOUE Limits. ERP = 2.24E5 μ Ci/sec TG Building = 9.02E4 μ Ci/sec <input type="checkbox"/> was <input type="checkbox"/> an airborne RX Building = 8.48E4 μ Ci/sec ARW Building = 9.08E4 μ Ci/sec <input type="checkbox"/> will be <input type="checkbox"/> a liquid				
5) Protective Action Recommendations (PARS): General Emergency Automatic PAR - Evacuate 2 mile radius/5 mile downwind, go indoors, and monitor EAS remainder 10 mile EPZ.				
	None	<input type="checkbox"/> Evacuate Sectors <input type="checkbox"/> Shelter Sectors	Go indoors and monitor EAS in Sectors	
0-2 Miles				
2-5 Miles				
5-10 Miles				
6) Prognosis: <input type="checkbox"/> Stable; <input type="checkbox"/> Unstable		Plant Status: <input type="checkbox"/> at Power; <input type="checkbox"/> Shutdown		
7) Remarks: _____ _____				
8) Release Information (required on follow-up notification with airborne release > NOUE limits):				
Release From: <input type="checkbox"/> ERP; <input type="checkbox"/> Reactor Building; <input type="checkbox"/> Turbine Building; <input type="checkbox"/> Aug Radwaste Building; <input type="checkbox"/> Other: _____				
Release Height: <input type="checkbox"/> 100 M (ERP); <input type="checkbox"/> 10 M (RB, TB, ARWB); <input type="checkbox"/> Other: _____ ft			Release Rate (μ Ci/sec)	
Estimated Duration: _____ (Hours)		Noble Gas: _____ μ Ci/sec		
Start Time: _____		Iodides: _____ N/A		
Stop Time: _____		Particulate: _____ N/A		
Distance From Plant	Projected Integrated Dose (Rem)		Projected Dose Rate (Rem/hr)	
	TEDE	CDE (Thyroid)	TEDE	CDE (Thyroid)
Site Boundary				
2 Miles				
5 Miles				
10 Miles				
Emergency Director Signature: _____		Date: _____	Time: _____	

Communication Links for Radiological Response

Facility	Primary	Secondary	Tertiary
Nemaha County EOC	Telephone/Fax	38.80 MHz	
State EOC	Telephone/Fax	SRS NEMA1	Ham
Nebraska State Patrol	Telephone/Fax	H ROC CALL	42.46 MHz
Cooper Nuclear Station	Telephone/Fax	38.80 MHz	Ham
Otoe County EOC	Telephone/Fax	453.05 MHz	
Richardson County EOC	Telephone/Fax	38.80 MHz	
Joint Information Center (JIC)	Telephone/Fax		
Nemaha County School Buses	47.540 MHz		
Nemaha County Ambulance	39.820 MHz		
Auburn Fire & Rescue	39.820 MHz		
Field Monitoring Teams	453.725 MHz		
Nemaha Co. Roads Dept.	159.895 MHz (R) 159.880 MHz (T)		

Communications Capabilities of Otoe County EOC

Site	Frequency
------	-----------

State Radio (SRS) Talk Groups*

NSP Lincoln Dispatch	H ROC CALL
Coordination as directed by Dispatch	H ROC 1 H ROC 2 H ROC 3 H ROC 4
Nebraska Emergency Mangement Agency	NEMA1

VHF*

Iowa Sheriff	155.19 MHz
National Weather Service (Lincoln)	162.475 MHz
National Weather Service (Des Moines, IA)	167.550 MHz
Nebraska City Airport (CTAF/ UNICOM)	122.7 MHz

UHF*

Otoe County EMA Repeater (203.5 CTCSS)	453.050 MHz (T) 458.050 MHz (R)
--	------------------------------------

800Mhz

	<u>RX</u>	<u>Tone</u>	<u>TX</u>	<u>Tone</u>
Lincoln Area	853.3500 N	CSQ	808.3500 N	141.3
Cooper Station Area	852.1125 N	CSQ	807.1125 N	141.3
STAC801**	853.2500 N	CSQ	808.2500 N	141.3
STAC802**	853.3500 N	CSQ	808.3500 N	141.3

**Mobile repeaters located in the MOC and MOT

*In addition to the frequencies listed, amateur (ham) radio equipment and volunteers are available to enhance communication capabilities.

SHERIFF'S DEPARTMENT ACTIONS FOR A NUCLEAR INCIDENT AT COOPER NUCLEAR STATION

NOTIFICATION OF UNUSUAL EVENT (NOUE): An abnormal plant condition as occurred. No off-site release of radiation has occurred or is anticipated.

Action: Notify the Emergency Management Director and the Sheriff.

ALERT: Events are in process or have occurred which involve an actual or potential degradation of the safety level of the plant.

Action: Notify the Emergency Management Director and the Sheriff.

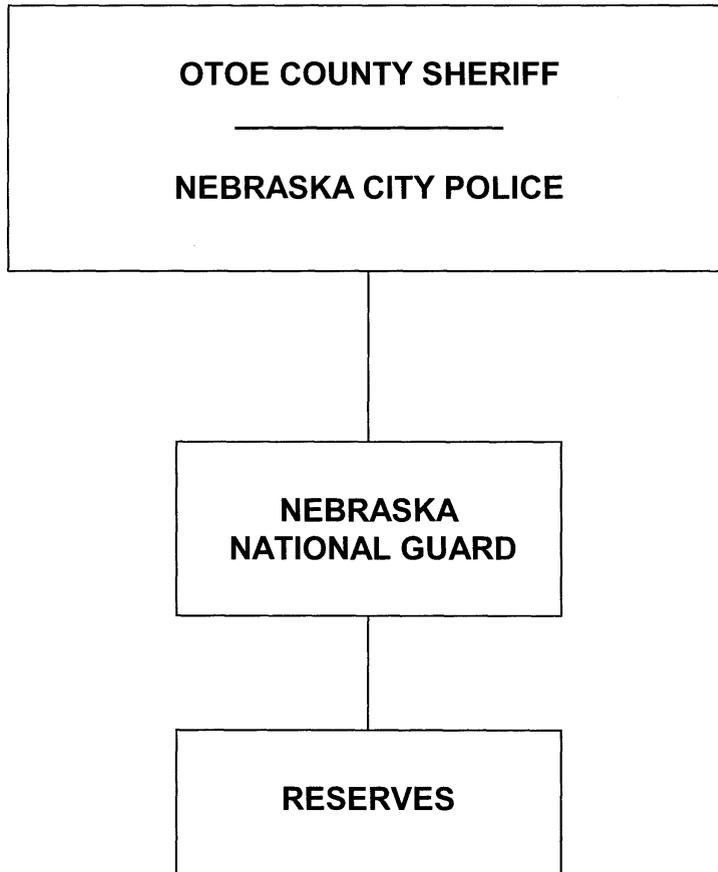
SITE AREA EMERGENCY: Events are in process or have occurred which involve actual or likely major failures or plant functions needed for protection of the public.

Action: Notify the Emergency Management Director and the Sheriff.

GENERAL EMERGENCY: Actual or imminent core degradation or melting with the potential for loss of containment. This implies the threat of serious radiological consequences for public health and safety.

Action: Notify the Emergency Management Director and the Sheriff.

**LAW ENFORCEMENT
ORGANIZATION CHART**



TASKS

GENERAL LAW ENFORCEMENT

TRAFFIC CONTROL

SECURITY

LAW ENFORCEMENT

I. PURPOSE

This Annex provides information and guidance concerning law enforcement responsibilities within Otoe County during an incident/emergency at the Cooper Nuclear Station.

II. SITUATION

- A. The Otoe County Sheriff and Nebraska City Police Chief are members of the EOC Staff and will coordinate law enforcement activities. Local police departments will retain responsibility for law enforcement within their respective jurisdictions.
- B. The Nebraska National Guard may provide support to law enforcement subsequent to a Governor's Proclamation and authorization from the Adjutant General.

III. ORGANIZATION/RESPONSIBILITIES

Specific responsibilities and tasks are contained in the Action Guide (Attachment 1). Some general responsibilities are:

- A. Jointly coordinate planning and operations of law enforcement services in response to an evacuation of all or parts of the plume EPZ and the reception of evacuees.
 - 1. Coordinate the assignment of security personnel to reception and care facilities,
 - 2. Coordinate evacuation routes, and, if impediments exist, designate alternates within the county; and,
 - 3. Coordinate traffic control points.
- B. Coordinate augmentation and support from the Nebraska State Patrol and/or the Nebraska National Guard.

IV. CONCEPT OF OPERATIONS

A. Traffic Control

- 1. Law Enforcement agencies have the primary responsibility of providing traffic control in the event of an evacuation in Nemaha County of the plume EPZ which directs evacuees to Otoe County. The primary route within Otoe

County is: North on Highway 75 past the Highway 2 bypass into Nebraska City, turn East on 2nd Corso to the Nebraska City Middle School. (See Attachment 2 this Annex.)

2. Traffic control points will be established on the evacuation route by law enforcement units. (See Attachments 2)
3. Primary evacuation routes are confined to hard surface highways to provide easy accessibility and minimize the possible effects of inclement weather on evacuation operations.
4. Directives banning parking on emergency routes will be issued at the discretion of Law Enforcement Officials or at the direction of the Executive Group.

B. Security:

1. Individual jurisdictions will maintain regular security protection. Law enforcement personnel will establish and enforce policies for movement in restricted areas.
2. On activation of the EOC, a security guard will be posted at the entrance to prohibit unauthorized persons from entering.

LIST OF ATTACHMENTS

<u>Attachment #</u>	<u>Item</u>	<u>Page</u>
1	Otoe County Sherrifs office Action Guide	C-4
2	Major Evacuation Routes	C-6
3	Law Enforcement Resources	C-8

Otoe County Sherriff's office

NOTIFICATION OF AN UNUSUAL EVENT: Unusual events are in process or have occurred which indicate a potential degradation of the level of safety of the plant.

Actions Required: Once notified by dispatcher, no further action required.

Release Potential: No releases of radioactive material requiring off-site response or monitoring are expected unless further degradation of safety systems occurs.

ALERT: Events are in process or have occurred which involve an actual or potential substantial degradation of the level of safety of the plant.

Actions Required: (1) Determine availability of resources which may be needed.
(2) Alert personnel to be on a stand-by status.
(3) Coordinate communications requirements with EOC Communications Officer.
(4) Identify potential traffic and security problems and determine law enforcement requirements.

Release Potential: Any releases are expected to be limited to small fractions of the EPA Protective Action Guidelines exposure levels.

SITE AREA EMERGENCY: Events are in process or have occurred which involve actual or likely major failures of plant functions needed for protection of the public.

Actions Required: (1) Review evacuation routes and traffic control points and coordinate routing with Nemaha County EOC.
(2) Coordinate traffic control and roadblock material/equipment requirements with Public Works and Roads Departments.
(3) Inform PIO of evacuation routes to be used.
(4) Maintain status record of manpower, vehicles, and equipment.
(5) Provide reports of operational status to Executive Group.

Release Potential: Any releases are not expected to exceed EPA Protective Action Guideline exposure levels.

Otoe County Sherriff's office

GENERAL EMERGENCY: Events are in process or have occurred which involve actual or imminent substantial core degradation or melting with potential for loss of containment integrity.

Actions Required:

- (1) Recommend emergency parking restriction on evacuation routes, if appropriate.
- (2) Direct placement of barricade/roadblocks, as required.
- (3) Request assistance in traffic control from Fire Services, if necessary.
- (4) Advise Emergency Management Director of state support requirements (NSP, National Guard), if necessary.
- (5) Coordinate with Reception & Care Coordinator on which facilities are being opened for congregate care.
- (6) Provide traffic control assistance from registration center to congregate care facilities.
- (7) Provide reports of traffic movement and operational status to Executive Group.

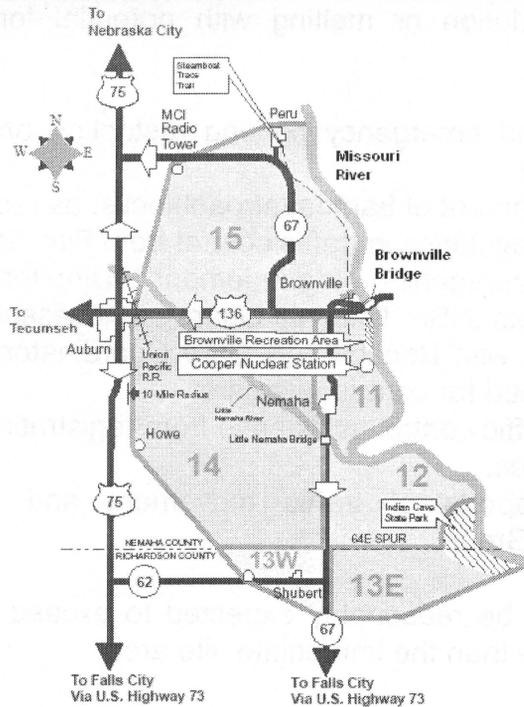
Release Potential: Releases can be reasonably expected to exceed EPA Protective Action Guideline exposure levels for more than the immediate site area.

POST EMERGENCY PHASE: Events that begin immediately after evacuation procedures have been implemented. Consists of Relocation, Reentry, and Return.

Actions Required:

- (1) Coordinate with Nemaha County law enforcement on return routing.
- (2) Establish traffic control for return of evacuees and resources.
- (3) Inform PIO of return routes.
- (4) Provide Executive Group with report of law enforcement operations (including manpower and financial reports).
- (5) Terminate emergency operations.

COOPER NUCLEAR STATION DESIGNATED EVACUATION ROUTES



Primary Routes to Reception Facilities

**A
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O
N**

There are 550 congregate care spaces identified in Falls City, Nebraska

Sub-Area 11:

County roads to U. S. Highway 75 or Nebraska Highway 67, then south to U. S. Highway 73, and south U. S. Highway 73 to Falls City, NE

Sub-Area 12:

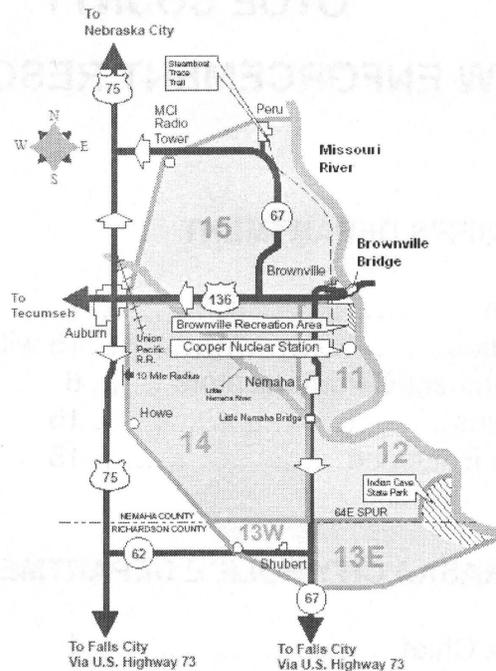
County roads to U. S. Highway 75 or Nebraska Highway 67, then south to U. S. Highway 73, and south on U. S. Highway 73 to Falls City, NE

Sub-Area 13 East and 13 West:

County roads to U. S. Highway 75 or Nebraska Highway 67, then south to U. S. Highway 73, and south on U. S. Highway 73 to Falls City, NE

Sub-Area 14:

County roads to U. S. Highway 75 or Nebraska Highway 67, then south to U. S. Highway 73, and south on U. S. Highway 73 to Falls City, NE



An additional 823
 congregate care spaces
 are available in Nebraska
 City, NE.

Sub-Area 15:

County roads to U. S. Highway 136 west to U. S. Highway 75, and north on U. S. Highway 75 to Nebraska City, NE.

or

County roads to Nebraska Highway 67, then proceed north and west to U.S. Highway 75 and north on U. S. Highway 75 to Nebraska City, NE

EVACUATION TIME FACTORS

Resident 10-mile EPZ Population:	1,800
School 10-mile EPZ Population:	1,000
Transient 10-mile EPZ Population:	622
Non-Resident Employees 10-mile EPZ Population:	591
<u>Total 10-mile EPZ Population:</u>	<u>4,013</u>
Resident Vehicles in 10-mile EPZ:	1,082
School Student Vehicles in 10-mile EPZ:	824
Transient Vehicles in 10-mile EPZ:	261
<u>Non-Resident Employee</u>	<u>533</u>
<u>Total Vehicles in 10-mile EPZ:</u>	<u>2,700</u>

Drive Time From Edge of EPZ:

To Falls City:	24 Minutes
To Nebraska City:	39 Minutes
Average of 1,671 vehicles per lane (one lane) per hour 1.68 persons per vehicle Average speed approx.. 45 mph (adverse conditions) Traffic capacity in 10-mile EPZ is 21,725 vehicles per hour	

Source: December 2012 CNS Time Evacuation Study

OTOE COUNTY LAW ENFORCEMENT RESOURCES

SHERIFF'S DEPARTMENT

Sheriff.....	1
Deputies.....	15 with 2 assigned to the jail
Dispatchers/Communicators.....	6
Vehicles.....	15
Radio Equipped.....	15

NEBRASKA CITY POLICE DEPARTMENT

Police Chief.....	1
Officers.....	13
Dispatchers/Communicators.....	1 full time/1 part time
Vehicles.....	9
Radio Equipped.....	8

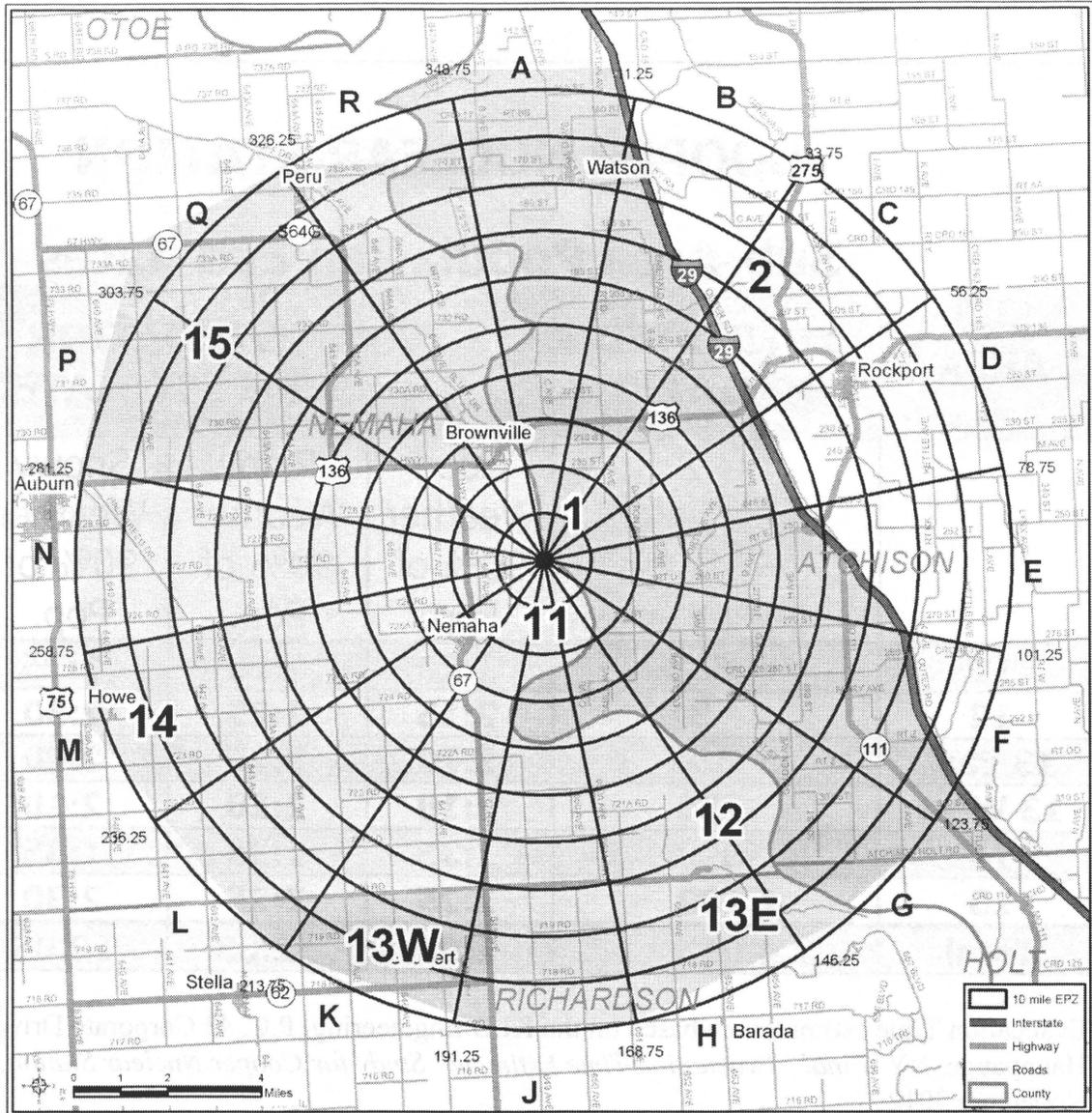
NEBRASKA STATE PATROL (OTOE COUNTY)

Troopers.....	7
Vehicles.....	7
Radio Equipped.....	7

NEBRASKA STATE PATROL (CARRIER ENFORCEMENT)

Troopers.....	8
Vehicles.....	8
Radio Equipped.....	8

POPULATION MAP



Sub-Area	Residents	Peru State College Students	Transients & Transient Dependent	Non-Resident Employees	Total
11	135	0	3	495	633
12	30	0	1	0	31
13E	65	0	585	0	650
13W	196	0	4	0	200
14	382	0	8	0	390
15	992	1,000	21	96	1,109
Totals	1,800	1,000	622	591	4,013

Source: December 2012 CNS ETE
 Peru State College

COOPER NUCLEAR STATION

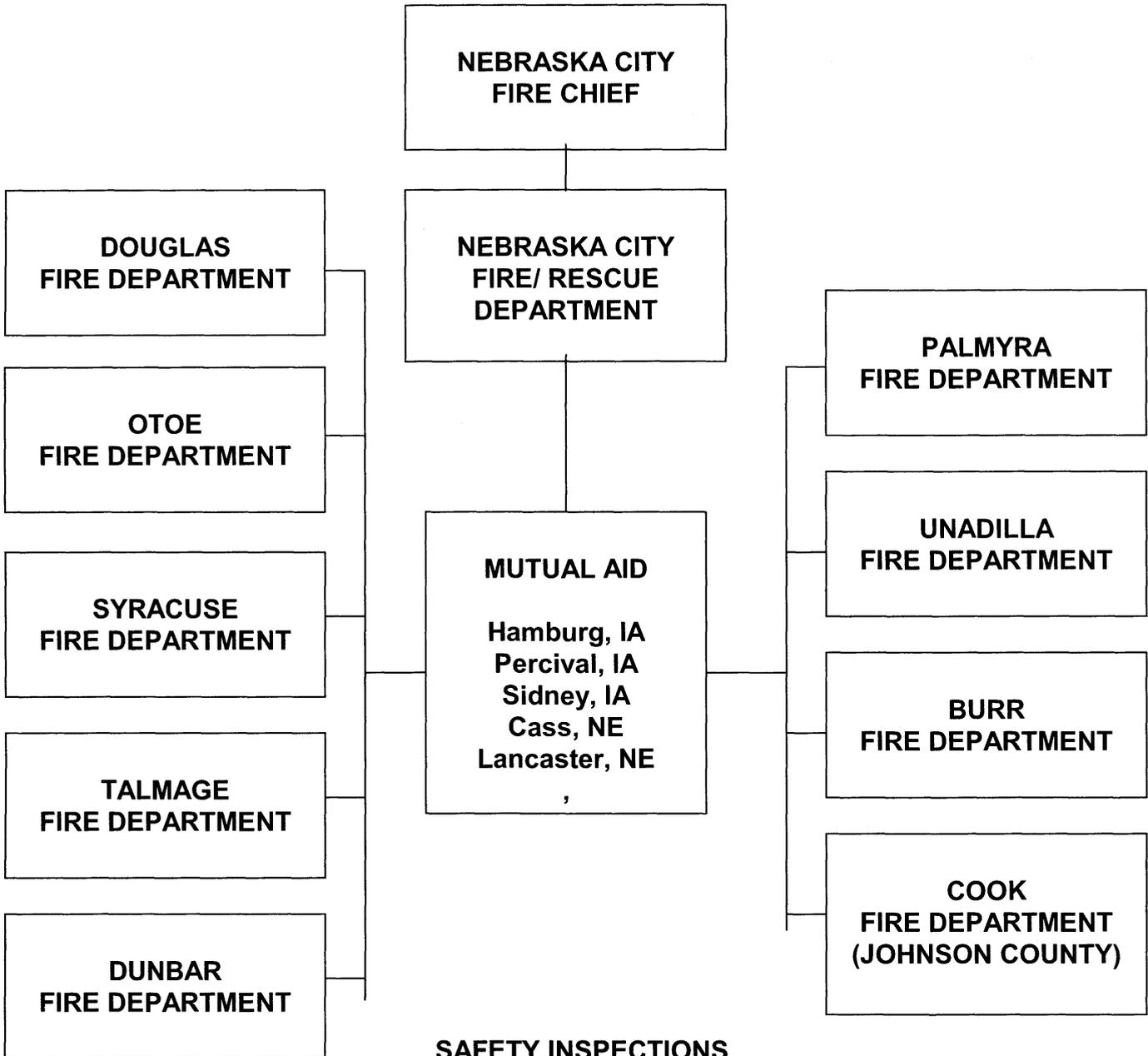
Sub-Area Population Estimates

SUB AREA #	ESTIMATED POPULATION	EVACUATION TIME ESTIMATED			
		Good Weather 90% of Pop.	Rainy Weather 90% of Pop.	Snowy Weather 90% of Pop.	100% Of Pop.
11	633	1:20	1:20	1:25	6:10
12	31	2:15	2:25	2:30	6:10
13 East	650	2:20	2:20	2:20	6:10
13 West	200	2:10	2:10	2:10	6:10
14	390	1:35	1:35	1:35	6:10
15	1,109	2:25	2:25	2:30	6:10
Total	4,013	2:03	12.03	12.05	6:10

Evacuation Time estimates are based on the KLD Engineering, P.C. 43 Corporate Drive, Hauppauge, NY *Final "Evacuation Time Estimate" Study for Cooper Nuclear Station*, November 2012.

Evacuation times listed are based on worst case for Normal, Rain and Snow conditions.

**FIRE AND RESCUE
ORGANIZATION CHART**



SAFETY INSPECTIONS

**SUPPORT FIRE AND
RESCUE ACTIVITIES**

**MOVEMENT OF
NON-AMBULATORY
PATIENTS**

FIRE AND RESCUE

I. PURPOSE

The purpose of this Annex is to provide guidelines for a coordinated response in the event evacuees are directed to Nebraska City/Otoe County.

II. SITUATION

- A. Nebraska City has been designated as a reception and decontamination site in the event an emergency at the Cooper Nuclear Station would require evacuation of citizens in Otoe County.
- B. Otoe County is served by nine fire/rescue departments, All fire and rescue departments within the county maintain 24-hour a day response capabilities.

III. ORGANIZATION/RESPONSIBILITIES

- A. The Fire Chief of each jurisdiction is responsible for coordination, planning, training, and the development of operational policies for that jurisdiction.
- B. The Nebraska City Fire and Rescue Department. The Fire and EMS Chief or designated representative, will serve as a member of the EOC Staff during emergency operations involving the reception of evacuees from Otoe County by Nebraska City.
- C. The Otoe County Emergency Management team will establish an Incident Command at the Emergency Operations Center.
- D. Specific responsibilities and tasks are contained in the Fire & Rescue Chief Action Guide, Attachment 1. Some general responsibilities of the Fire Chief or his designated representative are:
 - 1. Develops the operational policies of the department.
 - 2. Coordinates and directs volunteers assisting the department.

IV. CONCEPT OF OPERATIONS

- A. The primary responsibilities of the Fire Services are: Prevention and suppression of fires; rescue services; and response to hazardous materials incidents.
- B. The Fire Chief has the authority to utilize the fire departments' personnel and equipment to support other agencies and organizations during an emergency

provided that the primary responsibilities (in A. above) are met. Areas of possible support include:

1. Law Enforcement: Traffic and crowd control.
2. Medical: First aid stations and transportation to assist persons with "special needs".
3. Radiological Protection: Radiological monitoring and decontamination.

LIST OF ATTACHMENTS

<u>Attachment #</u>	<u>Item</u>	<u>Page</u>
1	Fire Chiefs Action Guide	D-4
2	Fire and Rescue Resources	D-6

Fire Chiefs Action Guide

NOTIFICATION OF AN UNUSUAL EVENT: Unusual events are in process or have occurred which indicate a potential degradation of the level of safety of the plant.

Actions Required: Once notified by dispatcher, no further action required.

Release Potential: No releases of radioactive material requiring off-site response or monitoring are expected unless further degradation of safety systems occurs.

ALERT: Events are in process or have occurred which involve an actual or potential substantial degradation of the level of safety of the plant.

Actions Required:

- (1) Alert personnel to stand-by status.
- (2) Determine availability of resources which may be needed.
- (3) Review manpower requirements and mutual aid agreements.
- (4) Coordinate with EOC Staff on requirements which Fire Services may be able to support.

Release Potential: Any releases are expected to be limited to small fractions of the EPA Protective Action Guidelines exposure levels.

SITE AREA EMERGENCY: Events are in process or have occurred which involve actual or likely major failures of plant functions needed for protection of the public.

Actions Required:

- (1) Check readiness of Fire Services radiological detection equipment, including dosimeters.
- (2) Assist in coordination of special transportation requirements for "special needs" groups (i.e. handicapped, infirmed, elderly, etc.).
- (3) Coordinate with RO to provide refresher training in use of radiological monitoring equipment and decontamination procedures.

Release Potential: Any releases are not expected to exceed EPA Protective Action Guideline exposure levels.

Fire Chiefs Action Guide

GENERAL EMERGENCY: Events are in process or have occurred which involve actual or imminent substantial core degradation or melting with potential for loss of containment integrity.

Actions Required:

- (1) Activate and deploy personnel.
- (2) Assist with radiological monitoring and decontamination of evacuees, as possible.
- (3) Support vehicle decontamination activities.
- (4) Assist law enforcement with traffic control, as possible.
- (5) Determine what functions Fire Services are able to support and assign personnel.

Release Potential: Releases can be reasonably expected to exceed EPA Protective Action Guideline exposure levels for more than the immediate site area.

POST EMERGENCY PHASE: Events that begin immediately after evacuation procedures have been implemented. Consists of Relocation, Reentry, and Return.

Actions Required:

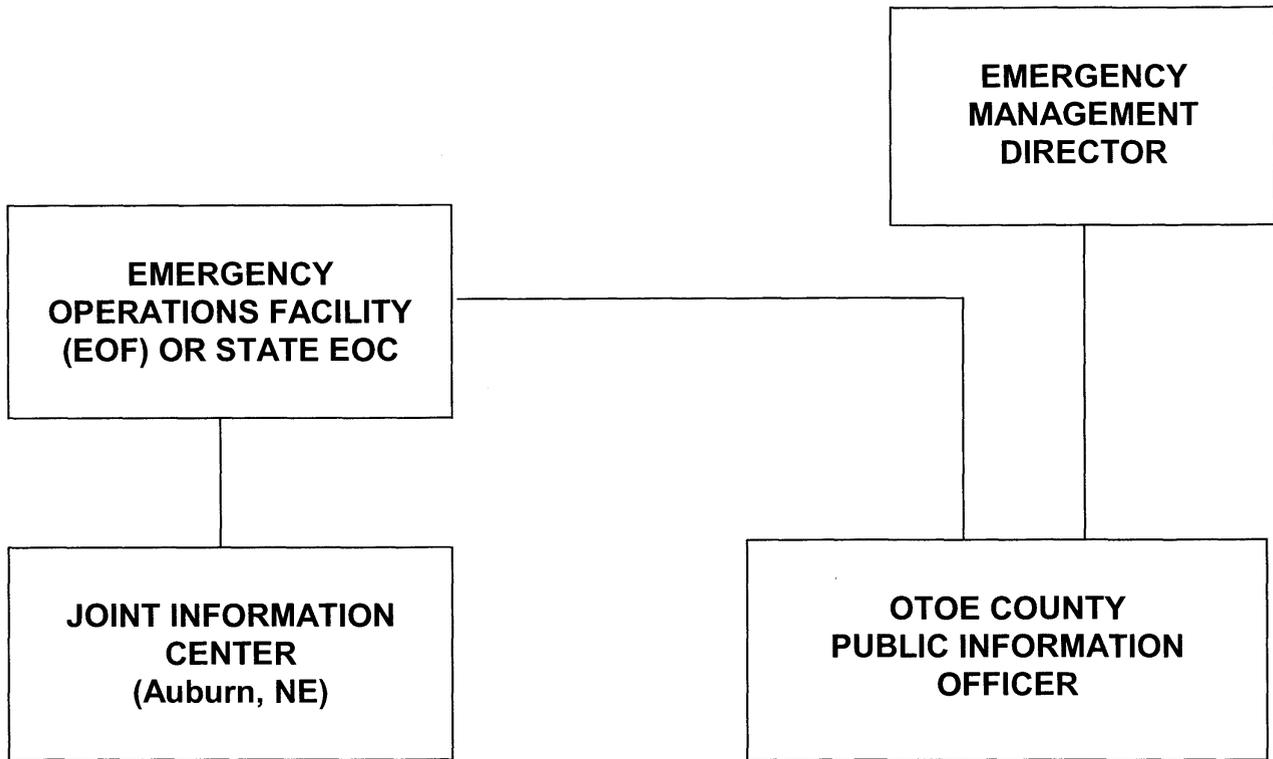
- (1) Accomplish equipment checks and maintenance on all equipment.
- (2) Replenish depleted supplies.
- (3) Continue radiological support, as required.
- (4) Assist law enforcement with traffic control, as possible.
- (5) Accomplish administrative and fiscal reports, as required.
- (6) Assist with transportation of "special needs" groups, as possible.
- (7) Terminate emergency operations.

Fire Equipment & Personnel

	Burr	Douglas	Dunbar	Nebr. City	Otoe	Palmyra	Syracuse	Talmage	Unadilla	Total
<u>Vehicles</u>										
Radio-Equipped	3	5	5	13	4	5	9	8	6	58
Pumpers	0	1	1	3	1	1	2	2	1	12
Ariel/Ladder	0	0	0	1	0	0	0	0	0	1
Tankers	2	1	2	2	1	2	2	2	1	15
Fire/Rescue Utility	0	0	1	2	0	0	2	0	1	6
Grass Rigs	1	2	1	2	1	1	1	2	1	12
Rescue Units	0	1	0	3	1	1	2	2	2	12
<u>Total Vehicles</u>	3	5	5	13	4	5	9	8	6	58
<u>Personnel</u>										
Fireman (Volunteer)	17	15	19	40	7	12	30	23	28	191
EMT's (BLS)	5	7	4	18	2	8	9	7	11	71
EMT's (ALS)	0	0	0	3	0	0	3	0	0	6
Paramedics	0	0	0	6	0	0	0	1	0	7
First Responders	3	1	0	4	0	0	0	1	0	9
<u>Total Personnel</u>	25	23	23	71	9	20	42	32	39	284
<u>Misc. Equipment</u>										
Air Packs	6	9	12	24	6	6	22	6	10	101
Flood Lights	1	1	2	4	1	2	2	2	1	16
Portable Generator	0	1	1	2	1	1	1	1	1	9

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**PUBLIC INFORMATION
ORGANIZATION CHART**



TASKS

COORDINATED PUBLIC INFORMATION ADVISORIES

WARNING NOTIFICATION OF PUBLIC

PROTECTIVE ACTION INFORMATION

EMERGENCY PUBLIC INFORMATION

I. PURPOSE

The purpose of this Annex is to provide guidelines for rapid dissemination of accurate and coordinated emergency public information.

II. SITUATION

- A. In the event of an incident/emergency at the Cooper Nuclear Station official information and instructions will be given to the public primarily through the Nebraska Emergency Alert System (EAS).
- B. Radio Station KFAB AM, Omaha, is the primary Emergency Alert Station for Nebraska Operational Area 1, which includes Otoe County.
- C. Everbridge is available as an alert and notification system for persons in the EPZ to be notified, via phone alert.

III. ORGANIZATION/RESPONSIBILITIES

- A. The Public Information Officer (PIO) is appointed by, and is the official spokesperson for, the Mayor and County Commissioners and is a member of the EOC Staff.
- B. The PIO is responsible for the collection, coordination, and dissemination of all emergency public information within Otoe County.
- C. Specific responsibilities and tasks are contained in the Public Information Officer Action Guide, Attachment 1.

IV. CONCEPT OF OPERATION

- A. The Public Information Officer will collect, correlate, and authenticate all emergency information pertinent to Otoe County, and develop material for release to the media and the general public.
- B. The Governor's Authorized Representative (GAR), primarily located at the on-site EOF, and the State PIO will coordinate all local emergency public information with the State EOC Operations Assistant/Public Information to ensure that only accurate and complete information is given to the public.
- C. The Joint Information Center (JIC) Auburn, is the official release point for all information regarding an emergency at the Cooper Nuclear Station. The official

- spokespersons from NPPD, local, state and federal governments will issue coordinated news releases and conduct press briefings from the JIC.
- D. The State EOC will coordinate all local emergency public information and issue news releases prior to the activation of the JIC. Upon activation of the JIC the State EOC will coordinate all information through this facility. The State EOC will have a PIO available to assist local governments throughout the emergency.
 - E. Information may be released to the media by the Otoe County PIO regarding Otoe County activities only. These releases should be coordinated with the JIC or State EOC, to ensure that the public receives the same information from all news media.
 - F. The EOC will monitor the commercial broadcast media to ensure accurate and complete information is being reported to the public.
 - G. The PIO, or a designated staff member, will keep registration center and congregate care officials updated so that evacuees within Otoe County will have up-to-date emergency information and instructions.

LIST OF ATTACHMENTS

<u>Attachment #</u>	<u>Item</u>	<u>Page</u>
1	Public Information Officer Action Guide	E-4
2	News Media Listing	E-6

Public Information Officer

NOTIFICATION OF AN UNUSUAL EVENT: Unusual events are in process or have occurred which indicate a potential degradation of the level of safety of the plant.

Actions Required: No action required.

Release Potential: No releases of radioactive material requiring off-site response or monitoring are expected unless further degradation of safety systems occurs.

ALERT: Events are in process or have occurred which involve an actual or potential substantial degradation of the level of safety of the plant.

Actions Required:

- (1) Review reception plan.
- (2) Update and confirm all information and media resources.
- (3) Confirm policy for issuing news releases with Executive Group.

Release Potential: Any releases are expected to be limited to small fractions of the EPA Protective Action Guidelines exposure levels.

SITE AREA EMERGENCY: Events are in process or have occurred which involve actual or likely major failures of plant functions needed for protection of the public.

Actions Required:

- (1) Establish liaison with State EOC, Nemaha County, and JIC public information staffs.
- (2) Recommend to Executive Group that an official representative be sent to the JIC.
- (3) Coordinate with Communications Officer on anticipated requirements (phones, fax, etc.).
- (4) Assist in data collection.
- (5) Advise Executive Group and local officials on public information matters.
- (6) Coordinate with Reception & Care officials on anticipated public information requirements.
- (7) Prepare press releases covering local government preparations and policies.
- (8) Coordinate all press releases with State EOC.

Release Potential: Any releases are not expected to exceed EPA Protective Action Guideline exposure levels.

Public Information Officer

GENERAL EMERGENCY: Events are in process or have occurred which involve actual or imminent substantial core degradation or melting with potential for loss of containment integrity.

- Actions Required:**
- (1) Assist in data collection.
 - (2) Advise Executive Group and local officials on public information matters.
 - (3) Prepare press releases covering local government decisions and actions.
 - (4) Release information regarding any community services or facility closings.
 - (5) Coordinate public information requirements for evacuees with Reception & Care officials.
 - (6) Coordinate with EOC Staff on requirements for printed public information materials.
 - (7) Coordinate all press releases with State EOC.

Release Potential: Releases can be reasonably expected to exceed EPA Protective Action Guideline exposure levels for more than the immediate site area.

POST EMERGENCY PHASE: Events that begin immediately after evacuation procedures have been implemented. Consists of Relocation, Reentry, and Return.

- Actions Required:**
- (1) Issue public information regarding evacuee assistance available.
 - (2) Coordinate with Reception & Care officials to notify evacuees when it is safe to return home.
 - (3) Release information regarding community services and facilities reopening.
 - (4) Release information regarding safety measures and precautions applicable to recover activities.
 - (5) Coordinate all news releases with State EOC.

News Media Listing for Southeast Nebraska

<u>Company</u>	<u>Address</u>	<u>Phone #</u>
Newspapers		
Nebraska City – News-Press	Box 757 Nebraska City, NE 68410	402-873-3334
Auburn-Nemaha County Herald	Box 250 Auburn, NE 68305	(402) 274-3185
Auburn Press-Tribune	Box 250 Auburn, NE 68305	(402) 274-3187
Television Stations		
KQTV - Channel 2	Box 247 St. Joseph, MO 64506	
KMTV - Channel 3	10714 Mockingbird Drive Omaha, NE 68127	(402) 592-3333
WOWT - Channel 6	3501 Farnam Omaha, NE 68131	(402) 346-6666
	Hotline:	(402) 341-6149
KETV - Channel 7	1001 S. 10 th St. Omaha, NE 68108-3209	(402) 345-7777
KLKN - Channel 8	3240 South 10 th St. Lincoln, NE 68502	(402) 434-8000
KOLN/KGIN TV - Channels 10/11	40 th and W Streets Lincoln, NE 68503	(402) 467-4321
KXVO - Channel 15	4625 Farnam Street	(402) 558-4200
KPTM - Channel 42	Omaha, NE 68131	
Time Warner Cable Nebraska City	512 Central Ave Nebraska City, NE 68410	(402) 873-9196
Time Warner Cable - Auburn	1304 Courthouse Ave. Auburn, NE 68305	(402) 274-5072
Falls City Cable TV	1813 Stone St. Falls City, NE 68355	(402) 245-2863

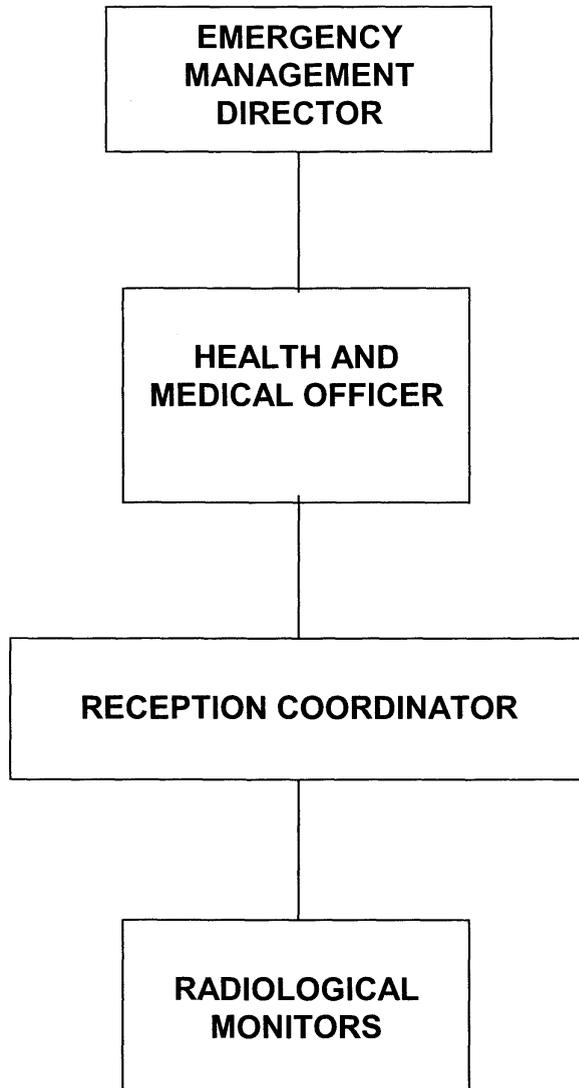
News Media Listing for Southeast Nebraska, continued

<u>Company and City Radio Stations</u>	<u>Frequency</u>	<u>Phone #</u>
KFAB-AM Omaha, NE	1110 kHz	(402) 556-5060
B103 – 911 Central Ave Nebraska City, NE	1600 KHZ-AM/ 103.1 MHz-FM	(402) 873-3348
KNCY-FM Auburn, NE	103.1 MHz (FM Dial)	(402) 873-3348
KTNC-AM KLZA-FM Falls City, NE	1230 kHz 101.3 MHz	(402) 873-3348

Emergency Alerting System

National Weather Service (EAS Primary) Valley, NE	NOAA WEATHER RADIO	(402) 571-8351
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**HEALTH AND MEDICAL
ORGANIZATION CHART**



HEALTH AND MEDICAL

I. PURPOSE

The purpose of this Annex is to provide guidelines for the monitoring and decontamination of persons, equipment, and vehicles which may be evacuated from Nemaha County.

II. SITUATION

- A. Nebraska City is designated to receive persons who may be evacuated from areas within the 10 mile Emergency Planning Zone (EPZ) of the Cooper Nuclear Station.
- B. Otoe County lies in the potential Ingestion Pathway of an incident at Cooper Nuclear Station. This is not considered to be a direct threat to the health of the people, however, the potential does exist for possible contamination of the food chain.

III. ORGANIZATION/RESPONSIBILITIES

- A. Specific responsibilities and tasks are contained in the Radiological Officer Action Guide (Attachment 1). Some general responsibilities are:
 - 1. Radiological Officer: is a member of the EOC Staff and is responsible for:
 - a. Maintaining adequate inventories of radiological detection equipment and self-reading dosimeters,
 - b. Coordinating radiological monitoring and decontamination activities within Otoe County,
 - c. Preparing the decontamination center for operations,
 - d. Coordinating quarterly and after each use, operational/maintenance checks for all radiological equipment with Emergency Management Director.,
 - e. Proper survey techniques are employed,
 - f. Proper decontamination techniques are employed,
 - g. The dose evaluations are recorded on the proper forms for each individual for necessary medical follow-up action, (See Attachments 5, 7, & 8)

- h. The personnel and the decontamination area(s) have been decontaminated to an acceptable level and free of radiation hazards, before terminating the decontamination operations, (See Attachment 3)
- i. That all radioactive contaminated materials are properly disposed under the direction of DHHS, Div. of Public Health.

IV. CONCEPT OF OPERATIONS

A. Radiological Monitoring and Decontamination:

1. DHHS, Div. of Public Health may provide a Decontamination Specialist for technical assistance for each decontamination operation established, if personnel are available.
2. All evacuees entering Otoe County will be directed to the Registration Center (Middle School), Nebraska City, for radiological monitoring. The Radiological Officer will ensure sufficient personnel and equipment are available to monitor 20% of total EPZ population within a 12-hour period. Evacuees will be monitored by an Portal Monitor (model TCM 903). The time to monitor evacuees will be not less than twenty seconds and not more than 60 seconds. Vehicles will be monitored and decontaminated, if necessary, when evacuees have been fully taken care of.
3. All contaminated persons will be directed to the decontamination area for decontamination. The most highly contaminated persons shall be decontaminated first. Contaminated persons take precedence over vehicles or equipment for decontamination.
4. IN THE EVENT OF INJURY ENDANGERING LIFE OR LIMB, MEDICAL TREATMENT PRECEDES DECONTAMINATION PROCEDURES.
5. All contaminated objects (clothing, instruments, personal items, etc.) will be labeled with the date, and the persons name and address. These objects should be stored in a container which is labeled "RADIOACTIVE - DO NOT DISCARD".
6. Vehicles will be monitored and contaminated vehicles separated from the non-contaminated vehicles.

B. Dosimetry:

1. The Radiological Officer, or designee, will issue and control permanent record type (Film Badge or TLD) and self-reading dosimetry, to all decontamination workers and reception and care center monitors, as necessary. TLDs are available to the workers at the center and will be issued by the RO. The RO will collect all permanent record dosimeters at the end of the workers assignment and deliver them to a representative from DHHS, Div. of Public Health to be read and recorded. The self-reading dosimetry will be provided

from local stock by the Emergency Management Director or Radiological Officer.

2. If the state or a local government determines that a mission requires an emergency worker to be exposed to radiation doses in excess of EPA Guides, the ER Manager, DHHS, Div. of Public Health will advise the Governor or his Authorized Representative of the benefits and risks involved and methods to control and/or mitigate excessive exposure. It is the decision of the Governor, or his Authorized Representative, based on health recommendations of DHHS, Div. of Public Health to approve or disapprove the use of the Monitor for that mission.

C. Ingestion Pathway Contamination

1. In the event radioactive contamination of crops, livestock, feed, etc, has occurred, or is likely, protective actions will be recommended by DHHS , Div of Public Health. Protective actions may include:
 - a. Putting livestock on stored feed;
 - b. Monitoring dairy or other food products.
2. The USDA State Emergency Board will coordinate with all counties involved.
3. The County Emergency Board will coordinate with the affected residents within Otoe County to implement actions.

LIST OF ATTACHMENTS

<u>Attachment #</u>	<u>Item</u>	<u>Page</u>
1	Radiological Officer Action Guide	F-6
2	Decontamination Procedures	F-8
3	Levels of Surface Contamination	F-12
4	Personal Decontamination Methods	F-13
5	Radiation Survey Record/Radiation Emergency Worker	F-15
6	Vehicle Contamination Measurement Record	F-16
7	Radiation Survey Record For Decontamination Stations	F-17

LIST OF ATTACHMENTS (Continued)

Attachment #

Item

Page

8	Personnel Dosimeter Issue Record	F-18
9	Individual Monitoring Record Form	F-19
10	Radiological Equipment and Personnel	F-20
11	Excerpt from CPG 1-30	F-23
12	Commonly Used Radiation Monitoring Instruments	F-24
13	Registration and Decontamination Center Maps	F-25
14	Traffic Control Points Map	F-27
15	Radiological Portal Monitor (TPM-903)	F-29
16	Instructions for administering K.I (Potassium Iodide)	F-31
17	Record for administering K.I (Potassium Iodide)	F-33

Radiological Officer

NOTIFICATION OF AN UNUSUAL EVENT: Unusual events are in process or have occurred which indicate a potential degradation of the level of safety of the plant.

Actions Required: No action required.

Release Potential: No releases of radioactive material requiring off-site response or monitoring are expected unless further degradation of safety systems occurs.

ALERT: Events are in process or have occurred which involve an actual or potential substantial degradation of the level of safety of the plant.

Actions Required: (1) Review reception plan.
(2) Determine availability of resources which may be needed.

Release Potential: Any releases are expected to be limited to small fractions of the EPA Protective Action Guidelines exposure levels.

SITE AREA EMERGENCY: Events are in process or have occurred which involve actual or likely major failures of plant functions needed for protection of the public.

Actions Required: (1) Alert support staff.
(2) Prepare Nebraska City Middle School as monitoring and decontamination center.
(3) Coordinate with fire services for trained personnel and equipment available for radiological monitoring and decontamination.
(4) Coordinate with law enforcement on availability of personnel who could provide security/access control for contaminated vehicles.
(5) Alert radiological monitors and place on stand-by.
(6) Perform checks on all monitoring equipment and "zero" self-reading dosimeters.
(7) Request additional support from Otoe County EOC, as needed.
(8) Assure adequate supplies of all monitoring and decontamination forms.

Release Potential: Any releases are not expected to exceed EPA Protective Action Guideline exposure levels.

Radiological Officer

GENERAL EMERGENCY: Events are in process or have occurred which involve actual or imminent substantial core degradation or melting with potential for loss of containment integrity.

Actions Required:

- (1) Activate all personnel and maintain 24-hour operational capability.
- (2) Request fire services support for monitoring and vehicle decontamination.
- (3) Issue personnel dosimeters to all monitoring and decontamination emergency workers.
- (4) Coordinate with Red Cross for supply of clothing at decontamination center, if required.
- (5) Assure adequate number of radiological monitors are assigned to decontamination center.
- (6) Request additional support from Otoe County EOC, as needed.
- (7) Assure all monitoring equipment and supplies are operable and in place.
- (8) Open decontamination center and commence monitoring and decontaminating evacuees. Monitor and decontaminate equipment and vehicles after evacuees have been cared for.
- (9) Maintain records of any exposure received by personnel. Do not permit any personnel to exceed allowable exposure.

Release Potential: Releases can be reasonably expected to exceed EPA Protective Action Guideline exposure levels for more than the immediate site area.

POST EMERGENCY PHASE: Events that begin immediately after evacuation procedures have been implemented. Consists of Relocation, Reentry, and Return.

Actions Required:

- (1) Monitor and decontaminate—if required—all personnel, equipment, decontamination areas, and supplies.
- (2) Request DHHS, DIV of Public Health personnel inspect all decontamination areas, to ensure proper decontamination.
- (3) Terminate decontamination center operations.
- (4) Re-supply decontamination kits
- (5) Collect and store all self-reading dosimeters and radiological detection equipment.
- (6) Deliver all radiological records and TLDs to DHHS, DIV of Public Health.
- (7) Complete any reports requested by Emergency Management and deliver to EOC.

DECONTAMINATION PROCEDURES

I. DECONTAMINATION STATION OPERATIONS

- A. A decontamination kit is stored at the Emergency Operating Center in Nebraska City for use when the decontamination station is activated.
- B. Survey instrumentation is furnished by the Nebraska Emergency Management Agency and the Otoe County Emergency Management Agency.
- C. Personnel Guidelines and Precautions

The following guidelines and precautions are to be observed by attending personnel during decontamination procedures:

1. All contaminated emergency workers shall be transferred to the decontamination facility for decontamination. Contaminated persons take precedence over vehicles or equipment for decontamination.
2. In the event of injury endangering life or limb, medical treatment precedes decontamination procedures.
3. Personnel suspected of having internal contamination shall be reported to the State EOC, who will inform the ER Manager, DHHS, DIV of Public Health.
4. Establish and secure an adequate facility for decontamination with showers. The walkway between the initial monitoring area and the decontamination area will be covered with a floor covering. Separated areas are required for contaminated vs. decontaminated.
5. Anyone in contact with contaminated personnel or their clothing may become contaminated.
6. Plastic or rubber gloves and shoe covers should be worn by all attending persons. Respiratory equipment may also be required depending on the chemical properties of the contaminating material. Survey meter probes should be covered with thin plastic.
7. Following decontamination, the gloves, shoe coverings and protective clothing should be removed and discarded into a radioactive waste container followed by proper cleaning or disposal by DHHS, DIV of Public Health.
8. A thorough washing and scrubbing to remove any possible skin contamination should be performed by all attending personnel following the decontamination of other personnel. Care should be taken not to break the skin during this procedure.
9. A person trained in the use of radiation survey instrumentation should be present and monitoring these decontamination procedures.

10. All contaminated objects (i.e., instruments, clothing, personal items, etc.) should be labeled with the time, date and decontaminated person's name. These objects should then be stored in a container that clearly displays the label (sign): "RADIOACTIVE - DO NOT DISCARD".
11. Whenever possible, remote handling instruments (tongs or other mechanical equipment) should be utilized when handling contaminated objects.
12. Vehicles and equipment may also become contaminated. To decontaminate, use a water hose and soap and clean the vehicles/equipment, in the assigned decontamination area, until the level of radiation has been reduced to safe acceptable levels. Contaminated water should be flushed into drains that are connected to a self-contained waste water system. The water source should be left turned on to provide dilution.
13. Before the decontamination operations can be terminated, the facility and surrounding areas must be decontaminated leaving the facility in an acceptable condition for cleanliness and free of radiation hazards.

D. Decontamination Station Operational Procedures

1. Facility Requirements - The decontamination station has separate and adjacent areas for personnel decontamination and for vehicle/equipment decontamination.
2. Personal Decontamination area must:
 - a. Have electricity and running water with suitable drains connected to a self-contained waste water or sewer system approved by the ER Manager, DHHS, DIV of Public Health.
 - b. Provide segregated shower areas for decontamination and dressing.
 - c. Be made of materials which can be easily decontaminated or replaced.
 - d. Provide a contamination-free area for dose calculation and relocation assignments.
3. Vehicle/Equipment Decontamination area must:
 - a. Have a water source available.
 - b. Have drainage which discharges into a self-contained waste water system or sewer system approved by the ER Manager, DHHS, DIV of Public Health that does not discharge directly into a stream or river.
4. Survey Vehicles - Record results on "Vehicle Contamination Measurement Record" found in Attachment 7.

5. Separate contaminated vehicles from non-contaminated vehicles by assigned areas. See "Levels of Surface Contamination" for acceptable levels.
6. Direct people from vehicles at the parking area to the monitoring area.
7. Survey people and record the radiation levels on "Radiation Survey Record" in Attachment 6 for those individuals who are contaminated. Be sure to record each individual's full name, address, social security number, and phone number so DHHS, DIV of Public Health can continue to monitor the progress of each individual for health effects.
8. Remove outer clothing of people as necessary for control of contamination. Place contaminated clothing in a plastic bag and mark with the name of the individual. Keep track of valuables.
9. Have people shower to remove contamination.
10. Resurvey people after shower.
11. Re-shower as necessary.
12. Resurvey: If people are still contaminated note and record radiation levels. Contact the ER Manager, DHHS, DIV of Public Health, or assigned designee, for further instructions. Such cases may need to be transported to the Radiation Health Center for specialized medical care.
13. Have people don disposable coveralls or other appropriate clothing as a substitute for their contaminated clothing. Keep track of valuables.
14. Send decontaminated personnel to the clean area to complete the "Radiation Survey Records". See Attachment 6.
15. Survey and decontaminate the area, i.e. walls, floors, showers, etc., as necessary.

II. RADIOLOGICAL MONITORING ACTIVITIES

- A. If the evacuation of an area is implemented as a result of a radioactive materials release by a nuclear power plant, a reception area which will include monitoring stations will be established outside the radioactive hazard area. All resident evacuees will be surveyed to ensure proper decontamination and recording of contamination levels on the Radiation Survey Record so DHHS, DIV of Public Health may continue to monitor each individual for health effects. Emergency Worker Decontamination will be established at the County Barn in Auburn.
- B. Each reception area and emergency worker decontamination station will be equipped with the same instrumentation and support equipment as indicated:

1. AT V-138 - one per monitor assigned.
 2. Eberline ASP-2 – one per monitor assigned, as available.
 3. CD V-700 - one per monitor assigned, if not already issued an ASP-2.
 4. CD V-750 - one per checkpoint.
 5. Portal Monitor (TCM 903)
 6. Lithium Fluoride TLD - one per monitor assigned.
 7. Sufficient hand tools for use in removing air filter covers or other necessary vehicle parts to ensure proper inspection for contamination (screwdrivers, pliers, etc.).
 8. Flashlight with extra batteries, in the event a night operation is necessary.
- C. When surveying a vehicle for radioactive contamination, the following areas of a vehicle should be checked:
1. Each wheel and tire.
 2. Each fender well.
 3. The grill and headlight area.
 4. The radiator.
 5. Vehicle bumpers and door handles.
 6. The underside and back of the vehicle where contaminated dust may collect (note: DO NOT crawl under the vehicle).
 7. If contamination is found on the exterior of the vehicle, the vehicle interior and the occupants should also be surveyed.
- D. Before terminating the reception area/decontamination station operations, each member of the survey crew and all equipment will be checked to determine if decontamination may be necessary. See "Levels of Surface Contamination" for acceptable levels.

LEVELS OF SURFACE CONTAMINATION

SITE BETA, GAMMA CONTAMINATION VALUE

1.	Skin	300 cpm above background
2.	Clothing	300 cpm above background
3.	Vehicles/equipment	300 cpm above background
4.	Surface areas released as unrestricted areas	300 cpm above background

Surveys will be conducted with an Portal Monitor (TCM 903) with following monitoring followed up by an Eberline ASP-2.

The instrument probe shield will be open and held 1/2 inch from the surfaces monitored. The rate of travel of the probe over surfaces should be at 2 to 3 inches per second.

Levels of contamination above 300 cpm above background require decontamination, restriction of the area as contaminated.

PERSONAL DECONTAMINATION METHODS

Method	Surface	Technique
Mild soap and warm water	Skin and hair	Wash 2-3 minutes.
Soap, soft brush, and water	Skin	Use light pressure with heavy lather. Use care not to scratch or erode the skin.
Detergent	Hair	Wash hair. Rinse thoroughly. Repeat.

Other decontamination methodology will be utilized from the "Radiological Health Handbook" (FDA-BRH)

DECONTAMINATION STATION

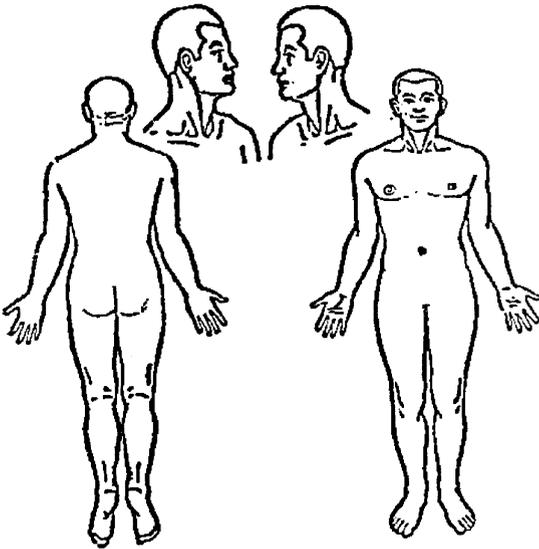
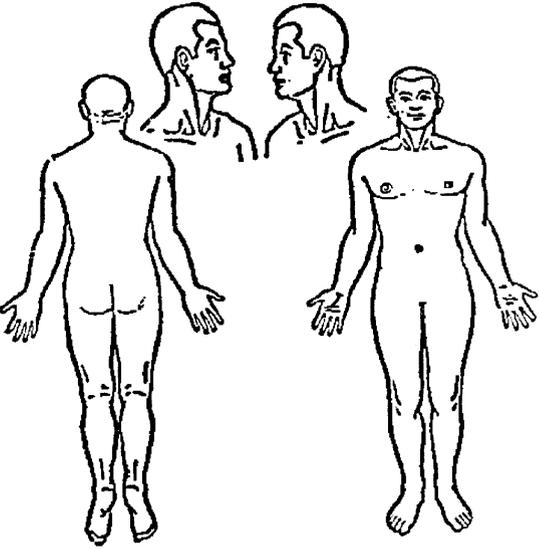
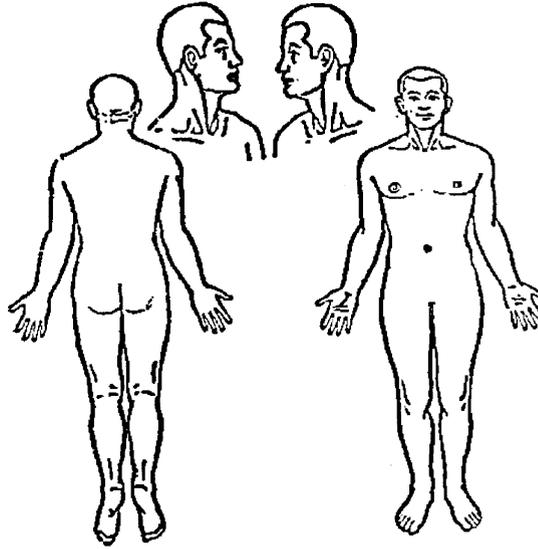
Recommended Equipment and Supplies

<u>Equipment</u>		<u>Purpose</u>
1	Eberline ASP-2	For contamination survey
2	CD V-700 (side window)	For contamination survey
3	CD V-700 (end window)	For contamination survey
4	AT-138	For personal protection, self-reading dosimeter
5	CD V-750 (included in CD V-777 Monitoring Kits)	Dosimeter Charger
6	TLDs	For survey crew
7	Spare batteries	For use in CD V-700's
8	Respirators with spare filter cartridges	For survey crew inhalation protection
9	Laboratory coats or cloth overalls, head & shoe covers & rubber gloves	Protective clothing for survey crew
10	Remote handling tongs or other mechanical devices	For handling contaminated objects
11	Hand tools - hammer, screwdrivers, wrenches, pliers, etc.	For removing air intake, etc.
12	Flashlight with extra batteries	For use where lighting is needed
13	Nuclear warning rope or cord	For securing contaminated areas
14	Radiation caution signs & labels	For labeling contaminated objects
15	Garden hose	For decontaminating equipment, vehicles, and/or facility
16	Brooms, brushes, mops, and buckets	For decontamination
17	Replacement clothing	For individuals with contaminated clothing

Supplies

1	Soap or detergent	For decontamination
2	Containers of various sizes	For collecting contaminated fluids
3	Cotton swabs	For nasal smears and decontamination
4	Envelopes	For wipes, nasal smear, and samples for identification
5	Plastic bags of all sizes	For disposing of contaminated materials
6	Plastic sheets	For covering floors, ventilation ducts, and contaminated areas

PERSONNEL SURVEY FORM

NAME:		DATE:		TIME:	
Initial Evaluation		After First Decontamination Attempt		After Second Decontamination Attempt	
					
Radiological Survey Results:		Radiological Survey Results:		Radiological Survey Results:	
Comments:					
Acceptable Contamination Level is Less Than 300 cpm					
Evacuee Information:	Address:	Vehicle Make/Model:	Instrument Used:	Released?	
	Telephone:	Vehicle License	Serial#:	Sent to Hospital?	

RADIOLOGICAL EQUIPMENT AND PERSONNEL

I. RESPONSIBILITIES

A. Otoe County Emergency Management (Radiological Officer) will:

1. Maintain sufficient numbers of ASP-2's and CD V-777 radiation monitoring kits to ensure an adequate response.
2. Provide a listing of where all monitoring kits and miscellaneous equipment are stored.
3. Prepare a monitor's radiation detection equipment:
 - a. ASP-2, CD V-700, Arrow-Tech (AT)-138, CD V-750, Portal Monitor (TCM 903).
 - b. Spare batteries.
 - c. Instructions for operations, use, and inspection of the radiation detection sets.
4. Maintain a status log covering:
 - a. Radiation monitoring kit.
 - b. Serial numbers.
 - c. Date last calibrated.
 - d. Battery replacement date.
 - e. Operational check date.

B. State government will:

1. Make the initial issue of radiation detection sets based on local needs.
2. Insure that a quarterly operational check is performed on all radiation detection instruments in accordance with the operational checklist provided with each set. Inspection sheets will be maintained by the Radiological Systems Manager, Nebraska Emergency Management Agency
3. Accomplish all calibration and maintenance on the radiation detection sets.

4. The Nebraska Emergency Management Agency and DHHS, DIV of Public Health maintains a kit of sophisticated radiation monitoring and detection instruments which will be used by the ER Manager, DHHS, DIV of Public Health, for all radiological incidents/accidents.

II. DISTRIBUTION

The Otoe County Emergency Management Director and Radiological Officer will assure that distribution of monitoring kits and associated dosimetry are provided to the Decontamination Center for use, as necessary, under the direct supervision of the Radiological Officer. All emergency workers will be provided appropriate dosimetry.

A. RADIOLOGICAL EQUIPMENT RESOURCES:

KIT #1I – EMERGENCY WORKERS – Otoe County EOC

10 Direct-Reading AT-138 Dosimeters, 0-200 mR
10 Direct-Reading AT-725 Dosimeters, 0-5R
1 CD V-750, Model 6 Dosimeter Charger
NEMA REP Dosimetry Log or equivalent
2 CD V-777 Kits (Each Kit: 2 CD-V700s, 1 CD V-750 Charger)
20 TLDs, 1 Control TLD

KIT #1J – RECEPTION CENTER/DECON. – Nebraska City

20 Direct-Reading AT-138 Dosimeters, 0-200 mR
1 CD V-750, Model 6 Dosimeter Charger
3 CD V-777 Kits (Each Kit: 2 CD-V700s, 1 CD V-750 Dosimeter Charger)
NEMA REP Dosimetry Log or equivalent
3 Eberline ASP-2 Kits (Each Kit: 2 ASP-2's, 2 HP-360 Pancake Probes & 2 Cables)
1 TPM903A Portable Portal Monitor with Vehicle Monitoring Kit
40 TLDs, 1 Control TLD

B. RADIOLOGICAL OFFICER:

Gregg Goebel (Emergency Director) Location: Nebraska City, NE

Steve Cody (Asst. Emergency Director) Location: Nebraska City, NE

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EXCERPT FROM GUIDE FOR THE DESIGN AND DEVELOPMENT
OF A LOCAL RADIOLOGICAL DEFENSE SUPPORT SYSTEM

CPG 1-30, dated June 1981

Peacetime Use of Instruments - Civil preparedness instrumentation is designed to measure the gamma radiation emitted by radioactive fallout. Some of these instruments will also detect high-energy beta radiation if present in sufficiently detectable quantities. However, with the exception of the special CD V-700M with the modified end window probe, these instruments are not designed to detect or measure alpha and/or low-energy beta radiations. Although civil preparedness instruments do not adequately fulfill all of the requirements for peacetime radiological incident/accident monitoring, most of the instruments granted to the States could be useful in the event of peacetime incidents involving the accidental release of radioactive materials to the environment.

However, problems can arise when civil preparedness instruments are used for the measurement of radioactivity from peacetime incidents, because of the large number of diverse types of radioactive materials that may be released. These materials can vary considerably in their types and amount of radioactivity; thus, peacetime incidents result in more complex radiological measurement and interpretation problems than are expected for the radiological situation resulting from a nuclear attack. The complexity of measurement and hazard evaluation in a peacetime release of radioactivity to the environment occurs when contamination is airborne, either gaseous or particulate, and inhalation or ingestion may create an internal hazard greater than the external exposure radiation.

Other major differences between peacetime and attack contingencies would be the lower levels of radiation to be measured, requiring instruments having a compatible range of measurement, and the operating constraints which limit exposure of the populace to much lower levels in peacetime incidents than those acceptable in an attack situation where the primary mission is to prevent death of acute radiation sickness.

Radiological assistance in peacetime emergencies is available through state health agencies, or other designated agencies within the state, and also from the regional offices of the U.S. Nuclear Regulatory Commission. These agencies have trained individuals and the specific radiation detection equipment necessary to measure and evaluate the existing type of radiation hazard.

The use of civil preparedness resources for emergency response to peacetime radiological incidents must be in accordance with state and local government emergency response plans and performed by properly trained and authorized personnel. States and localities must assume full responsibility for the proper use of civil preparedness resources for peacetime incidents.

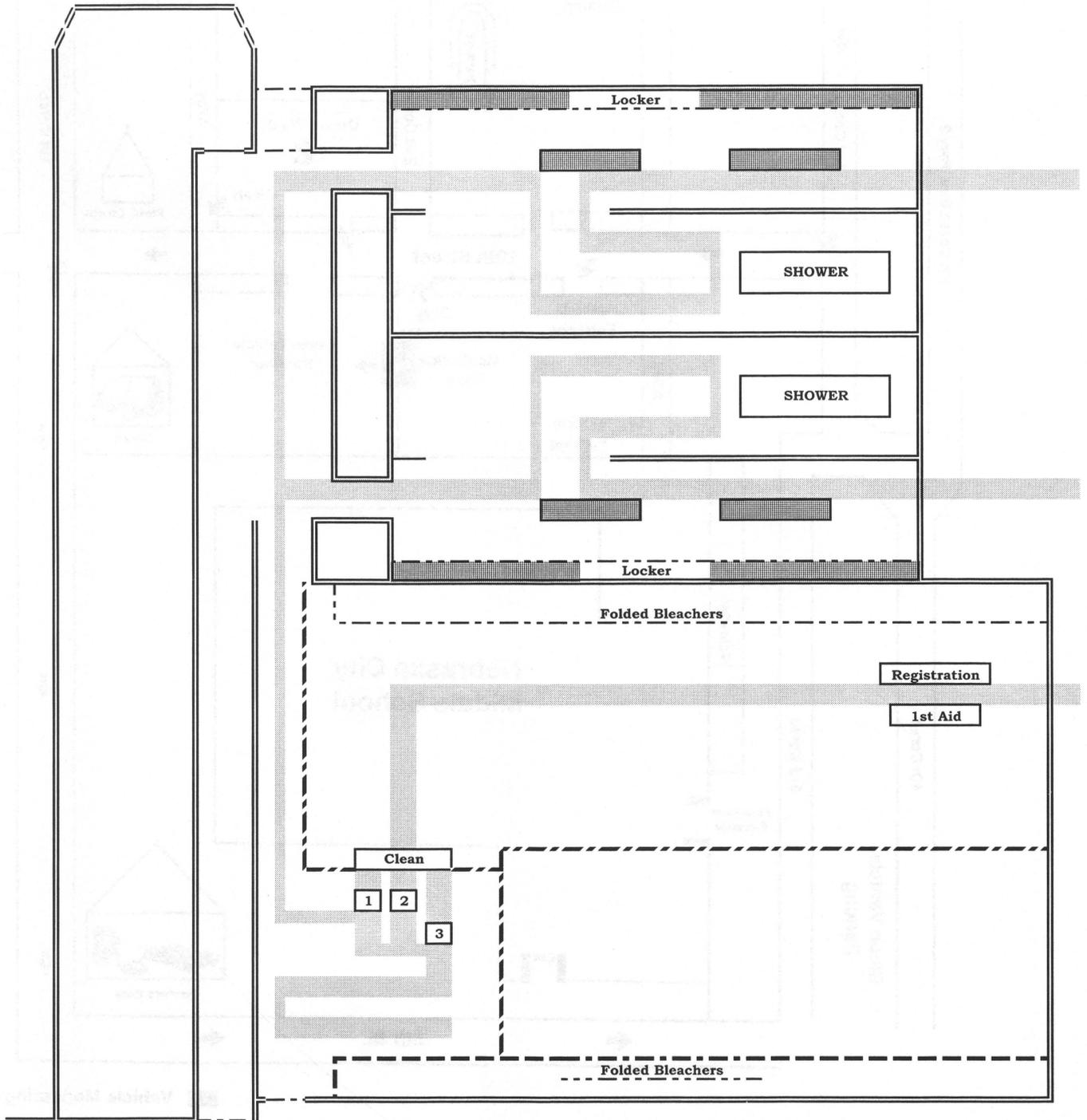
COMMONLY USED CIVIL PREPAREDNESS

RADIATION MONITORING INSTRUMENTS

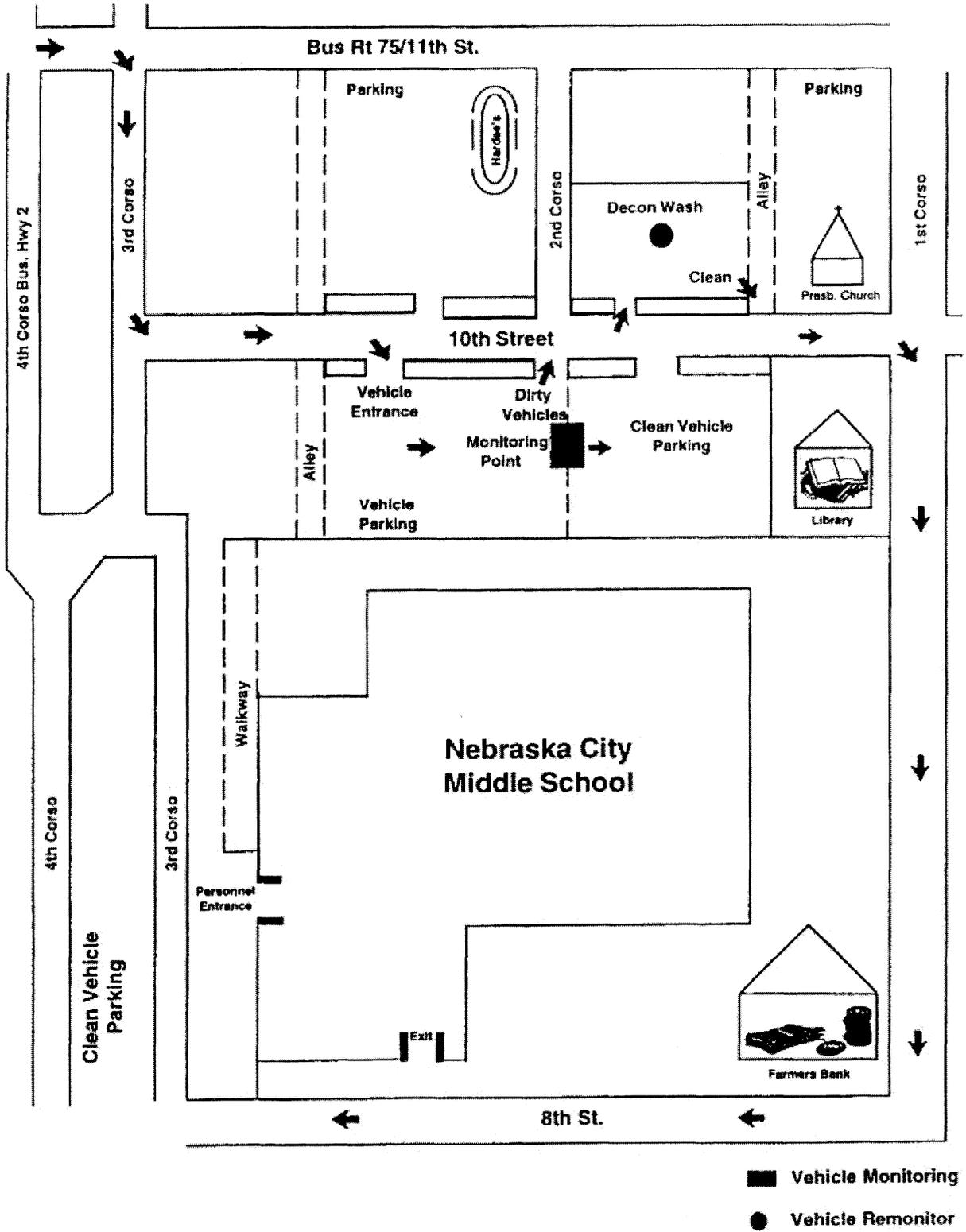
<u>MODEL NUMBER</u>	<u>DETECTOR</u>	<u>RANGE OF READINGS</u>	<u>DESCRIPTION AND USE</u>
ASP-2	G-M "Pancake" Probe	0-500 R/hr	Multi-purpose wide range survey instrument.
CD V-700	G-M Probe	0-50 mR/hr	Low range survey instrument. Measures gamma and detects beta radiation.
CD V-715	Ionization Chamber	50 mR/hr - 500 R/hr	High range survey instrument. Measures gamma radiation above 50 mR/hr.
Arrow-Tech (AT)-138	Pocket ionization chamber	0-200 mR	Self-reading dosimeter for training and peacetime use. Uses CD V-750 charger. Gamma radiation only.
CD V-750	Battery-operated charger	Not applicable	Dosimeter charger for use with the Model CD V-138 dosimeter.
TCM 903	Radiological Portal Monitor	Meets FEMA guidelines	Portable walk through portal monitor that meets all federal guidelines

R - Roentgen
 mR - Milliroentgen
 R/hr - Roentgen per hour

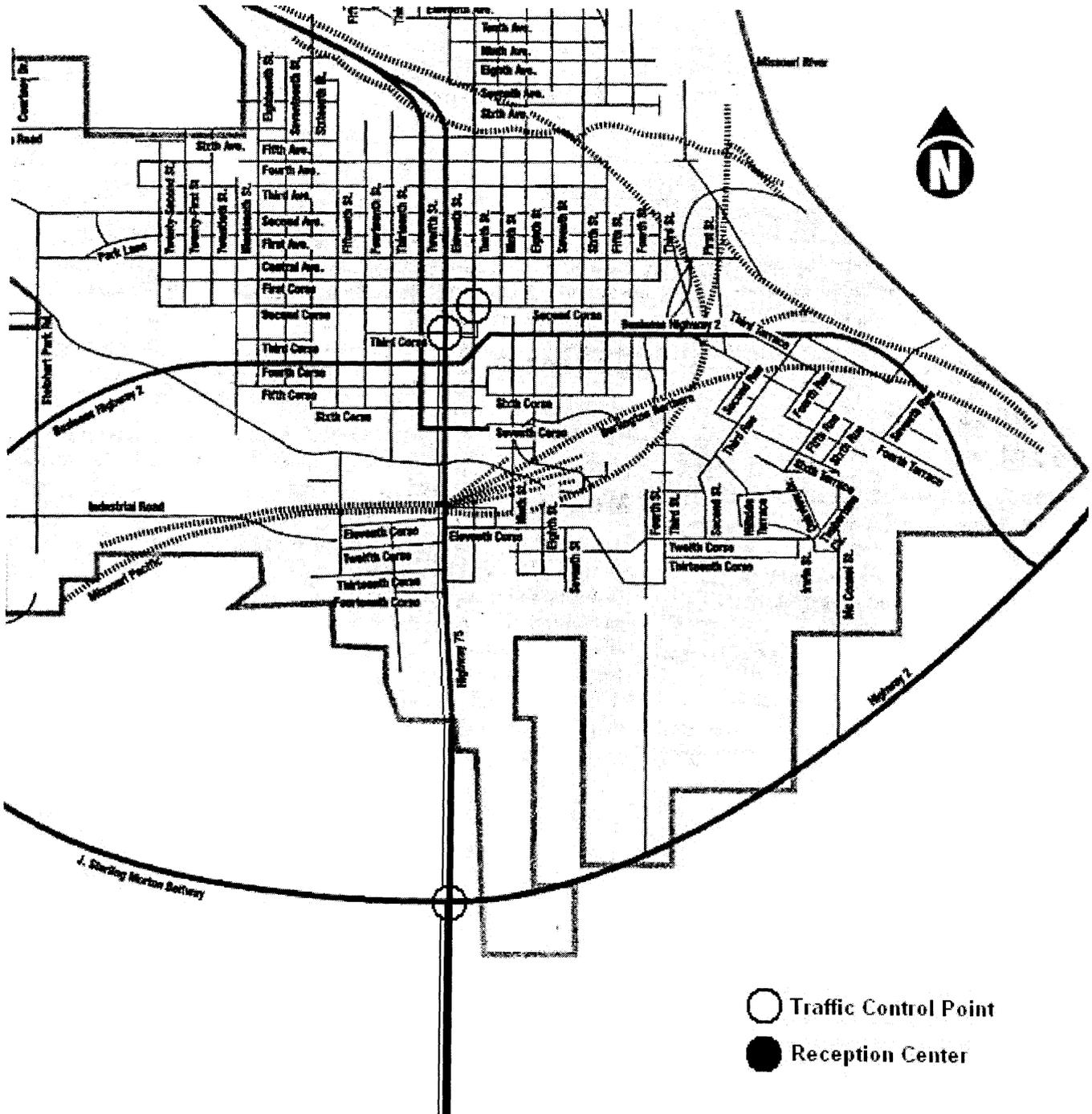
RECEPTION AND CARE CENTER



Nebraska City Reception Center



Traffic Control Points Nebraska City



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Radiological Portal Monitor (TCM 903)

Detector volume: 2 x BC408 plastic scintillators, each 1829 x 75 x 38 mm (72" x 3" x 1.5"). 648 cu.in. 1.6 mm (1/16") lead shielding around 3 sides over the full length.

Sensitivity: < 1 μ Ci under ambient conditions (RDA).

Energy range: 60 keV to 2 MeV.

Walk-through time: 1 second.

Controller: 4 x 20 character alphanumeric LCD display with password-protected keypad for the following adjustments: counting interval, N' STD DEV radiation alarm level, high/low background alarm levels, occupancy hold-in, lower level discriminator, upper level discriminator, date/time.

Occupancy sensor: Adjustable infra-red motion sensor.

Dimensions: 2310 x 930 x 610 mm (91" x 36.5" x 24") assembled.
2032 x 457 x 457 mm (80" x 18" x 18") packed in carrying bag.

Weight: 40 kg (90 lb) approx.

Power: 90 to 264 VAC, 47 to 63 Hz, 50 VA, or 6 alkaline D cells will provide 40 hrs of operation (approx.)

Operating temperature: -20 °C to 50 °C (-4 °F to 122 °F).



Radiological Portal Monitor (AM-801)

Detector volume: Four Plastic Scintillation detectors, 36" L x 3" W x 1.5" D, placed in four quadrants of the body

Scintillators: W/PMT Detector, 162 cubic inches, each detector is 648 cubic inches

Sensitivity: Meets FEMA sensitivity requirements of less than 1 uCi Cs-137 source during walk through

Energy range: 60 keV to 2 MeV.

Walk-through time: 1 second.

Controller: Full color VGA, Touch sensitive screen. Full color graphics indicate: Normal operation, Errors, and Alarms. All operating parameters: Detector CPS, High Voltage, Set points available on operator screen.

Occupancy sensor: Optical sensors automatically sense person or vehicle from entering counting area. Counter automatically counts number of persons or vehicles per day, shift, etc and saves count and time/date of vehicles exceeding alarm set points.

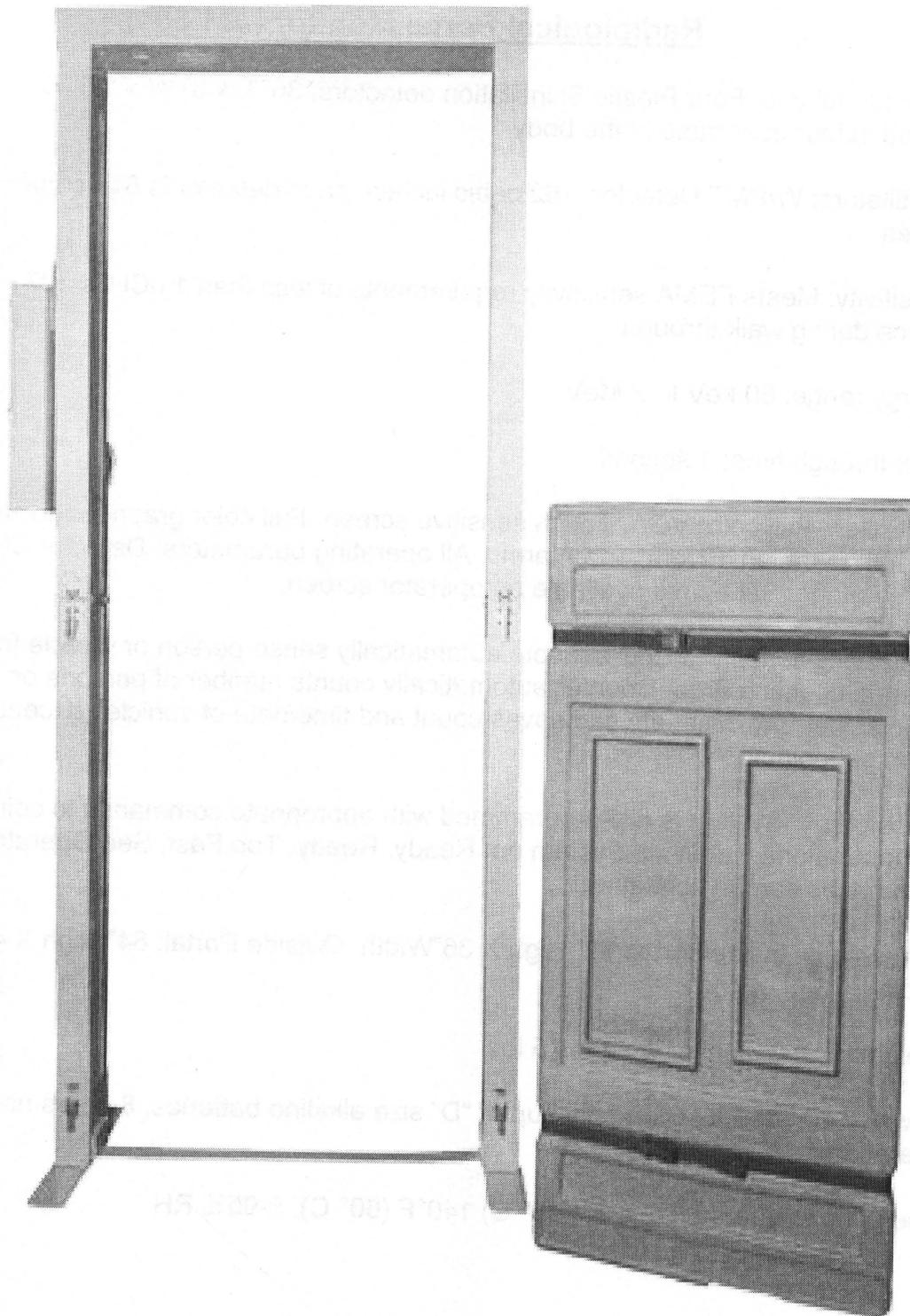
Indicators: System is pre-programmed with appropriate commands to coincide with operations (i.e. Wait, System not Ready, Ready, Too Fast, See Operator). Commands can be configured.

Dimensions: Inside portal: 72" High X 36"Width, Outside Portal: 84" High X 42" Width

Weight: Portal Monitor weighs 75 lbs.

Power: 120 –250 VAC and backup of "D" size alkaline batteries, 8 hours nominal operation

Operating temperature: -4°F (-20° C) 140°F (60° C), 5-95% RH



INSTRUCTIONS FOR ADMINISTERING POTASSIUM IODIDE (KI)*

A major protective action to be considered following an off-site release of radioiodine at a nuclear power facility is the use of stable iodide to load the thyroid gland as a "blocking agent". This action will prevent thyroid gland injury by an uptake of radioiodines.

For greatest effectiveness, the blocking agent should be administered prior to exposure to radioiodine. Since reliable radiation monitoring data may not be available that quickly, the decision to administer stable iodide as potassium iodide (KI) will be based on a pre-planned estimate of the projected dose. It is clear from standard uptake curves that, after a single release of radioiodine, the bulk of the iodine has entered the gland by 10-12 hours. Little benefit may be expected by blocking beyond this time. A substantial benefit (e.g., a block of 50 percent) is attainable only during the first 3-4 hours. For more prolonged iodine-131 exposure, KI will be useful at any time during the exposure and hence should still be given even if the drug was not given shortly after the exposure to radioiodine.

If the initial estimate at the facility indicates that people are likely to receive a projected radiation dose of 25 rems or greater to the thyroid gland, the blocking agent should be administered immediately to emergency personnel coming to or working near the facility.

The evacuation of the general public should be initiated at 1 rem total effective dose equivalent or 5 rem committed dose equivalent to the thyroid.

Based on information supplied by the facility operator as to the magnitude of the accident, the ER Manager, DHHS, Div of Public Health will consider prompt administration of the blocking agent to emergency personnel who respond to the accident. This group includes police officers, firemen, physicians, health physicists, monitors, nurses, ambulance drivers, paramedical personnel, and school bus drivers. These people are considered a potential "high risk" group.

For people beyond the immediate vicinity of the reactor the decision to instruct them to remain indoors or to evacuate will depend on (1) the type of accident, (2) estimates of releases, (3) wind direction and (4) monitoring data as it becomes available.

Supply of KI: as an oral solution, each drop contains 21 milligrams of potassium iodide or as a scored tablet containing 130 milligrams of potassium iodide. Iodide can be obtained from the Wallace Laboratory or Roxane Laboratory. DHHS, Div of Public Health maintains an immediate supply of KI of at least 1,000 doses (enough for 100 emergency workers for 10 days) of unexpired KI. A standing purchase order with Wallace Laboratories will enable the Department to rapidly acquire a large quantity if projected conditions appear to justify it.

The dose for KI as a thyroid-blocking agent in a radiation emergency only is effective if administered prior to or immediately after ingestion of Radioactive Iodine 131.

For both dosage forms: Take for 10 days unless directed otherwise by State or local public health authorities.

The decision for emergency workers to take KI will be made by the ER Manager, DHHS, Div of Public Health as a state health official. With the instruction of the ER Manager to take KI on an emergency basis, the medicine is considered to be available over-the-counter as a nonprescription drug. Instructions on how to take iodide safely and effectively including side effects, and its treatment is given to emergency workers as a training assignment. An information leaflet will be issued with KI to emergency workers.

Distribution of KI to emergency workers is geared to their varied emergency response locations and responsibilities. A health physics professional will be responsible for issuing and controlling KI for personnel who operate from the State Field Command Post and for the State Field Monitoring Teams that are responsible for dose assessment activities in the Plume Exposure EPZ.

The local Emergency Management Director, under DHHS, Div of Public Health direction, will be responsible for issuing and controlling KI for emergency response personnel involving the Sheriff's Department, police, fire fighting, ambulance services, nurses, doctors, paramedics, and radiological monitors. Issue and control of KI and TLDs for school bus drivers is the responsibility of the school Superintendent's Office. These functions may be further delegated to the local Radiological Officer.

The general public will not be provided with KI as DHHS, Div of Public Health strongly favors the use of timely protective action (i.e., in-house shelter or evacuation) for the ambulatory public located in the hazard area. Special consideration will be given to institutionalized and non-ambulatory persons, pregnant women, and children located in the hazard area for early evacuation.

***Use of Potassium Iodide (KI) by Emergency Workers is strictly VOLUNTARY.**

****If Emergency Workers refuse to take K.I (Sodium Iodide) they must sign and date Attachment 16. Also when issuing K.I a record (Attachment 16) will be kept by the Radiological Officer of the location where, when and to whom each dose of K.I was distributed too.**

K.I (Potassium Iodide) RECORD FOR EMERGENCY WORKERS

Location: _____

Why was K.I. issued: _____

PERSONNEL INFORMATION				K.I (Potassium Iodide)				
NAME	DATE OF BIRTH	SOCIAL SECURITY#	DATE	K.I ISSUED	ACCEPTED	DECLINED	TIME TAKEN	COMMENTS
<p><i>If person declines to take K.I (Sodium Iodide) person must sign and date at bottom. Person acknowledges that they were offered K.I but refused to take it, they have also been informed of the risk of not taking K.I.</i></p> <p>Signature: _____</p> <p>Date: _____</p>								

Officer in Charge _____

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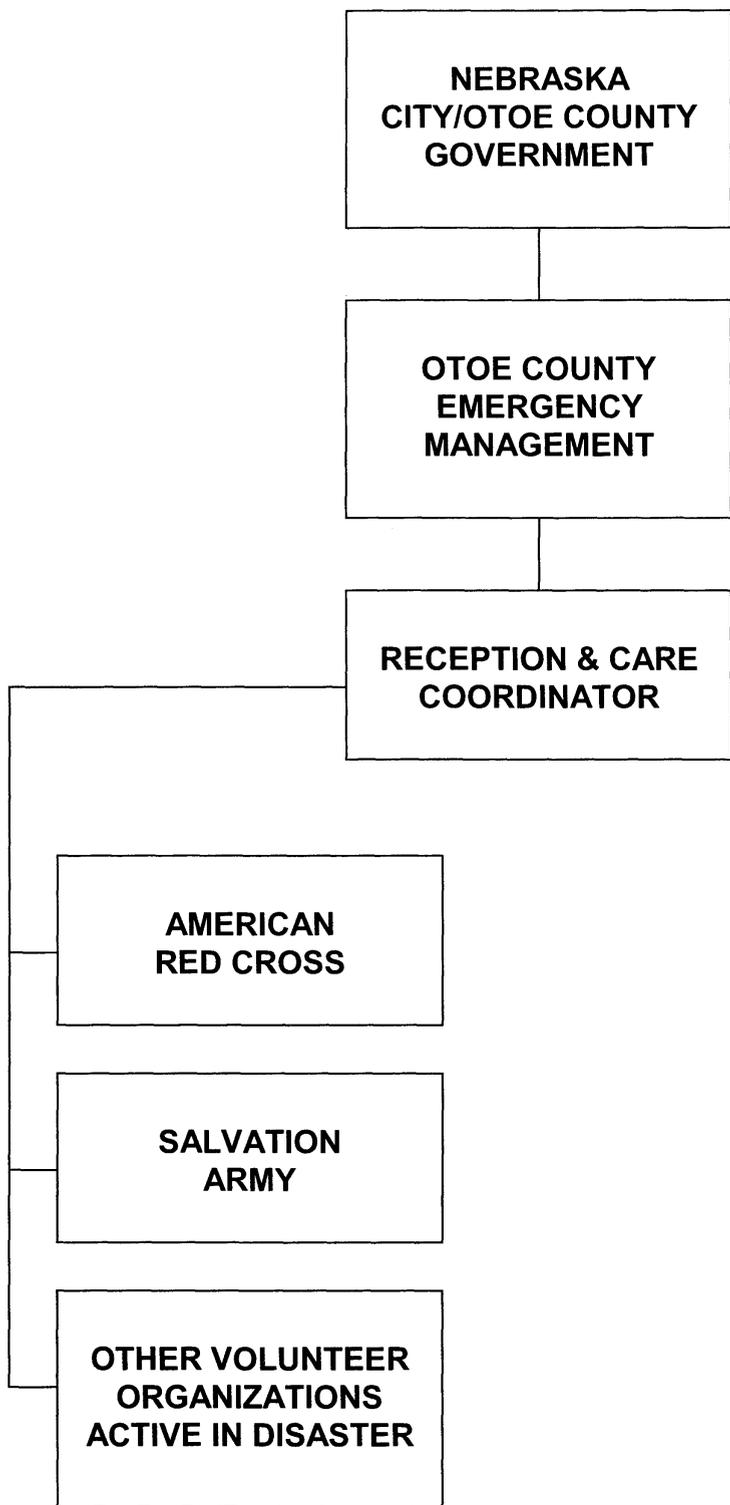
OTOE COUNTY RERP
REVISION ONE

ANNEX F
ATTACHMENT 17

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EVACUATION / RECEPTION

ORGANIZATION CHART



RECEPTION AND CARE

I. PURPOSE

The purpose of this Annex is to provide guidelines for the reception and care of persons evacuated to Nebraska City/Otoe County due to an emergency at the Cooper Nuclear Station.

II. SITUATION

- A. Nebraska City has been designated as a reception county for approximately 1,671 persons living within ten miles of the Cooper Nuclear Station.
- B. It is anticipated that many of the evacuees would stay with relatives and friends outside the 10-mile EPZ. Additionally, only those portions of the EPZ actually under risk of radioactive contamination would be evacuated. There is a high probability that Nebraska City would receive considerably less than the approximate 1,671 evacuees; however, this Annex identifies 1,958 available lodging spaces.
- C. The Otoe County Reception and Care Center is located in Nebraska City (refers to Annex G Attachments 2 & 3 for address and map) and is managed by Otoe County Emergency Management. Refer to the Otoe County Emergency Management Nuclear Related Standard Operating Guide for Reception and Care for staffing, management, handling of service animals, and operating procedures

III. ORGANIZATION/RESPONSIBILITIES

Specific responsibilities and tasks are contained in the Reception & Care Coordinator Action Guide, Attachment 1. Some general areas of responsibility are:

- A. The primary responsibility for the safety and welfare of the citizens of Nemaha County subject to consequences from an incident at Cooper Nuclear Station rests with the local governments within Nemaha County.
- B. Nebraska City and Otoe County will provide for reception and care of evacuees in support of the local governments within Nemaha County.
- C. The American Red Cross will support Nebraska City/Otoe County governments. Otoe County will appoint a Reception and Care Coordinator to manage the lodging, feeding, and general welfare requirements of evacuees, within the realm of existing Red Cross disaster relief policies.
- D. The Reception and Care Coordinator is responsible for overall coordination of the lodging, and feeding of evacuees.

- E. The Reception and Care Coordinator will appoint a staff to carry out his/her responsibilities and requirements. This staff will include, as a minimum: Registration Manager; Lodging Managers; and Feeding Manager.
- F. The Emergency Management Director is responsible for: identifying appropriate lodging and feeding facilities and obtaining permission for their use; coordinating required resources (including transportation); and, in general, ensuring proper and adequate government support is provided.

IV. CONCEPT OF OPERATIONS

- A. The Reception and Care Coordinator will coordinate lodging and mass feeding operations. He/she will work with the Emergency Management Director to ensure effective coordination of resources. Red Cross activities will be in accordance with the current ARC Disaster Guidelines and Procedures Series - ARC 3000. This includes a capability to respond on a 24-hour basis.
 - 1. Registration: Red Cross will assist local government in the registration of evacuees, and, as applicable, will share information with appropriate government agencies of those evacuees who are housed in Red Cross shelters.
 - 2. Temporary Lodging: When lodging facilities are opened, it will be the responsibility of the Red Cross to maintain all functions and staffing according to Red Cross policy. Some functions will be:
 - a. Provide lodging managers,
 - b. Registration of all individuals and families,
 - c. Selection of lodging sites in coordination with the Emergency Management Director,
 - d. Provide food service,
 - e. Provide health service in cooperation with the Medical Coordinator,
 - f. Maintain records,
 - g. Provide maintenance to the facility,
 - h. Maintain Red Cross I.D.,
 - i. Maintain order,
 - j. Provide evacuee locator and welfare inquiry services.
 - k. Provide service animal shelter

3. Feeding: As needed, meals and snacks will be provided to evacuees and workers through both mobile units and fixed feeding sites. Red Cross will be responsible for meal planning, coordination of mobile feeding, identifying feeding sites and resources for the procurement of food and related supplies. Some specific functions will be:
 - a. Select sites in coordination with the Emergency Management Director,
 - b. Procure food and supplies,
 - c. Maintain records and reports,
 - d. Provide and maintain mobile feeding units.

B. Lodging/Feeding Facilities

1. Facility List: A listing of the best available lodging/feeding facilities is contained in Attachment 2. These were extracted from a Survey Listing maintained by the Otoe Emergency Management Director.
2. Selection: The designation of specific lodging and feeding facilities will depend on the actual situation and the number of evacuees. The best possible facilities will be selected from the list in Attachment 2 or from lists maintained by the Red Cross.

C. Implementation

Provisions of this Annex will be implemented as soon as a need for temporary lodging or feeding is identified.

1. Readiness Phase: communications will be established with all agencies and with the Nemaha County EOC in Auburn. Essential personnel, including volunteers, will be alerted and required material resources (cots, blankets, food, etc.) will be located and propositioned, if necessary. The hospital will be altered to the possibility of receiving evacuee patients.
2. Reception Phase: Once the evacuation decision has been made, action will commence to receive evacuees. Initial action will include opening the Registration Center and selected lodging/feeding facilities.

D. Registration

The Registration Center will be at the Nebraska City Middle School, 217 South 9th Street.

1. Registration Center Actions
 - a. Register all individuals and families.
 - b. Assign individuals and families to lodging and feeding.

- c. Maintain records of assignments to ensure the equitable distribution of evacuees.
- d. Maintain locator records to provide information to authorized persons or agencies.
- e. Provide for counseling assistance.

2. Registration Center Guidelines

- a. The Registration Center will remain open continuously until all evacuees are cared for.
- b. As evacuees arrive at the Center, all individuals and heads of households will be required to register immediately after they have been cleared by monitoring or decontamination personnel.
- c. At the time of registration, evacuees will be questioned about the need for assistance and, where possible, will be directed to agencies with capabilities to meet their needs.
- d. After registering, those individuals/families with a place to stay may proceed. Individuals/families needing lodging will be assigned to housing at a designated facility.
- e. Feeding may be available at the lodging facility. If not, feeding facility assignments will be provided to each person assigned to the lodging facility.

3. Registration Forms: the standard Red Cross registration form may be used. If those are not available, the sample registration form shown in Attachment 4 can be duplicated quickly in sufficient quantities to meet most needs.

E. Transportation

Nebraska City will provide buses, that will be located at the reception centers, to transport individuals without the means and those required to leave their vehicles for later monitoring and/or decontamination, to congregate care centers.

F. Welfare Inquiries

The Red Cross will establish a Disaster Welfare Inquiry Operation to answer requests from relatives and friends concerning the safety and welfare of evacuees.

G. Lodging Facility Managers

The American Red Cross and the Otoe County Emergency Management Director will jointly maintain listings of qualified and trained shelter/lodging facility managers.

H. Schools

There is one public school and one college within the 10-mile EPZ of Cooper Nuclear Station. All of which would be notified by phone at ALERT. At SITE AREA EMERGENCY, the Emergency Management Director will consult with the school superintendent/administrator to determine if an evacuation of the schools is warranted prior to the evacuation of the general public. Each school will evacuate in accordance with its emergency plan. An evacuation of schools must be coordinated with the SEOC to ensure the appropriate EAS messages are released to the public, informing parents of the evacuation and where to pick up their children. Parents or guardians should bring proper identification when picking up their children at the Registration Center.

1. School children attending school outside the EPZ but living inside the EPZ and who are normally bused will be released to their parent or guardian prior to school being dismissed. After normal dismissal time the remaining children will be transported to the appropriate Registration Center. Requests for transportation instructions or support will be made to the Nemaha County Emergency Management Office.

I. Resource Support

The Otoe County Shelter Coordinator, assisted by the Otoe County Emergency Management Director, will determine transportation and other resource needs and coordinate utilization of resources. The Otoe County Emergency Management Director maintains a resource directory.

J. Training

The Otoe County Emergency Management Director will ensure that appropriate training is made available to officials and volunteers who would participate in reception and care activities as identified in Attachment 2 of Basic Plan in the county training matrix. Federal training programs in Shelter Systems and Shelter Management are available through the Nebraska Emergency Management Agency. The Red Cross offers training in Shelter Operations and Disaster Welfare Inquiry Operations.

LIST OF ATTACHMENTS

1	Reception and Care Coordinator Action Guide	G-7
2	Reception and Congregate Care Facilities	G-10
3	Reception and Congregate Care Facilities Map	G-11
4	Registration Form for Evacuees	G-12

Reception & Care Coordinator

NOTIFICATION OF AN UNUSUAL EVENT: Unusual events are in process or have occurred which indicate a potential degradation of the level of safety of the plant.

Actions Required: No action required.

Release Potential: No releases of radioactive material requiring off-site response or monitoring are expected unless further degradation of safety systems occurs.

ALERT: Events are in process or have occurred which involve an actual or potential substantial degradation of the level of safety of the plant.

Actions Required: (1) Review Reception Plan.
(2) Notify Red Cross staff and volunteers and place on stand-by status.
(3) Determine availability of resources which may be needed.

Release Potential: Any releases are expected to be limited to small fractions of the EPA Protective Action Guidelines exposure levels.

SITE AREA EMERGENCY: Events are in process or have occurred which involve actual or likely major failures of plant functions needed for protection of the public.

Actions Required: (1) Determine approximate number of residents and transients affected within the EPZ that may be directed to evacuate to Nebraska City.
(2) Determine availability of resources needed to support reception of evacuees (including forms, maps, etc.)
(3) Coordinate procedures for directing evacuees from monitoring decontamination area to registration area with RO and Red Cross—ensuring no one is registered without first being monitored and cleared by decontamination center personnel.
(4) Coordinate possible transportation requirements with Emergency Management Director.
(5) Coordinate requirements for first aid and crisis counseling personnel at registration center with Medical Coordinator.
(6) Coordinate anticipated routes and traffic control requirements from registration center to lodging facilities with law enforcement.
(7) Prepare registration center for activation.
(8) Select possible lodging and feeding facilities in cooperation with Emergency Management Director. Contact selected facilities and request permission to use.
(9) Coordinate methods to provide evacuees with official information and current status with PIO.
(10) Coordinate communications requirements for registration, lodging, and feeding facilities with Communication Officer.
(11) Determine specific requirements for receiving evacuees with “special needs” (handicapped, infirmed, etc.).

Reception & Care Coordinator

- (12) Coordinate procedures to implement Disaster Welfare Inquiry (DWI) services with the Red Cross.
- (13) Notify Emergency Management Director of any anticipated resource (equipment, supplies, or personnel) shortfalls.

Release Potential: Any releases are not expected to exceed EPA Protective Action Guideline exposure levels.

GENERAL EMERGENCY: Events are in process or have occurred which involve actual or imminent substantial core degradation or melting with potential for loss of containment integrity.

- Actions Required:**
- (1) Staff and activate registration center and ensure adequate resources are in place (forms, equipment, supplies, etc.).
 - (2) Activate lodging and feeding facilities—and implement mass feeding, as needed. Maintain 24-hour operational capability.
 - (3) Coordinate all routes from registration center to lodging facilities with law enforcement.
 - (4) Request crisis counselors for registration center and lodging facilities as required.
 - (5) Coordinate communications requirements with EOC Communications Officer.
 - (6) Provide periodic status reports to EOC.
 - (7) Request additional resources as required, from Emergency Management Director.
 - (8) Coordinate public information updates for evacuees with PIO.
 - (9) Assign evacuees with “special needs” to barrier free or appropriate facilities.
 - (10) Coordinate evacuee information with Red Cross for DWI services.
 - (11) Maintain all appropriate records (registration, lodging/feeding assignments, expenses, operational logs, etc.).
 - (12) Coordinate transportation requirements with Shelter Coordinator.
 - (13) Coordinate parking and security/law enforcement requirements at registration and lodging facilities with law enforcement.

Release Potential: Releases can be reasonably expected to exceed EPA Protective Action Guideline exposure levels for more than the immediate site area.

Reception & Care Coordinator

POST EMERGENCY PHASE: Events that begin immediately after evacuation procedures have been implemented. Consists of Relocation, Reentry, and Return.

- Actions Required:**
- (1) Coordinate with Nemaha County EOC to determine when to release evacuees.
 - (2) Terminate operations of registration center.
 - (3) Coordinate with PIO on instructions and precautions for evacuees to return home.
 - (4) Advise evacuees they may return home when directed by EOC.
 - (5) Continue status reports to EOC until all evacuees have departed.
 - (6) Terminate operation of lodging and feeding facilities as evacuees depart. Coordinate clean-up of lodging and feeding facilities.
 - (7) Advise Emergency Management Director of any transportation requirements to support evacuees return home.
 - (8) Consolidate all files for final review.
 - (9) Prepare required reports to deliver to EOC.

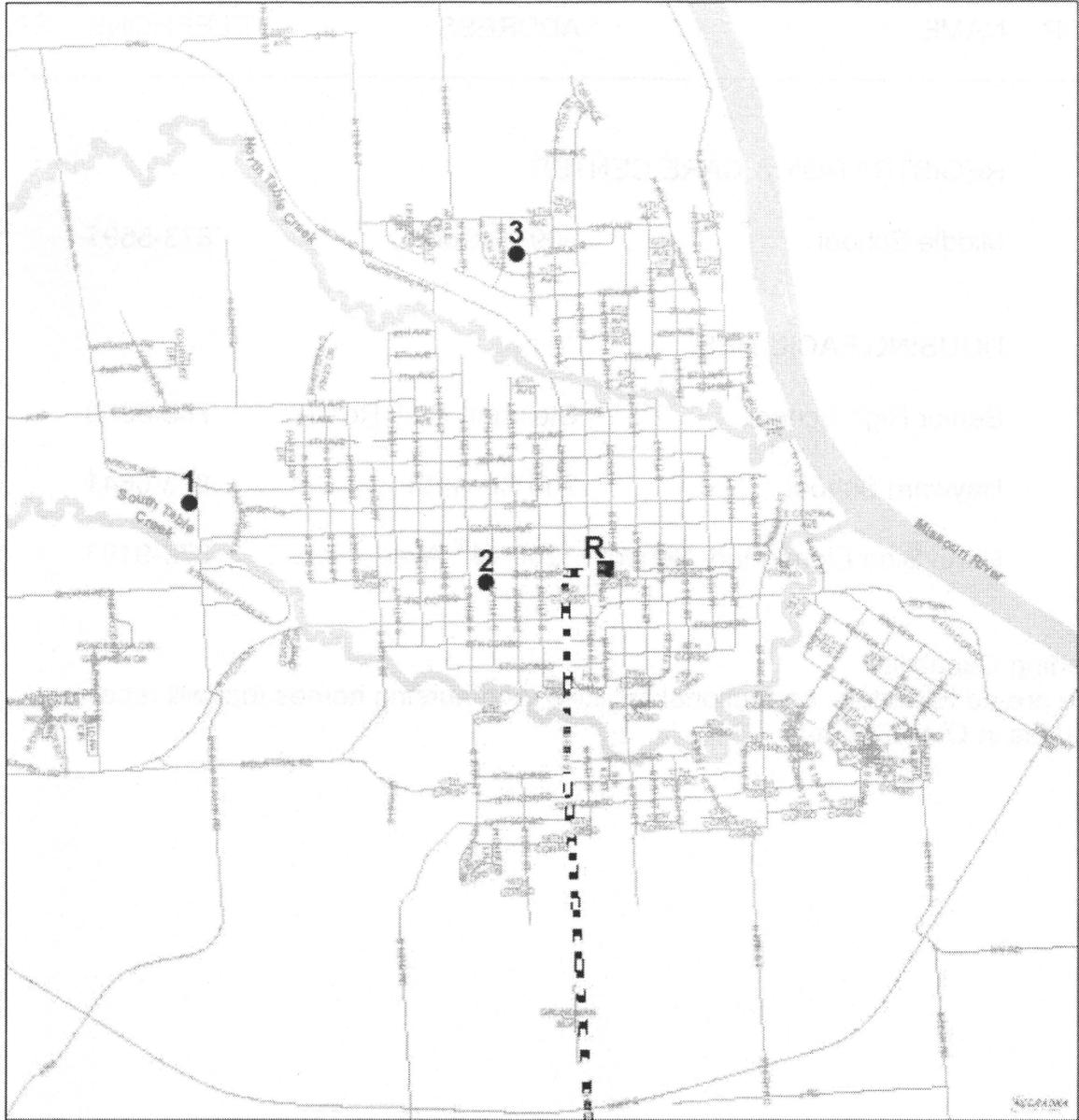
RECEPTION FACILITIES
 NEBRASKA CITY, NEBRASKA

MAP LOCATOR	NAME	ADDRESS	TELEPHONE	LODGING SPACES
REGISTRATION & CARE CENTER:				
R	Middle School	909 1 st Corso	873-5591	*352
HOUSING FACILITIES:				
1	Senior High School	Steinhart Park Road	783-3360	*446
2	Hayward School	306 So. 14th	873-6641	*252
3	North Side Elementary School	1200 14 th Ave.	874-9193	*277

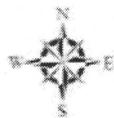
* Feeding Capability

There are no Hospitals, correctional facilities, and nursing homes that will receive evacuees in Otoe County.

NEBRASKA CITY RECEPTION & CARE



■	Reception Facility
●	Care Facility
---	EvacRoute
—	Street



**REGISTRATION FORM FOR EVACUEES
ASSIGNED TO CONGREGATE CARE HOUSING/VOLUNTEER HOMES**

Date In

Date Out

1 _____
(Name-Head of Household) (Age) (Sex)

2 _____
(Spouse) (Age) (Sex)

3 _____
(Family Member) (Age) (Sex)

4 _____
(Family Member) (Continue On Back If Needed) (Age) (Sex)

5 _____
(Home Address) (Telephone #)

6 _____
(Special Physical/Medical Requirements)

7 _____ 8 _____
(Assigned Housing) (Assigned Feeding)

9 _____
(Volunteer Home-Name & Address)

10 _____
NOTIFY IN EMERGENCY (Address) (Telephone #)



**REGISTRATION FORM FOR EVACUEES
NOT HOUSED IN CONGREGATE CARE HOUSING
(HOUSED WITH FRIENDS/RELATIVES/MOTELS/ETC.)**

Date In

Date Out

1 _____
(Name-Head of Household) (Age) (Sex)

2 _____
(Spouse) (Age) (Sex)

3 _____
(Family Member) (Age) (Sex)

4 _____
(Family Member) (Continue On Back If Needed) (Age) (Sex)

5 _____
(Home Address) (Telephone #)

6 _____
(Special Physical/Medical Requirements)

7 _____
(Assigned Feeding-If Applicable)

8 _____
(Name of Friend/Relative/Hotel) (Address) (Telephone #)

9 _____
NOTIFY IN EMERGENCY (Address) (Telephone #)

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Annex H

Hostile Action Based

RESPONSE TO COOPER NUCLEAR STATION HOSTILE ACTION BASED (HAB) EVENTS

A hostile action based (HAB) event (as defined in NRC Bulletin 2005-02, Emergency Preparedness and Response Actions for Security-Based Events) is an act toward a nuclear power plant or its personnel that includes the use of violence and force to destroy equipment, take hostages, and/or intimidate the licensee to achieve an end. This includes attack by air, land, or water using guns, explosives, projectiles, vehicles, or other devices used to deliver destructive force

I. PURPOSE

- A. This annex is intended for city, county and state radiological emergency planners and responders working with Cooper Nuclear Station (CNS) in Nebraska. This document defines roles, responsibilities, and actions needed for Hostile Action Based (HAB) incident response in Nebraska that are in addition to the Radiological Emergency Response Plan (RERP).
- B. The hostile action response planning accommodates three major events happening simultaneously:
 - 1. A Hostile Action Based event occurring at CNS.
 - 2. A radiological emergency situation at CNS.
 - 3. Increased state and national threat level and the precautionary measures that may need to be implemented at other locations.
- C. This annex addresses various types of HAB incidents that could occur at a nuclear generating plant including:
 - 1. Land based hostile force attack on CNS.
 - 2. Water based hostile force attack on CNS.
 - 3. Aircraft based hostile attack on CNS.
 - 4. Insider based attack.
 - 5. Combination of insider and external attack on CNS.

II. SITUATION

- A. CNS is subject to a terrorist attack from the air, ground, water, and/or internal sources.

B. Local emergency resources provide emergency response services on a day-to-day basis. The Response Matrix, a controlled document held by the Nemaha County Sheriff, identifies local, state and federal support organizations related to a HAB event including but not limited to:

1. Law enforcement agencies,
2. Fire departments,
3. Rescue squads and,
4. Nemaha County Hospital, Auburn, NE.
5. State Agencies
6. Federal Agencies

III. ASSUMPTIONS AND PLANNING FACTORS

A. Assumptions

1. Incident Command will be established for the incident in accordance with NIMS, ICS and response guidance.
2. This annex assumes that hostile forces may be able to overcome the defensive strategies and infrastructure protections in place at CNS and require off-site agencies to respond to the site and provide assistance. CNS has Memorandums of Agreement (MOA), their Letters of Agreement (LOA), and procedures to allow access to the Station for local and state response agencies. These procedures are NRC Safeguards Information and in CNS Security's possession. See Attachment 1 for a list of LOAs.
3. A HAB incident may rapidly escalate through the Emergency Classification Levels (ECL) and by the time the initial notification is made, the site may be at a higher classification level. The initial call for assistance from CNS may come from plant security to 911 before the regulatory notification is made.
 - a. The Nemaha County Sheriff and CNS have a process for verification of any notification or message transmitted over a non-secure system.
 - b. Subsequent notifications will be through the CNS direct line. Once the Nemaha County EOC is manned and the State conference line is activated, notifications are also passed to the County EOC over the conference line and from the County EOC to the Incident Command Post (ICP). See Attachment 2 Lines of Communications Diagrams.
4. Vital areas and/or systems may be damaged by the adversaries causing a release of radioactive material.

5. The CNS Emergency Operations Facility (EOF) Director may need to coordinate with the Incident Commander (IC), CNS security and operations personnel to move critical nuclear power plant workers on-site to make repairs to vital systems.
6. Coordination between inbound response resources and evacuation efforts will be accomplished by radio, phone or text communication between the IC and CNS Security both prior to the ICP being operational and at the ICP once CNS liaisons arrive.
7. The plant may go into lock down for an extended period of time.
8. There may be no immediate all clear for employee movement on the site.
9. The site may be a crime scene and if so crime scene preservation activities will be implemented.

B. Planning Factors

1. A Hostile Action Based (HAB) event will be treated as a law enforcement event until a determination is made that a radiological release that would exceed permissible Environmental Protection Agency (EPA) guidelines is occurring, likely to occur, or is imminent, regardless of the Emergency Classification Level (ECL). This determination is made by the Governor's Authorized Representative (GAR) based on inputs from all available sources of information.
2. The required emergency response tasks for a Hostile Action Based (HAB) event at a nuclear generating plant have been evaluated and a response matrix developed that shows the response time for available resources. This matrix allows for prioritization of tasks based on the availability of resources. This document holds protected information and is held by the Nemaha County Sheriff. Some responsibilities in the base plan may be re-assigned to accommodate the immediate response that is needed for a HAB incident.

C. Planning Elements for a HAB

1. The foundation for this emergency response planning annex is for events that may exceed the plant security design basis threat. Planning assumes adversaries may penetrate the plant boundaries and cause damage to the infrastructure with partial loss of control for critical plant systems.
2. The event will be treated as a law enforcement event until there are indications of a radiological release or a determination is made that a radiological release is likely, regardless of ECL.
3. The initial response may be a law enforcement response to a hostile action and not necessarily a radiological emergency.

4. The State and Nemaha County have indicated they do not have sufficient capabilities to independently engage in a “take back” of the facility if control of the nuclear station is lost.
5. The goal of the initial response is to prevent a radiological emergency.
6. All normal Radiological Emergency Preparedness (REP) activities for each Emergency Classification level (ECL) may continue to be implemented as necessary in accordance with the approved base plan unless otherwise noted.
7. County and State EOCs will manage and coordinate the off-site radiological emergency response plan activities.
8. Radiological Protective Action Recommendations (PARs) are made to the State and Risk Counties by CNS. Radiological Protective Action Decisions (PAD) are made by the Governor’s Authorized Representative (GAR) based on recommendations from CNS and the Nebraska Department of Health and Human Services (DHHS), Division of Public Health (DPH), Office of Radiological Health and are coordinated with the Incident Commander (IC), Nemaha County, Richardson County and the State of Missouri Governor’s Authorized Representative (GAR).
9. The National Incident Management System (NIMS) will be used and if appropriate, Unified Command implemented at the Incident Command Post (ICP).
10. Incident Command Post (ICP) will be established and be responsible for coordinating/managing the HAB specific emergency response activities.
11. The Nemaha County Sheriff Department will be the lead law enforcement agency for all HAB Classification Levels until/unless the Federal Bureau of Investigation (FBI) assumes overall command.
12. The Nemaha Rural Fire Department will be the lead fire and EMS agency for all emergencies.
13. Resource tracking will be a coordinated effort between the Nemaha County Emergency Operations Center (EOC) and other response sites including but not limited to the ICP and staging areas.
14. If the incident is determined to be a Terrorist Incident the FBI may take the lead for the criminal investigation.
15. CNS security is to protect the vital areas of the plant, and maintain defensive positions of the protected area. CNS will rely on Federal, State and Local Law Enforcement for law enforcement type actions, and to assist CNS with recovery of the site if necessary.
16. Crime scene preservation activities may be implemented at the site.

17. A local PIO may be assigned to the EOC location to facilitate a timely exchange of information with other PIOs. All HAB incident specific public information will be coordinated/ communicated between and among the Incident Commander Post PIO, SEOC PIO, and Local PIO. The PIO with information to relay will initiate coordination and communication with other PIOs as appropriate via phones, radios, and or other forms of electronic transmission.
18. Just in time training will be provided to non-traditional responders to the event.
 - a. The training will be provided by Nemaha County Emergency Management Agency at locations that will be determined by the incident circumstances.
 - b. All traditional responders currently receive annual radiological training.

D. Emergency Classification Levels

1. In a hostile action event the ECLs are based on the area of the plant site being impacted by advisories. The emergency response actions are based on the ECL for hostile action incidents.
2. Per the NRC Approved CNS Emergency Action Level Methodology, a Notification of Unusual Event EAL is declared when a security condition does NOT involve a hostile action or when there is a credible site-specific security threat or there is a validated notification from the NRC providing information on an aircraft threat.
3. Alert is defined as Hostile Action within the Owner Controlled Area (see Attachment 3, Generic Site Map) or a validated airborne attack threat within 30 minutes of the Plant.
4. Site Area Emergency (SAE) is defined as Hostile Action within the Owner Protected Area (see Attachment 3, Generic Site Map).
5. General Emergency (GE) is defined as Hostile Action inside the plant's Vital Areas (see Attachment 3, Generic Site Map), such that plant personnel are unable to operate equipment required to maintain plant safety functions.

E. Travel Restriction

1. A travel restriction is a law enforcement action which may be implemented in the immediate area surrounding a nuclear power station in the event of a hostile action based (HAB) event. The purpose of the travel restriction is to protect the public health and safety from the threat of criminal acts or violence while ensuring a rapid response by law enforcement and other first responders is not hindered.

2. Travel restrictions are imposed by the local Incident Commander (IC) and do not generally require the activation of the prompt Alert and Notification System (ANS) to advise local area residents. The boundaries of a travel restriction can be pre-determined or may be determined by the incident commander during an event. The boundaries may also be adjusted as necessary as the event unfolds.

F. Protective Action Decision-Making

1. A special process has been implemented for hostile action based (HAB) events at CNS wherein the Governor's Authorized Representative (GAR) makes a determination as to the likelihood of a radiological release on an ongoing basis. As long as a likelihood of radiological release does not exist, the GAR will not make any Protective Action Decisions (PADs) and the IC's near site travel restriction will continue in force until the situation has stabilized. If a probability of a radiological release is determined to be present, appropriate PADs will be made in coordination with the IC and local officials in accordance with State and local plans.
2. PADs for a response to a radiological hazard will continue to be made by the GAR) in coordination with IC and local officials until the situation has stabilized and the radiological release has been terminated. See Attachments 4, "Off-Site Decision-Making Process" and Attachment 5, "Off-site HAB vs. REP Decision Table".

IV. RESPONSIBILITIES specific to a HAB event

A. State of Nebraska

1. Nebraska State Patrol (NSP):
 - a. NSP will respond to requests for assistance from the local law enforcement agencies, including but not limited to, the deployment of troopers, Special Response Team(s) (i.e. SWAT and Bomb), and specialized vehicles.
 - b. Representatives will deploy to the ICP if requested by the Incident Commander.
 - c. The State of Nebraska Fusion Center, the Nebraska Information Analysis Center (NIAC), may be requested to provide support situational awareness and analysis of possible trends.
2. Nebraska Emergency Management Agency (NEMA):
 - a. If initial reports indicate a Hostile Action event is occurring, NEMA will advise the Governor's Office and other appropriate State Agencies of the situation. See Attachment 2 for the Primary Lines of Communications Diagrams.

- b. The Assistant Director may determine to open the State Emergency Operations Center (SEOC) and deploy a forward contingency of NEMA staff to Nemaha County prior to an ALERT Emergency Classification Level (ECL) being declared.
- c. The Assistant Director may determine to open the conference line for activated sites to ensure communication between all responders. See Attachment 2 for the Primary Lines of Communications Diagrams.
- d. Make the following additional notifications specific to a HAB event:
 - 1) The Nebraska Protective Security Advisor (PSA) for situational awareness of other critical infrastructure.
 - 2) Fort Calhoun Nuclear Station (FCNS), and all Risk and Host counties for both Nuclear Power Stations.
- e. Open or participate in a Joint Information Center (JIC) as defined in the Basic Plan.

B. Nemaha County

- 1. Nemaha County Emergency Management will respond to requests for support from the Incident Commander (IC).
 - a. Will, as necessary establish one or more staging areas at the direction of the IC.
 - b. The Staging Area serves as a designated location where resources can be placed awaiting tactical assignment by the Incident Command Post (ICP) and release of Radiological Monitoring Teams.
- 2. Nemaha County Sheriff Office:
 - a. If the situation requires, notify NSP and the FBI
 - b. May respond to a CNS incident based on information received by CNS security.
 - c. May determine the location for the Incident Command Post (ICP)
 - d. Incident Command Post (ICP).
 - 1) An ICP may be established for a hostile action based (HAB) event at CNS.
 - 2) Initial security may be established and staffed at predetermined locations by off-site law enforcement based on the event

circumstances. The security may be adjusted as necessary at the direction and discretion of the ICP.

- 3) The ICP is responsible for coordinating the tactical-level response to a HAB event at CNS.
- 4) The ICP is responsible for the coordination and communication with CNS and with State Radiological Monitoring Teams for sampling near CNS through the Governor's Authorized Representative (GAR).
- 5) The Incident Commander (IC) will coordinate response activities at or near the site including:
 - a) The control and management of water and land-based access to the site, and
 - b) The establishment and maintenance of communications with CNS security staff onsite and state and county EOCs.
- 6) The Lead IC may be located in the ICP.
- 7) The Lead IC may be the Nemaha County Sheriff or his/her designee. The Lead IC is responsible for the overall response to the hostile action based (HAB) event requiring the coordination of off-site responders and resources to the site.
- 8) The Lead IC or designated representative may approve the release of information out of the ICP.

C. Cooper Nuclear Station (CNS) is responsible for:

1. Actions taken on CNS property.
2. Providing ECL information and PARS.
3. Providing dosimetry for responders to CNS

D. Federal Bureau of Investigation (FBI):

1. Assist in the criminal investigation and, if the incident is determined to be a Terrorist act, become the primary investigative agency.
2. Coordination with local, State and Federal agencies.

V. COMMUNICATIONS specific to a HAB

- A. The following are, but not limited to, potential points of contact for distribution of threat information:

1. NSP
 2. CNS Security 24x7 contact,
 3. Nemaha County Sheriff and Emergency Management
 4. Richardson County Sheriff and Emergency Management
 5. NEMA, via Duty Officer if off hours,
 6. Omaha FBI Office,
 7. State of Missouri and,
 8. Atchison County, Missouri.
- B. Significant or credible threat information may be shared between Nemaha County Sheriff, Nemaha County Emergency Management, State of Nebraska, Cooper Nuclear Station, State of Missouri, Atchison County MO, and federal agencies like the Nuclear Regulatory Commission (NRC) and the Federal Bureau of Investigation (FBI).
- C. Communication of threat information and coordination between the Nemaha County EOC and the Incident Command Post (ICP), and agencies listed in paragraph B. (on the previous page) may be by, but is not limited to:
1. Radio.
 2. Phone.
3. Other means of communication.

VI. CONCEPT OF OPERATIONS

A. General

For a HAB incident, a law enforcement response element may be required and an ICP may be established to coordinate and manage the activities at a location determined by the Incident Commander (IC).

B. Notifications

1. As appropriate, CNS may pass suspicious activity information to the Nemaha and Atchison County Sheriff's Department to investigate. The Nemaha and Atchison County Sheriff's Departments may then pass information up to the States of Nebraska and Missouri. See Attachment 2 for the Primary Lines of Communications Diagrams.

2. Initial notification may come from CNS security, CNS control room, citizen observations either in Nebraska or Missouri, local law enforcement in either Nemaha, Richardson or Atchison counties, 911/dispatch centers from Nebraska or Missouri or the NRC.
3. Initial local response will be based on the content of the notification and may not automatically initiate a REP response until the threat of a release is realistic or there is an actual release. A full REP response may not be initiated at the NOUE, Alert, SAE or General Emergency until it can be verified by law enforcement and/or CNS that the area is secure and follow-on response units will not encounter terrorist's or inhibit law enforcement, fire, or medial units responding to the HAB event.

C. HAB specific media releases will be coordinated and approved by the Incident Commander (IC) or designated representative prior to release to ensure that sensitive information is not released.

D. Initial Response

1. State and local hostile action response goals include but are not limited to life safety, incident stabilization, and property and environmental preservation.
2. Initial law enforcement tactical operational priorities are:
 - a. Life Safety
 1. Responders
 2. Victims
 3. Public
 - b. Incident stabilization
 - c. Property preservation

E. Emergency Classification Level (ECL) "NOTICE OF UNUSUAL EVENT" (NOUE) actions/activities

1. Response actions at a hostile action based (HAB) NOUE ECL are based on:
 - a. When a security condition does NOT involve a hostile action, or
 - b. When there is a credible site-specific security threat, or
 - c. There is a validated notification from the NRC providing information of an aircraft threat.

2. CNS provides notification to the States and Risk Counties in Nebraska and Missouri using normal methods for a NOUE ECL.
3. CNS, States and Risk Counties increase state of readiness.

F. "ALERT" ECL actions/activities

1. Response actions at a HAB Alert ECL are based on:

- a. A hostile action is occurring or has occurred within the owner controlled area (see Attachment 3, Generic Site Map), or
- b. A validated notification from NRC of an airliner attack threat within 30 minutes of the site. The airliner attack threat would not prompt an immediate response to the site by local responders

2. Cooper Nuclear Station (CNS):

CNS provides notification to the States and Risk Counties in Nebraska and Missouri using normal methods for an Alert ECL.

3. Nemaha County:

- a. An Incident Command Post (ICP) may be established as directed by the Incident Commander.
- b. The Nemaha County Sheriff may be responsible for designating the appropriate Incident Command Post (ICP) location and advising other agencies of the location.
- c. If appropriate for the incident, a Unified Command may be established and may include county, state, Federal and CNS expertise.
- d. Initial representatives who may deploy to the Incident Command Post (ICP) include but are not limited to:
 - 1) Nemaha County Sheriff Department
 - 2) Nemaha County Emergency Operations Center
 - 3) PIO for the Incident Command Post (ICP) who, if activated, will coordinate the approval and release of all hostile action based (HAB) incident specific information through the PIO in the SEOC or the JIC once activated.
 - 4) NSP
 - 5) CNS liaisons with Security, Operations and Radiation Protection knowledge.

- 6) FBI
 - e. Initial representatives, equipment or vehicles that may be deployed to tactical operations or staging area(s):
 - 1) Nemaha County Sheriff
 - 2) NSP troopers, SWAT, and Bomb team
 - 3) FBI SWAT and Special Agent Bomb Team (SABT)
 - 4) Fire and EMS resources and Mutual Aid departments as requested.
 - f. The Incident Command Post (ICP) maintains communications with CNS liaisons that are knowledgeable in Plant Security, Plant Operations, and Plant Radiation Protection and the Nemaha County EOC, the Staging Area and the Governor's Authorized Representative (GAR) upon arrival at the EOF.
 - g. The ICP focuses on the response activities such as setting up a perimeter, establishing site access control, and coordinating on-site law enforcement, fire, and EMS response.
 - h. Communication will be established between the Incident Commander (IC) and CNS as soon as possible using:
 - 1) Radio,
 - 2) Telephone,
 - 3) Other means as appropriate and necessary.
 - i. The Response Matrix (see paragraph III.B on page L-3) includes telephone numbers and radio frequencies, and is a protected document held by the Nemaha County Sheriff's Office.
 - j. The Nemaha County Sheriff's Office may request assistance from other agencies as needed. Activation of non-traditional personnel will be accomplished through day-to-day dispatch procedures. Nemaha County has an MOU with the Southeast Region to provide assistance. This Region includes Cass, Fillmore, Gage, Jefferson, Johnson, Lancaster, Otoe, Pawnee, Richardson, Saline, Seward and York counties.
 - k. The Nemaha County EOC will deploy direct-reading and thermoluminescent (TLs) dosimetry along with potassium iodine (KI) to those responding Emergency Workers whose agencies do not already have these items on hand.
4. The State:

- a. Ensure that all state activities have been implemented for HAB Alert ECL.
- b. NSP will respond to requests for assistance from local law enforcement agencies including the deployment of troopers, Special Response Teams and specialized vehicles including Mobile Command Posts.
- c. SEOC may be activated by the Governor's Authorized Representative (GAR) based on information emanating from the field or at the direction of the Adjutant General, or Governor.
- d. The SEOC, if requested by county authorities, may activate and deploy state assets including the Nebraska National Guard.
- e. Local, State and federal response agencies may be requested to respond to CNS to assist in sweeping/entering the plant for anyone or anything that may pose a threat to the plant.

G. Site Area Emergency (SAE) ECL actions/activities

Response actions at a hostile action based (HAB) event SAE ECL may occur due to hostile action occurring or that has occurred within the protected area of the nuclear power station (see Attachment 3, Generic Site Map).

1. Cooper Nuclear Station (CNS):

- a. Provides notification to the off-site agencies.
- b. If not already in place, CNS provides liaisons having security, operations and radiation protection knowledge to the Incident Command.

3. Nemaha County:

- a. The Sheriff or designated representative may assume the role of Incident Commander (IC) in accordance with local HAB Standard Operating Guides (SOGs), Standard Operating Procedures (SOP) and plans.
- b. Contingent on the HAB situation, sirens may not be sounded. The Sheriff may decide not to have the sirens sounded unless the HAB event includes a protective action decision (PAD) which includes the 10-mile emergency planning zone (EPZ) and is associated with a radiological event. (See Attachment 6, Siren Usage HAB vs. REP)
- c. The Sheriff may have Dispatch contact the National Weather Service (NWS) and request the broadcast of the "Initial NWS EAS Message".
- d. The Sheriff may have the Incident Command Post (ICP) Public Information Officer (PIO) or the Nebraska SEOC release the "HAB Follow-Up" news release to local news media outlets.

- e. The Sheriff may determine tactical operational priorities depending on the incident.
- f. The Nemaha and Richardson County Sherriff's Offices in conjunction with the Nemaha and Richardson EOCs may implement and identify staff for Traffic and Access Control Points (TACP) in their respective counties, to restrict traffic entering the area on local roads as identified in the REP Plans and maps.
- g. If deemed necessary and requested by CNS, the Incident Commander (IC) or the IC's designated representative will direct law enforcement personnel assigned TACP duties to allow plant employees with proper identification to pass the TACPs.

4. The State:

- a. Ensure all activities have been implemented for hostile action based (HAB) Alert ECL.
- b. At the request and direction of Nemaha or Richardson County EOCs, NSP may assist in staffing of TACPs.
- c. Distribute news releases at the JIC when activated, and if HAB incident specific, to local news media outlets once approved by the Incident Commander (IC) or the IC's designated representative.

H. General Emergency (GE) ECL activities/actions

This declaration does not mean that there is an immediate release of radioactive material on the site. It may mean that Hostile Action is occurring or has occurred inside the plant vital areas (see Attachment 3, Generic Site Map), such that plant personnel are unable to operate equipment required to maintain plant safety functions.

1. Cooper Nuclear Station (CNS):

- a. Provides notification to the off-site local, state and Federal agencies.
- b. If necessary direct federal assistance may be requested to engage in the take back of CNS.
- c. If not already accomplished, CNS provides liaisons having security, operations and radiation protection knowledge to the Incident Command Post.

2. Nemaha County:

- a. Ensure that all activities have been implemented for HAB Alert and Site Area Emergency ECLs.
 - b. Contingent on the HAB situation, sirens may not be sounded. The Sheriff may decide not to have the sirens sounded unless the HAB event includes a protective action decision (PAD) which includes the 10-mile emergency planning zone (EPZ) and is associated with a radiological event. (See Attachment 6, Siren Usage HAB vs. REP)
 - c. The Nemaha County Sheriff may request but is not limited to the following tactical teams/resources as needed:
 - 1) Nebraska State Patrol SWAT and/or Bomb teams.
 - 2) NSP Mobile Command Vehicle.
 - 3) FBI SWAT and Special Agent Bomb Team (SBAT)
 - d. The Nemaha County EOC will communicate Radiological PARs to the Incident Commander (IC).
 - e. If a radiological release occurs as a result of the hostile action, the IC may determine a need for the pull-back of assets to a safe location based on the recommendation of CNS and on the recommendation of and in coordination with the Governor's Authorized Representative (GAR) and the Nebraska Department of Health and Human Services (DHHS).
 - f. If not already accomplished and if required by the situation, radiological exposure control will be implemented at a General Emergency. The current turn back and emergency worker exposure worker limits will be maintained.
 - g. The Incident Commander (IC) may relocate the Incident Command Post (ICP) if necessary for responder health, based on a combination of information obtained from field team analysis, plant monitoring, and any other viable information that becomes available, including recommendations received from the GAR and DHHS.
3. The State:
- a. Ensure that all activities have been implemented for HAB Alert and Site Area Emergency ECLs.
 - b. EAS message requests and confirmation from the NWS are the responsibility of the State.
 - c. The State is the lead agency for making protective action decisions (PADs) associated with a radiological release during a hostile action based (HAB) event to protect the health and welfare of the public.

- d. PARS will be communicated to Nebraska Risk County EOCs using the CNS Direct line and, upon activation, a conference line that includes the ICP, the Risk Counties, the JIC, the EOF and the SEOC. Once a Protective Action Decision (PAD) is made, the Governor's Authorized Representative (GAR) has the responsibility to communicate PADs to the IC at the ICP.
- e. The Governor's Authorized Representative (GAR) may coordinate directly with the Incident Commander IC or through the Nemaha County EOC on Protective Action Decisions (PADs) and to allow field teams to move closer to the Plant, when it is safe to do so in order to obtain radiological readings and conduct a more accurate dose assessment to determine better PADs.
- f. A recommendation to relocate the ICP due to possible exposure to radiological materials will be made by the GAR on recommendations from the Nebraska Department of Health and Human Services (DHHS), Office of Radiological Health, based on information obtained by a combination of field team analysis, plant monitoring, and plume projections available. If the monitoring teams are unable to conduct monitoring operations within a projected plume area, the Governor's Authorized Representative (GAR) will make Protective Action Decisions (PADs) based on the best information available. This information includes but is not limited to: plant conditions, plant recommendations, and in close consultation and coordination with DHHS and the Incident Commander (IC).
- g. Once law enforcement ensures the area is safe, State officials coordinating with CNS radiological staff at the EOF may calculate stay times for responders and communicate that information to the ICP, through the County EOCs.
- h. Depending on actual conditions, the State of Nebraska may begin the process of requesting the appropriate level of Federal support under the Stafford Act. This may include Direct Federal Support, an Emergency Declaration, or a Major Disaster declaration.

VII. TRAINING AND EXERCISE Specific to HAB

A. Training:

- 1. Tactical training for Certified Law Enforcement Officers is on-going.
- 2. EOC Operations, NIMS and Incident Command courses are offered by NEMA and local Emergency Management agencies several times a year or upon request by any Nemaha or Richardson county first responder agency. Annual REP ORO (Off-site Response Organization) training will be conducted in accordance with the FEMA approved NEMA Training Directive 9106.

B. Exercise:

1. Exercise scenarios will rotate between air, land and water attack
2. This HAB annex will be evaluated by Federal authorities during an exercise every 8 years.

COOPER NUCLEAR STATION

LETTERS OF AGREEMENT

IN SUPPORT OF A HOSTILE ACTION BASED (HAB) EVENT

Letters of Agreement (LOA) supporting the CNS Emergency Plan are certified annually. This is revised with each revisions of the Emergency Plan. Copies of the current LOAs are maintained in the Emergency Preparedness office

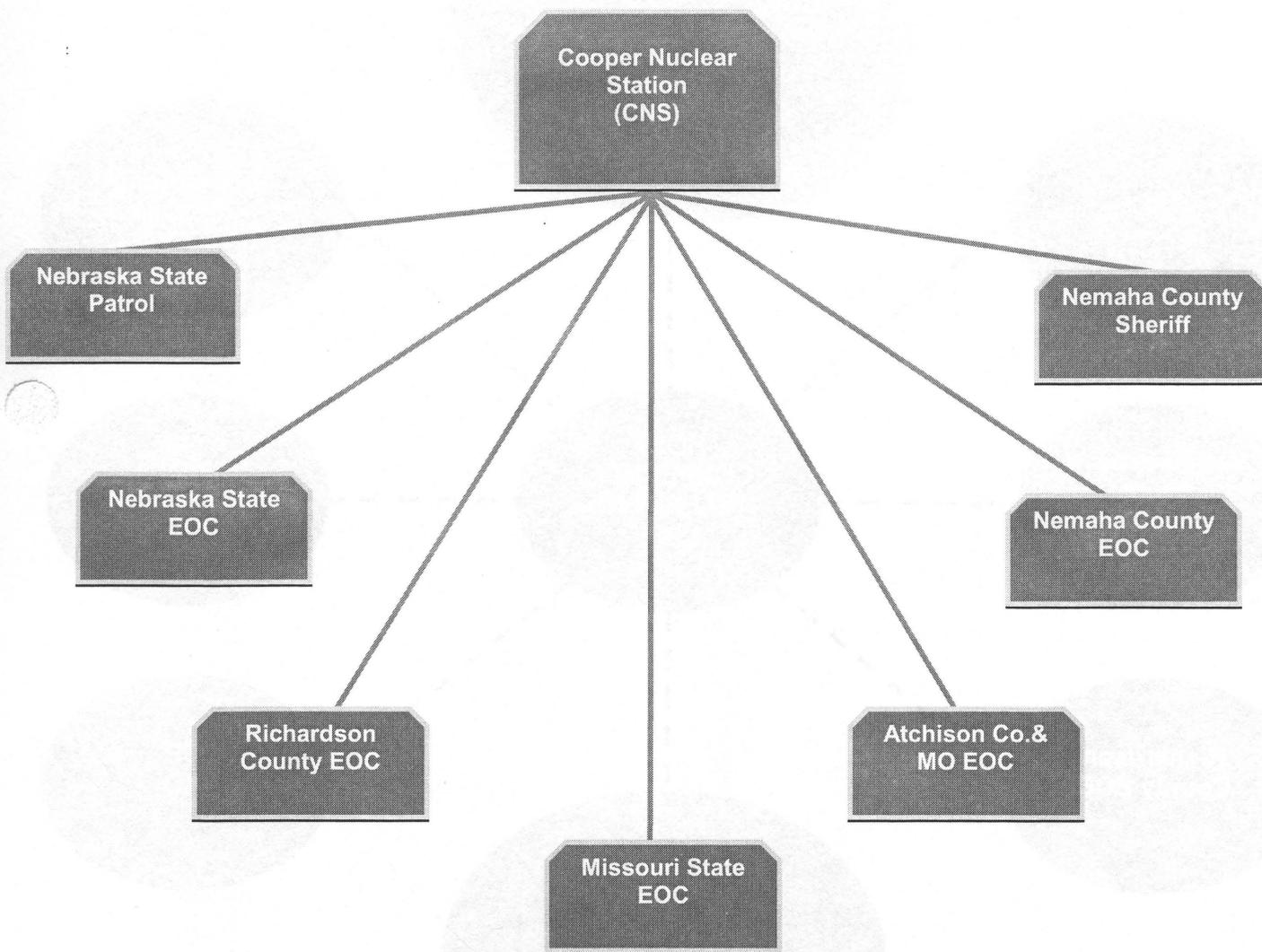
#	Agreement	Date
1	Nemaha County Hospital	05/17/2011
2	Auburn Rescue Squad	12/06/2004
3	Nebraska State Patrol	01/12/2013
4	Nebraska Emergency Management	12/14/2004
5	Nebraska Department of Health and Human Services	12/13/2004
10	Nemaha County Board of Commissioners	01/01/1996
11	Richardson County board of Commissioners	01/01/1996
14	Omaha Public Power District/Fort Calhoun Station	04/28/1998
15	Nebraska Emergency Management / Nebraska Game and Parks Commission	04/18/2011
17	Brownville Fire Department	09/01/1995
18	Auburn Fire Department	010/1/2006
19	Nemaha Fire Department	05/01/1995
20	Peru Fire Department	01/01/2006
21	Nebraska City Volunteer Fire Department (NRC Commitment NLS2005104-4	02/25/2008
22	University of Nebraska Medical Center	07/01/2012
24	Pro-Med	05/18/2011
25	Nemaha County Hospital (Use of helicopter pad)(NRC Commitment NLS2012048-03)	10/15/2012
26	Nebraska Emergency Management, Nebraska Department of Health and Human Services, Division of Public Health, NPPD, and OPPD (NRC Commitment NLS2012048-03)	08/30/2012
27	*Nemaha County Sheriff's Department	10/22/2013
28	*Federal Bureau of Investigation (FBI)	10/22/2013
29	*Nebraska State Patrol	01/06/2014

Note: * Safeguard Sensitive- Law Enforcement Services (LES)

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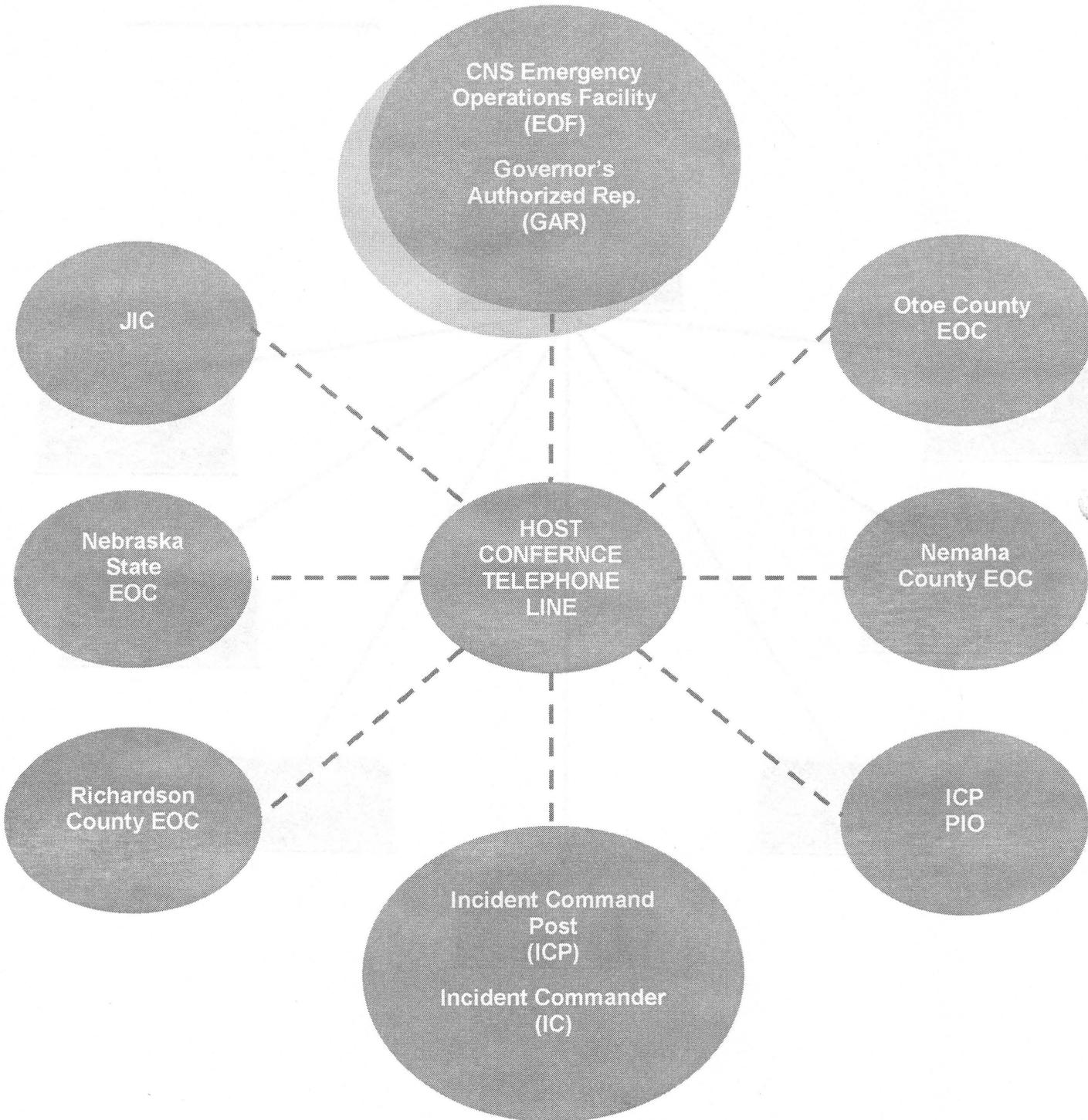
Lines of Communication

Direct Land Line

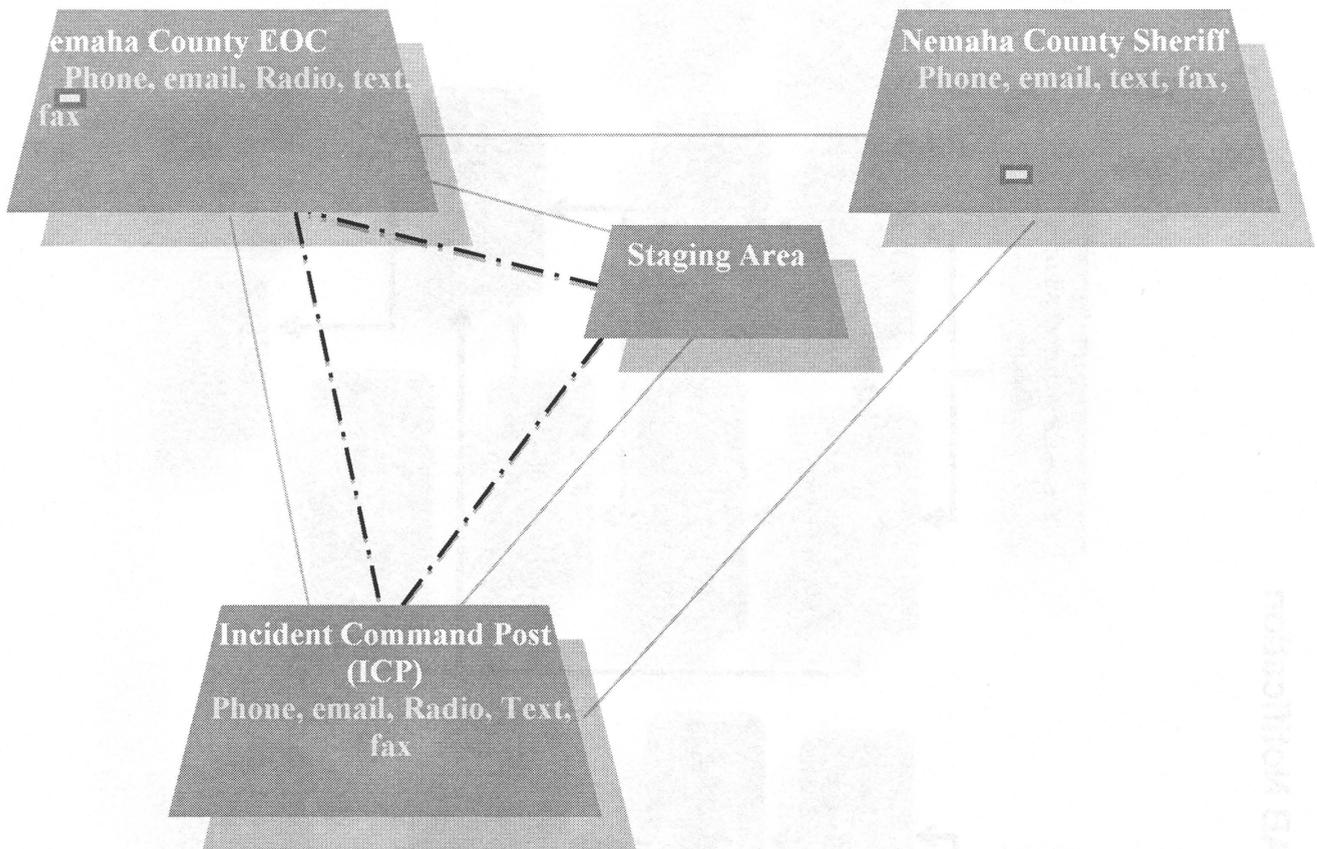
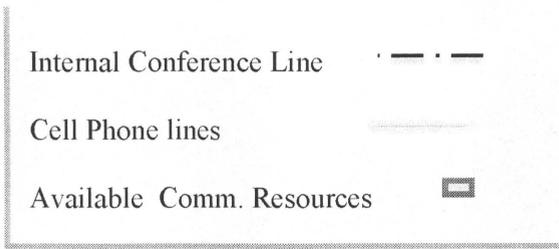


Lines of Communication

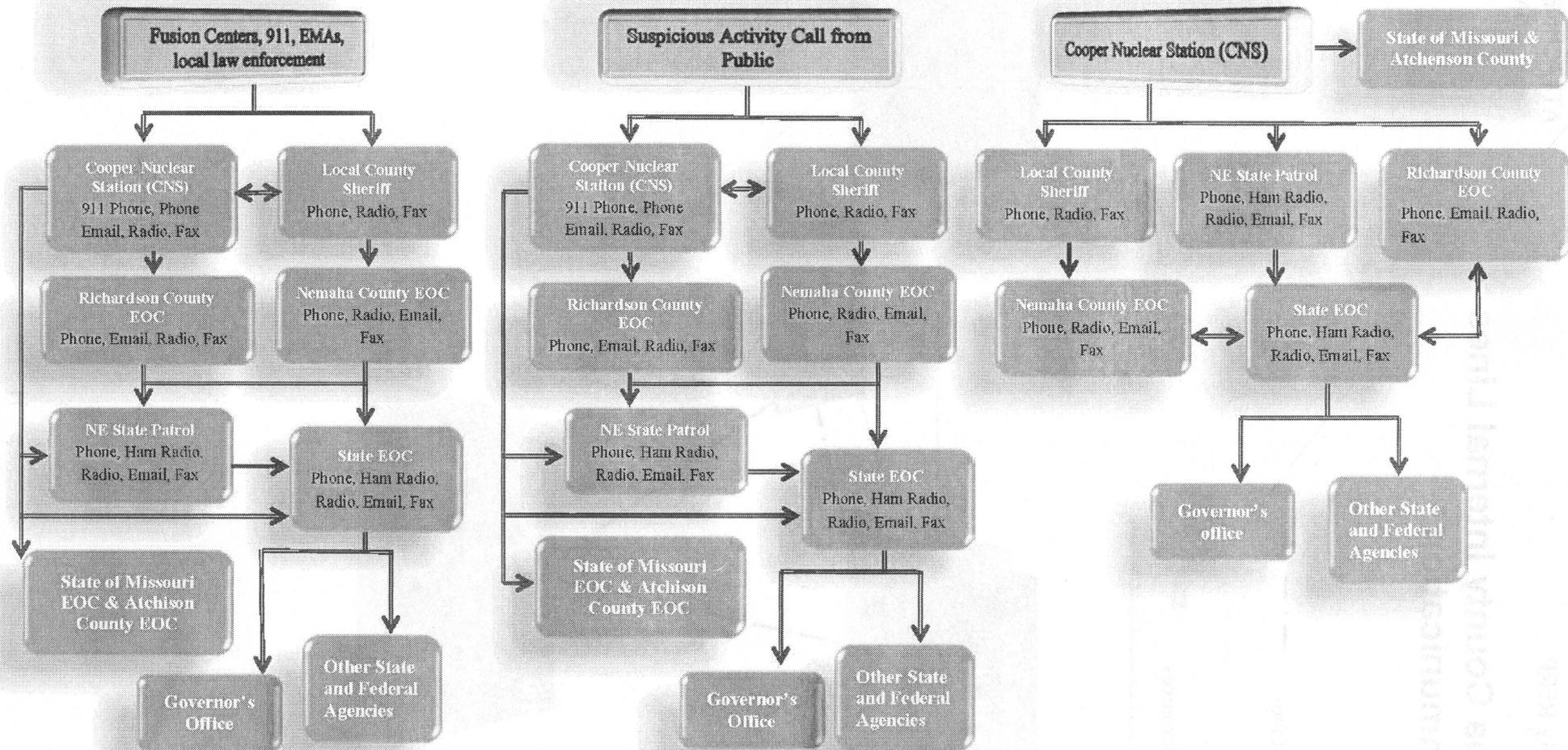
Conference Telephone Line

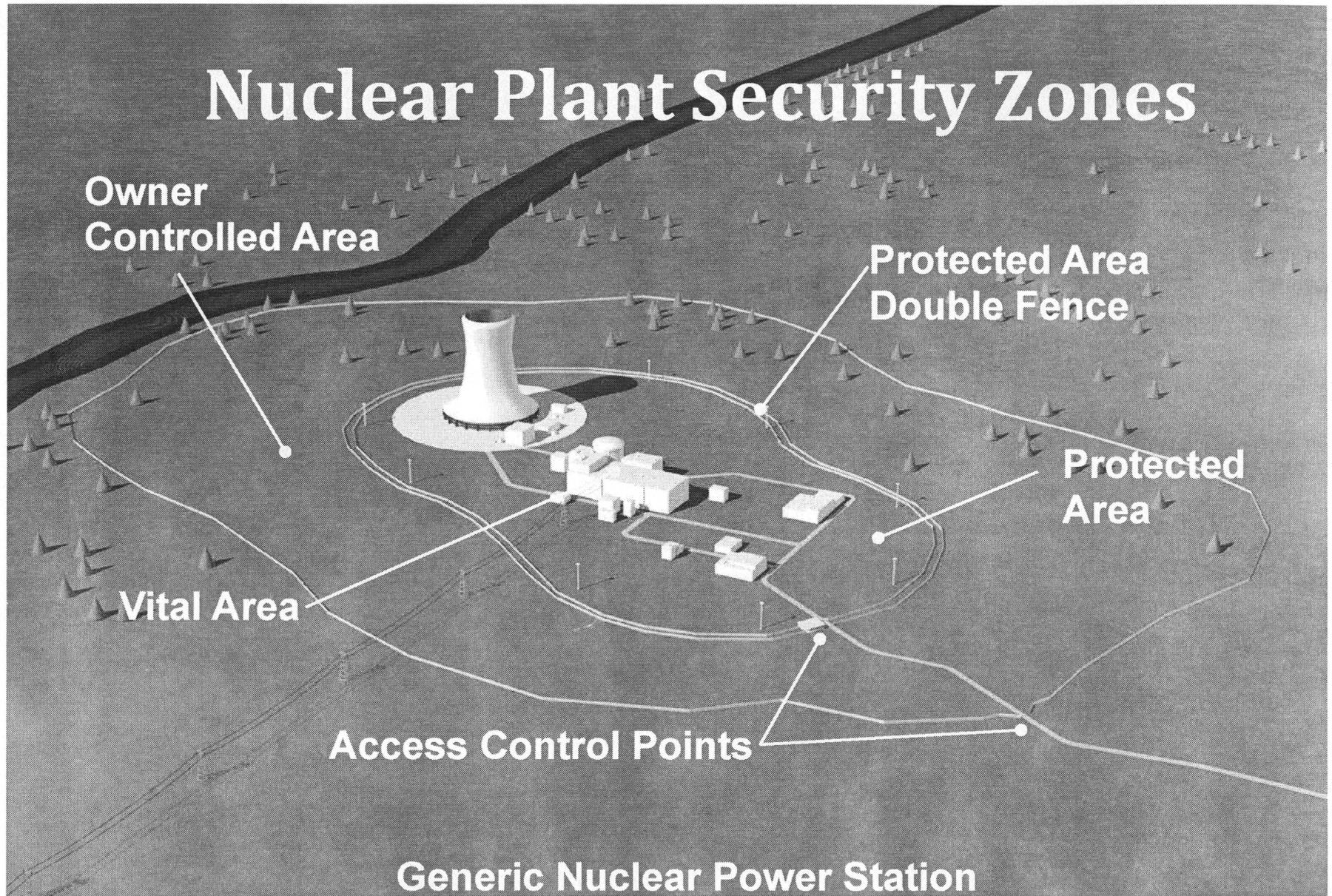


Nemaha County Internal Lines of Communication



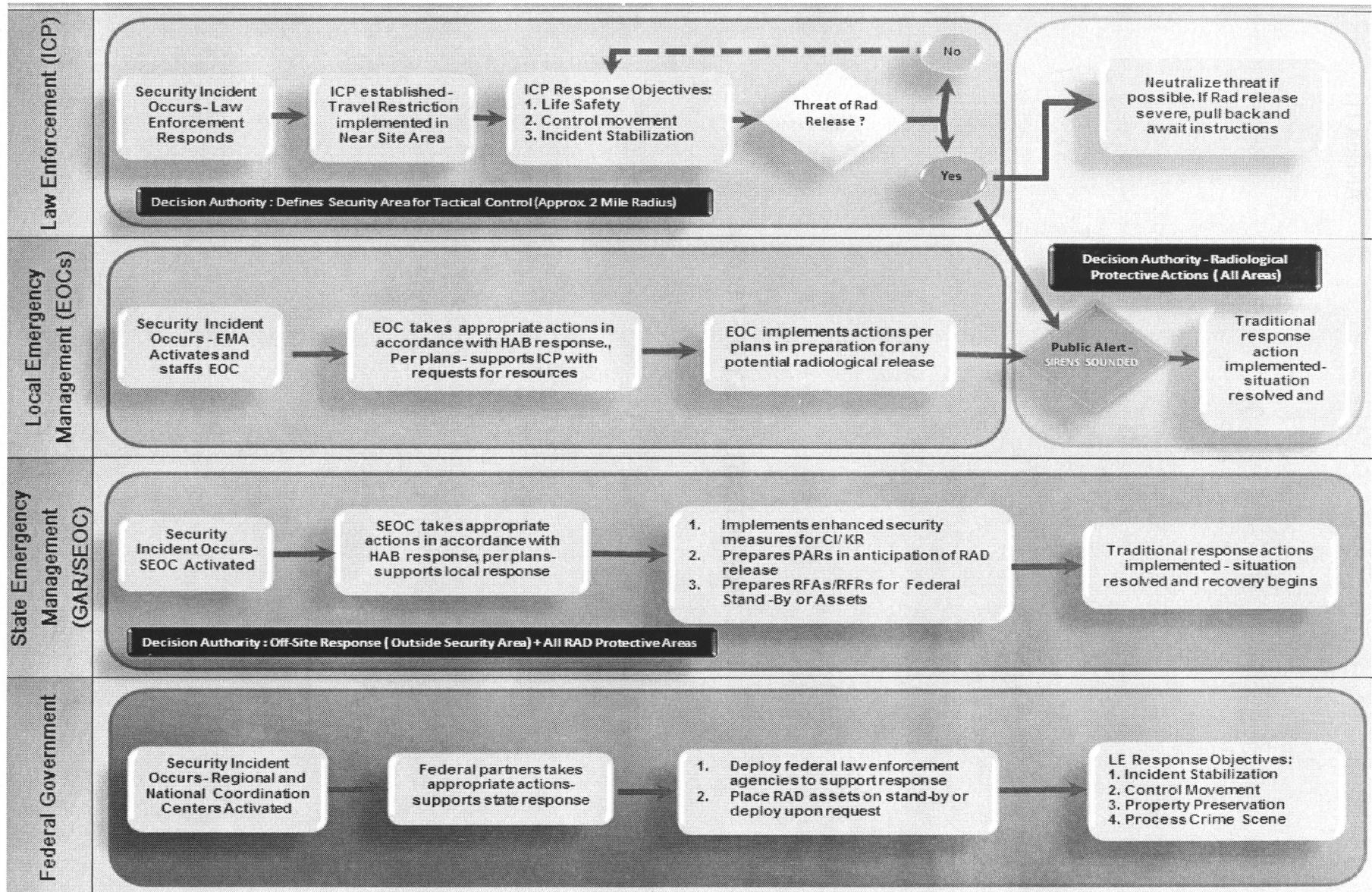
Alternate Means of Initial HAB Notification





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Off Site Decision Making Process – CNS HAB Response



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COOPER NUCLEAR STATION HAB VS. REP DECISION TABLE

HAB Scenario vs Traditional REP Scenario			
Emergency Classification Level	Action Taken	REP Scenario	Security Scenario (HAB)
UNUSUAL EVENT	EMA Monitors	X	X
ALERT	Activation of the EOCs Notification	X	X
	EAS Station (NWS) on Standby	X	X
	Special Facilities placed on Standby (Staging Areas, etc.)		X
	Precautionary Relocation of Special Populations (Schools, etc.)	X	
	Issue Dosimetry as needed		X
SITE AREA EMERGENCY	Federal, State, & County Parks, Recreation areas and Rivers Closed		X
	Activate Sirens, Indoor Warning System, Weather Radios, and EAS	X	*
	"Travel Restrictions" implemented in approx. two-mile area, including TACPs & restrict access into the area.	*	X
	Emerg. Wkr. Monitoring & Decon Stations Activated	*	X
	Special Facilities placed on Standby (Recept. & Care; Emerg. Wkr. DeCon, Etc)	X	*
	Issue Dosimetry per Plans and Procedures	X	X
	JIC Staffed	X	*
	Default Precautionary PADS Implemented: Dairy Animals placed on Stored Feed/Water, Close Rivers/ Air Space, Etc.	X	
GENERAL EMERGENCY	Activate Sirens, Indoor Warning System, Weather Radios, and EAS	X	*
	Shelter-in-Place Recommendation for affected subareas		*
	Evacuation Recommendation for affected subareas	X	*
Preferred PARs/ PADS	Description	RAD Scenario	Security Scenario (HAB)
Travel Restrictions	Law Enforcement measures used to protect public health and safety from the threat of Criminal acts or violence		X
Shelter in Place	Used for protection of public health and safety from a radiological threat if the risks associated with an evacuation outweigh the anticipated radiation effects.	X	X
Evacuation	Used for protection of public health and safety from a radiological threat when public can be safely evacuated or during high intensity and/or extended duration releases	X	*

* Situation Dependent

HAB Response PARs/PADs

Hostile Action Based (HAB) incidents present unique challenges because they differ from the traditional Radiological Emergency Preparedness (REP) incidents for which licensees and Offsite Response Organizations (ORO) typically plan, train and exercise. The key difference between the HAB Protective Action Recommendation (PARs) and Protective Action Decision (PADs) strategy and the PRE PARs and PADs strategy is the shift from a robust REP response to low-profile response allowing law enforcement to contain and neutralize a hostile threat.

The low-profile response further ensures that vulnerable secondary "Soft" targets are not exposed to hostile forces, i.e. attacks on Federal, State and local parks and recreational areas, Reception Centers, etc. During HAB events, travel restrictions are imposed by law enforcement in the immediate area surrounding a nuclear power station. The restriction is held until the threat is neutralized.

If the likelihood of a radiological release is determined to be present, the response strategy will shift from a law enforcement-centric response to a radiological response. PARs and PADs will be made and PARS will be implemented, placing the appropriate emphasis on protecting the health and safety of the public from the radiological threat. The policy of the State of Nebraska is to make an evacuation PAD for the public. However during a HAB event, unless conditions require an evacuation based on the characteristics of the radioactive release, a shelter-in-place PAD must be considered to ensure the emergency response is not inhibited by the evacuating public.

COOPER NUCLEAR STATION

Siren Usage Decision Chart

HAB Scenario vs Traditional REP Scenario

Emergency Classification Level	ACTIONS TAKEN: "SIRENS..."	REP Scenario	Security Scenario (HAB)
UNUSUAL EVENT			
ALERT			
SITE AREA EMERGENCY	NOT Sounded Normally.		X
	Sounded When A Protective Action is Made within the 10-mile EPZ		X
	Sounded When Associated with REP Event	X	X
	Sounded Automatically	X	
GENERAL EMERGENCY	Sounded When Associated with a Protective Action within the 10-mile EPZ		X
	Sounded Automatically	X	
	Sounded When additional PADs are made	X	

During a Hostile Action (HAB) incident, the decision to sound the sirens must be coordinated between the Incident Command Post, the Washington County EOC, the Harrison County EOC, the National Weather Service (NWS), the Governor’s Authorized Representative (AR) and the SEOC. This is to ensure that everyone is aware not only that sirens will be sounding and when, but to ensure everyone is aware of what everyone will be doing, including the fact that the State has the responsibility to distribute any protective action decision (PAD) news releases to the local news media.

Annex I

POST EMERGENCY (INGESTION PATHWAY) PHASE OPERATIONS

NEBRASKA POST EMERGENCY (INGESTION PATHWAY) PHASE OPERATIONS

I. PURPOSE

The purpose of this Annex is to minimize radiological exposure to the public that could be gained from the food chain and/or water supplies.

II. SITUATION.

1. There is no clear distinction between when emergency phase operations cease and post emergency (ingestion pathway) operations begin. It is more of a transition from one phase to the other.
2. If one must make a distinction, then it could be said that post emergency phase operations being once emergency phase operations have been completed, i.e., evacuation of the public in those areas within the 10-mile Plume Exposure Pathway Emergency Planning Zone (EPZ) and the cessation of release(s) of radioactive materials from the nuclear power station.

III. ASSUMPTIONS AND PLANNING FACTORS

- A. That emergency phase operations have ceased or are about to be completed.
- B. That while still in the emergency phase, preparations are being made to move into the post emergency or ingestion pathway phase.

IV. ORGANIZATION/RESPONSIBILITIES

Organization and responsibilities for federal, state and local agencies have already been delineated in Paragraphs IV, V, and Attachment 9 of the Basic Plan and Annex B.

V. CONCEPT OF OPERATIONS

A. General

1. Ingestion exposure pathway EPZ protective actions include the Plume EPZ.
2. The protective actions, especially with respect to agriculture, are appropriate when the health benefit associated with the reduction in dose

that can be achieved is considered to offset the undesirable health, economic and social factors.

3. As a result, operations in the Ingestion EPZ are quite likely to be highly technical and could involve complex investigations in agricultural production and in related agribusiness areas. Thus, ingestion EPZ type field activities are best carried out by technically qualified personnel under the direction of appropriate health-physics officials.
4. Where municipal and other water supplies are concerned, considerable engineering expertise could be required.
5. It is possible that federal support under the National Response Framework would be required from such agencies as the U. S. Environmental Protection Agency (EPA), U. S. Department of Health and Human Services (HHS), HHS Food and Drug Administration (FDA), U. S. Department of Energy (DOE), U. S. Nuclear Regulatory Commission (NRC), U. S. Department of Agriculture (USDA), etc.
6. Any location assistance needed would also be of a specialist nature and would probably be coordinated by the USDA State Emergency Board.

B. Risk Assessment

1. Prior to any actions being taken in the post emergency phase, Nebraska Department of Health and Human Services (DHHS), Division of Public Health (DPH), will initiate "Risk Assessment Action" utilizing information provided by the nuclear power station, ground monitoring and sampling teams, and aerial monitoring and sampling surveys.
2. The results of this assessment will determine what, if any, additional protective measures should be implemented.

C. Additional Protective Measures

1. General

The decision to implement the following steps will be made by the Governor or his designated representative based on DHHS, DPH assessment and recommendations. This process is done on a case by case basis, and is consistent with the decision process described in paragraph VI.H of the Basic Plan.

2. Economic Embargo of Raw Agricultural Products

- a. Due to the economic catastrophe that could occur if quick action is not taken due to the public's perception of radioactive contamination, an economic embargo of raw agricultural products for counties that may be affected by a nuclear power station accident is instituted during a GENERAL EMERGENCY.
- b. The area to be embargoed is determined by consultation between DHHS, DPH and the Nebraska Department of Agriculture, which is then recommended to the Governor or his designated representative.
 - (1) For the Cooper Nuclear Power Station, counties that may be placed under an economic embargo of raw agricultural products may be, but are not limited to:
 - Cass
 - Gage
 - Johnson
 - Lancaster
 - Nemaha
 - Otoe
 - Pawnee, and
 - Richardson
- c. An economic embargo of raw agricultural products means that no agricultural products, whether in the field, at a processing facility, in storage or on a transportation conveyance may depart the embargoed area until cleared by appropriate authorities. It also means that transportation conveyances that could be used for the transport of agricultural products, whether empty or full, may not enter the embargoed area until cleared by appropriate authorities.

3. Relocation

- a. Relocation is a mandatory movement of people from their homes and farms to a location that does not present a danger from radiological exposure. Relocation is allowed to take place over a period of time, normally two to three days, vice the immediate evacuation, as required during the emergency phase.

- b. Relocation refers to a protective action that is taken during the post emergency phase to avoid chronic exposure to gamma radiation from deposited radioactive materials in areas where the projected first year dose exceeds the relocation protective action guide (PAG). People who are to be relocated will be directed to reception centers to be monitored, then to congregate care facilities that they may utilize until they are moved to a permanent or other long-term facility. Relocation will be applied in two circumstances:
 - (1) Individuals who were evacuated from areas during the emergency phase, which were initially in the plume EPZ and later found to be highly contaminated, will be relocated.
 - (2) Individuals who were not evacuated or had been sheltered during the emergency phase and who may now be facing a chronic exposure problem will be relocated.

NOTE: The first step for individuals previously sheltered during the emergency phase would be to evacuate these individuals. Once a determination is made that the area has or will receive a high concentration of deposited material, these individuals will be relocated.

4. Re-entry

- a. Re-entry refers to the temporary authorized entry of individuals into a restricted zone under controlled conditions.
- b. Once the plume phase evacuation and ingestion phase relocation have been implemented, individuals will only be allowed to re-enter the established restricted zone on a need only basis. The "Need-Only" basis will be determined by local authorities in consultation with DHHS, DPH.
- c. Access control points will be established around the boundary of the restricted zones to provide for radiation control for individuals who may need to re-enter. The control points should be either at or near the boundary of the restricted zone or at a convenient location outside

the zone and will not necessarily be the same access control points established for the emergency phase of the operation.

- d. DHHS, DPH will determine the amount of time, including transit time, that an individual could remain in a restricted zone without exceeding the more limiting annual dose limits listed below:
 - (1) A total effective dose equivalent equal to 0.05 Sv (5 REM).
 - (2) The sum of the deep dose equivalent and committed dose equivalent to any individual organ or tissue other than the lens of the eye equal to 0.5 Sv (50 REM).
 - (3) An eye dose equivalent of 0.15 Sv (15 REM), or
 - (4) A shallow dose equivalent of 0.5 Sv (50 REM) to the skin or any extremity.
 - e. Local Governmental Officials will set other restrictions as deemed necessary for personnel desiring to re-enter the restricted zone.
 - f. Refer to Paragraph VII.A in this Annex for additional information.
5. Return
- a. Return refers to reoccupation of areas cleared for unrestricted residence or use by previously evacuated or relocated populations.
 - b. Individuals will only be allowed to return once areas have been monitored and it has been determined that the area has not been significantly contaminated by the plume.
 - c. Return in other areas will be allowed once full decontamination procedures have been implemented and contamination levels are below PAGs set forth by DHHS, DPH.
 - d. Refer to Paragraph VII.B in this Annex for additional information.
6. Recovery
- a. Recovery refers to the process of reducing radiation exposure rates and concentrations of radioactive materials in the environment to

acceptable levels for return by the general public for unconditional occupancy or use after the emergency phase of a radiation emergency.

- b. Services such as medical, utilities, roads, schools, and intermediate housing will be identified and procedures for restoration initiated prior to return.

D. Initiation of Post Emergency Phase Operations - FRMAC

1. If not done sooner, the point in time when the emergency phase is coming to an end and the release of radioactive materials from the nuclear power station has been terminated, the Governor's Authorized Representative (GAR) will coordinate with the neighboring state's GAR(s) as to where the Federal Radiological Monitoring and Assessment Center (FRMAC) will be located.
2. When no longer needed at the nuclear power station's Emergency Operations Facility (EOF), the GAR and his staff, as well as the DHHS, DPH Emergency Response (ER) Manager, will depart the nuclear power station's EOF for the FRMAC.
3. At the FRMAC, the GAR and the DHHS, DPH will coordinate with other responding state agencies such as the Nebraska Department of Agriculture, Nebraska Game and Parks Commission, Nebraska Department of Roads, Nebraska National Guard, and the Nebraska State Patrol. These agencies will also coordinate with counterparts from the Nuclear Regulatory Commission (NRC) and the U. S. Department of Energy's FRMAC.

E. Post Emergency Recommendations and Decisions

1. Based on the data received through ground monitoring and sampling, as well as aerial monitoring and sampling, state and federal health personnel will make recommendations to the Governor's Authorized Representative (GAR) concerning "Relocation", "Re-entry", "Return" and "Recovery".
2. Other recommendations will include what will be done:
 - a. With dairy products already collected, being collected, or about to be collected.
 - b. With crops already harvested, being harvested, or about to be harvested.

- c. About water reservoirs, stock ponds, etc.
- d. About fishing and other recreational activities in the affected area.
- e. About hunting seasons.
- f. About issuing warnings concerning migratory birds and animals.

F. Specific Protective Measures For Agriculture and Water

Collection of water, milk, air, particulate, soil, or vegetation samples for analysis at the contract laboratory, or other laboratory designated by DHHS, DPH, will be accomplished, if required.

1. Agricultural Products Contamination

- a. Due to the wide areas potentially involved as well as the complexity of ingestion pathway operations, early request for support under the National Response Framework is a possibility. See paragraph VI.H of the Basic Plan and Paragraph V.B in Annex B.
- b. Agricultural agencies will have maps and other aids annotated to show land use and related production information for the Plume and Ingestion Emergency Planning Zones. The state office of the USDA Farm Services Agency (FSA) has established program compliance aid that consists of precision aerial photographs of agricultural areas in the state. The master set of photos is updated every eight (8) years and a comparison set is taken each year during July. Each county FSA office in the EPZ maintains a complete county set of these photos that, after coordination with the USDA State Emergency Board (SEB), could be used to determine specific crop information.
 - (1) To assist this process, the USDA Statistical Reporting Service (SRS) maintains historic crop, livestock, and dairy production data, as well as current year interpolations. SRS is also a member of the USDA SEB.
 - (2) The Dairies and Foods Division of the Nebraska Department of Agriculture has county maps posted with locations of dairy producers and processors in the Ingestion EPZ of each nuclear power station. These maps are filed and kept current at the Nebraska Department of Agriculture.

- (3) The Bureau of Plant Industry of the Nebraska Department of Agriculture maintains a computer printout which lists all commercial feed distributors in the state which retail over five (5) tons per year. A current copy of this printout is on file at the Nebraska Department of Agriculture that brings it to the State Emergency Operations Center (SEOC) for use during an emergency.
 - (4) Current listing of licensed grain elevators/warehouses as regulated by the Nebraska Public Service Commission are on file at the Public Service Commission and can be easily obtained by the SEOC.
 - (5) Federal licensed grain elevators/warehouse lists, as prepared by the Nebraska Office of the USDA Agriculture Marketing Service, Omaha, NE, are also on file at their office and can be easily obtained by the SEOC.
 - (6) Grain storage information, as prepared annually by the Nebraska Grain and Feed Dealers Association, is maintained at the USDA.
- c. Agricultural protective actions will be determined based on the PAGs established in 21 CFR 1090. Implementation of agricultural protective actions to a large degree would be time dependent. Also, the time available to implement protective measures associated with the Ingestion EPZs would be generally greater than the time available to implement protective measures associated with the Plume EPZ.
- d. The following agricultural protective actions should be considered for implementation when the projected dose equals or exceeds the Preventive PAG:
- (1) Pasture
 - (a) Remove dairy cows from contaminated pasture.
 - (b) Substitute uncontaminated stored feed.
 - (c) Substitute a source of uncontaminated water.
 - (2) Milk

- (a) Withhold contaminated milk from the market until radioactivity decays to safe levels. This may be done by:
 - (i) Processing and storage at reduced temperatures.
 - (ii) Diversion to other dairy processing.
 - (b) Use contaminated milk for animal feed in cases where the ingested radioactivity will not contribute additional radiation exposure to the human population (primarily short-lived radionuclide contamination).
 - (c) Disposal of milk and milk products in which the radioactivity cannot be reduced to levels acceptable for use and substitution of uncontaminated milk from other areas.
 - (d) Temporary embargoes to prevent contaminated food from being introduced into commerce.
- (3) Fruits and Vegetables
- (a) Washing, brushing, scrubbing, peeling, to remove surface contamination.
 - (b) Preservation by canning, freezing, dehydration or storage to permit radioactive decay to safe levels.
 - (c) Disposal of fruits and vegetables in which the radioactivity cannot be reduced to levels acceptable for use.
 - (d) Temporary embargoes to prevent contaminated food from being introduced into commerce.
- (4) Grains
- (a) Milling and polishing.
 - (b) Storage to permit radioactive decay of short-lived radionuclides.
 - (c) Use of contaminated grains as food for animals in cases where ingested radioactivity will not contribute additional radiation exposure to the human population (primarily short-lived radionuclide contamination).

- (d) Use of contaminated grains for seed.
 - (e) Disposal of grains in which the radioactivity cannot be reduced to levels acceptable for use.
 - (f) Temporary embargoes to prevent contaminated food from being introduced into commerce.
- (5) Other Food Products. Processing to remove surface contamination.
- (6) Meats and Meat Products. Will be considered on a case-by-case basis for:
- (a) Diversion to non-human consumption.
 - (b) Storage to allow decay of short-lived radionuclides.
 - (c) Disposal of meats and meat products in which the radioactivity cannot be reduced to levels acceptable for use.
 - (d) Temporary embargoes to prevent contaminated food from being introduced into commerce.
- (7) Animal Feeds
- (a) Consider on a case-by-case basis.
 - (b) Increase feeding of non-contaminated calcium to a maximum.
- e. When projected dose equals or exceeds the emergency PAG, responsible officials should isolate food containing radioactivity to prevent its introduction into commerce (embargo). They should also determine whether condemnation or other disposition is appropriate. Before taking this action, responsible officials should consider:
- (1) Availability of other possible protective actions as listed above for the preventive PAG agricultural actions.
 - (2) Relative proportion of the total diet by weight represented by the item in question.

- (3) The importance of the particular food in nutrition and the availability of uncontaminated food or substitutes having the same nutritional properties.
 - (4) The relative contribution of the other foods and other radionuclides to the total projected dose.
 - (5) The time and effort required to effect corrective action.
2. Surface or Ground Water Contamination. Upon notification of an incident affecting surface or ground water:
 - a. The Department of Environmental Quality is responsible to alert downstream users and recommend protective actions.
 - b. DHHS, DPH will be informed and will assist as may be appropriate.
 - c. The USDA Soil Conservation Service will advise the USDA SEB as to watershed technical matters that might impact on agricultural assessment or protective actions.
 - d. As local sponsors for watershed improvement projects, the Natural Resources District will also provide technical assistance.

3. Municipal Water Systems Contamination

In the event of radiological contamination of any public works (engineering) facilities such as water supply and/or distribution, etc., the DHHS, DPH, Office of Environmental Health, acting in conjunction with the ER Manager, DHHS, DPH, will be prepared to analyze the situation and to coordinate emergency assistance following the State of Nebraska Safe Drinking Water Emergency Plan of 1998.

VI. SUPPORT UNDER THE NATIONAL RESPONSE FRAMEWORK (NRF)

A. Federal Resources

1. The federal government, under certain circumstances, can provide substantial support for nuclear power stations as well as state and local governments responding to a nuclear power station radiological incident.
2. General resources that could be provided depending on the situation would include the following:
 - a. Professional personnel in radiological protection, industrial hygiene, safety, medicine, physical sciences, biological sciences, agricultural sciences, engineering, waste disposal, environmental science and other disciplines.
 - b. Technical personnel in photography, radiological monitoring, instrumentation, radioactive materials handling, decontamination, nuclear safety, security, communications, equipment operations, radio-analytical procedures, environmental sampling, transportation, and other technical areas;
 - c. Equipment for personnel protection, transportation of people and material, construction, materials handling, communications, radiation monitoring, remote viewing, photography, rescue operations, waste storage and transportation, decontamination, laboratory services, field operations support, and other uses;
 - d. Facilities for biological assay analysis, chemical analysis, radio-analysis (including food, water and milk), maintenance, decontamination, radioactive waste disposal, medical services, personnel dosimetry, radiation exposure evaluation, mobile radiological emergency operations support, and other specialized services;
 - e. Materials for radiation shielding, decontamination operations, contamination control, and other operations requiring bulk quantities of special material;
 - f. Services for support of radiological emergency operations that employ personnel, equipment, facilities and materials for the purpose of performing particular functions such as: equipment maintenance and repair, personnel dosimetry, analytical laboratory work, personnel and equipment decontamination, fire fighting, and security.
3. During a nuclear power station radiological emergency, the SEOC will maintain close contact with federal agencies having responsibilities under

the National Response Framework. See the Basic Plan, Attachment 10 for a federal agency notification listing.

B. The National Response Framework (NRF)

1. The NRF covers any peacetime radiological emergency that could require a significant response by several federal agencies in support of state and local governments.
2. The plan outlines federal policies and planning assumptions as well as the federal government's concept of operations based on specific authorities for responding to radiological emergencies.
3. It also specifies authorities and responsibilities of each federal agency that may have a significant role in the federal effort.
4. The federal government will respond when support is requested by state, local government and/or a regulated entity. Federal agencies must also respond to meet statutory responsibilities.
5. Any federal actions will be closely coordinated with the state and local governments concerned. All requests for federal assistance will be coordinated through the state.
6. The NRF provides for a three-phase operation which includes: Preparedness; Response; and Recovery. See the Basic Plan, paragraph V.G and Attachment 9 for federal functions and responsibilities under the NRF.

C. U.S. Dept. of Energy Responsibilities under the National Response Framework

1. Coordination matters for federal agencies with radiological monitoring and assessment capabilities are contained in the National Response Framework (NRF) which superseded the FRMAP.
2. DOE resources listed in the Radiological Annex of the NRF may be utilized without activating the whole NRF.
3. Supporting DOE offices prepared for operations under the NRF by accomplishing site specific emergency planning at potential incident sites such as nuclear power stations.

4. DOE, because of its responsibilities for off-site radiological monitoring, will probably be the first agency requested to provide federal support.
5. DOE field operations will be conducted following the NRF. Specific state and local resources available to support the federal response will be identified when site-specific support plans are developed and coordinated by the Regional Response Coordinator at the Radiological Assistance Program Office.
6. Nebraska is supported by the DOE Region V Radiological Assistance Program Office, Argonne National Laboratory, Argonne (Chicago), IL.

D. Federal Radiological Monitoring and Assessment Center (FRMAC)

1. In the event of a major radiological emergency, 17 federal agencies with various statutory responsibilities will coordinate their efforts at the emergency scene under the umbrella of the Radiological Annex of the Federal Response Framework.
2. A FRMAC provides an operational framework for coordinating all federal off-site radiological monitoring and assessment activities during a response to a radiological emergency.
3. The FRMAC, when responding, will arrive in phases depending on the needs and requirements of the State and the severity of the incident. The first phase would be the arrival of the Radiological Assistance Program (RAP) team consisting of eight to fifteen members. A second phase would bring in additional RAP teams and technical experts consisting of between 45 and 80 additional personnel. The fully implemented FRMAC will consist of approximately 650 personnel.
4. The FRMAC is requested by the state and its location determined in coordination with neighboring affected states.
5. The FRMAC will be incorporated under the state's National Incident Command System upon its arrival.

E. Responsible Coordinating Agency

1. Depending on the situation, a federal agency might already have a statutory role separate from existing federal emergency procedures.

2. The NRC has certain established legal responsibilities with respect to an on-site NRC licensed, nuclear power station technical situation. The NRC recognizes this type of relationship and, in the case of a nuclear power station incident the NRC would be the Coordinating Agency for technical plant matters.
3. The responsible coordinating agency, along with other federal agencies supporting the coordinating agency, would respond to nuclear power station radiological incidents and operate under the NRF.

F. Federal Emergency Management Agency (FEMA)

1. FEMA's primary responsibilities in the federal response are to immediately notify participating federal agencies of the emergency and to serve as a focal point for promoting the coordination of the federal response activities at the national level and at the scene of the emergency.
2. Normally, the Coordinating Agency and/or DOE will be notified by the nuclear power station and or the state(s).
3. After discussions with the Coordinating Agency, or upon a direct state request for assistance, FEMA will designate and deploy a Senior FEMA Official (SFO). This will provide a single point of contact, as required for state and local assistance requests. Where possible, the SFO will collocate with appropriate state officials at an off-site location.

G. Public Information – Federal

1. The FEMA field effort is designed to accomplish three major responsibilities.
 - a. The first is to promote coordination among federal agencies and their interactions with the state.
 - b. Second, FEMA coordinates the federal off-site response with the federal or state on-site response.
 - c. Third, the FEMA field operation will serve as an information source for the total federal response.
 - d. See Paragraph VI.M of the Basic Plan and Annex F for related public information details.

2. During operations conducted under the NRF, FEMA will promote coordination among all federal agencies regarding public information generated and FEMA will also promote the coordination of press releases with the state.
 - a. The objective is to develop close working relationships among the public information officials of federal agencies, their state and local counterparts and the nuclear power station.
 - b. Efforts will be made to co-locate federal, state, local and nuclear power station public information officials at the Joint Information Center (JIC).
 - c. The federal government will coordinate with, and obtain concurrence as necessary from the appropriate state or local officials concerning any statements to be made to the public that related to state and/or local responsibilities.
3. Joint Information Center (JIC)
 - a. Upon arrival at the affected nuclear power station, federal public information operations will be established at the nuclear power station's JIC.
 - b. The JIC will provide the public and the media with adequate, accurate and timely public information that has been coordinated with the nuclear power station, state, and/or local governments.
 - c. Each federal agency will be responsible for the preparation and release of public information related to its own response activities.
 - d. The Coordinating Agency, in close coordination with the nuclear power station and the state, is responsible for information related to the on-site conditions as well as the off-site radiological effects.
 - e. Prior to any release of information, it will be coordinated at the JIC.

VII. ADMINISTRATION AND LOGISTICS

A. Re-Entry

1. Prior to re-entry, a plan should be developed by the locals which allows those citizens with a compelling need to return to their residences for a time of short duration in order to complete some task or retrieve important items (as designated by local authorities).
2. The public, via public information channels, must be informed that re-entry will be allowed, under what conditions and requirements in order to be allowed access to the restricted area and where to register for re-entry.
3. On-going security requirements with access control point(s) at designated critical location(s) will be one consideration taken into account.
4. Another consideration is how those desiring re-entry access are going to prove that they live in the restricted area and have a valid reason for re-entry.
5. Consideration must be given to the facility used for the public to register for re-entry, ensuring that it won't interfere with other emergency operations.
6. The facility should have enough work and supply area all agencies involved and for the public to be educated about the consequences due to the exposure and possible contamination by ionizing radiation or failing to strictly follow instructions provided.
7. Documentation such as Attachment 1 at the end of this annex should be used when authorizing people back into the Restricted Area.
8. Re-entry operations require constant coordination between the various agencies involved (i.e., local, state, law enforcement, etc.).
9. One consideration might be to use dated car "dashboard placards" which are a different style or color each day for allowing access to restricted areas.

B. Return

1. A plan should be developed by the locals which allows evacuees who live in an area evacuated in which no contaminated was subsequently found, to return home.
2. The plan should be flexible and takes into account post- accident conditions, the size of the area evacuated and the total population

- evacuated. Above all else should be designed to minimize danger to those returning home.
3. Executing the plan in phases may assist in carrying it out.
 4. Phase One of the Return may include a public education program informing the citizens:
 - a. When "Return" of evacuee will begin, what they should expect to find upon returning to their individual homes, and what they should do upon their return (open windows to ventilate home, throw out spoiled food, take pictures of any forced entry for possible reimbursement, etc.).
 - b. Of a possible time schedule for "Return", maybe certain areas prior to others, instead of all at once.
 - c. That a possible strict curfew has been implemented for a period of time until the "Return" has been completed.
 - d. That returning evacuees will be required to show some proof of identification to ensure only those who live within the evacuated area are being allowed back into the evacuated area.
 - e. That additional monitoring teams may also verify that the designated area for return is actually free of ionizing radiation.
 5. Phase Two of the Return may include sending in agencies and groups that participate in restoring normal operations after a disaster. These include law enforcement, fire departments, medical and health care, public works (gas, electric, sewer and water), relief agencies, insurance agents, and businesses such as heating, plumbing and air (to assist with turning on gas, etc.)
 6. Phase Three of the Return, while evacuees are returning, may require ensuring additional emergency response personnel, vehicles and equipment are available (e.g., fire and rescue, law enforcement, wrecker trucks, etc.) to respond to any traffic accidents and assist returning evacuees with any other unforeseen problems.
 7. Phase Three of the Return may require that pre-existing security around the former restricted area(s) being returned to evacuees, remain in place

for a period of time; to include road-blocks to keep people other than evacuees from entering the area and to keep the rescue routes open.

C. Requesting Federal Support

1. During a nuclear power station emergency, after it has been determined that insufficient technical and/or logistical resources are available, federal support will requested by the Governor or his designated representative.
2. In the development of the request, the SEOC will coordinate with the EOC's of adjacent states concerned in order to ensure that the total requirements of the situation are included.

D. Coordination and Maintaining Responsibility

1. Coordination should also be made with the leadership of the nuclear power station at the emergency operations facility.
2. Once federal support actions have been implemented, state and local governments concerned may still maintain overall management and responsibility for off-site response.

VIII. TRAINING AND EXERCISING

A. Training

1. DOE FRMAC personnel upon request do provide training on the capabilities and limitations of the FRMAC as well as needs should the FRMAC be requested.
2. The NRC on an annual basis also provides outreach training on the capabilities it can provide to the state and local entities.
3. FEMA Region VII holds semi-annual Radiological Assistance Committee Radiological Emergency Preparedness meetings to discuss current issues and subjects related to nuclear power station response preparedness.

B. Exercising

1. States will participate in ingestion exercises at least once every six years.

2. While funding is very limited, if requested far enough in advance, the FRMAC can participate in ingestion exercises with local and state governments.
3. The NRC, also due to limited funding, participates about every three years in at least one exercise, whether it be a plume or ingestion exercise.
4. FEMA is tasked through a Letter of Understanding with the NRC and 44 CFR 350 to ensure that state and local authorities can protect the health and welfare of the public. Thus, they evaluate the state and locals during exercises on a bi-annual basis for each nuclear power station. This means the state is exercised and evaluated on an annual basis (one nuclear power station each year).
5. For further information on exercising see the Basic Plan, Paragraph VIII.C and Planning Standard N in the REP Manual.

RESTRICTED ZONE RE-ENTRY ADMISSION FORM						Serial Number: <input style="width: 90%;" type="text"/>		
1. A P P L I C A N T / L O C A L	a. Date: <input style="width: 100%;" type="text"/>		b. Time: <input style="width: 100%;" type="text"/>		c. Applicant's Temporary Phone Number: <input style="width: 100%;" type="text"/>			
	d. Applicant's Name: <input style="width: 100%;" type="text"/>		Last <input style="width: 100%;" type="text"/>	First <input style="width: 100%;" type="text"/>	MI <input style="width: 100%;" type="text"/>	e. Social Security No. <input style="width: 100%;" type="text"/>		
	f. Applicant's Temporary Address: <input style="width: 100%;" type="text"/>		Street <input style="width: 100%;" type="text"/>		City <input style="width: 100%;" type="text"/>	State <input style="width: 100%;" type="text"/>	Zip Code <input style="width: 100%;" type="text"/>	
	g. Date Requested For Re-Entry: <input style="width: 100%;" type="text"/>		h. Time Requested In Restricted Zone: <input style="width: 100%;" type="text"/>		i. Point of Entry Requested <input style="width: 100%;" type="text"/>			
	j. Purpose of Re-Entry: <input style="width: 100%;" type="text"/>							
	k. Re-Entry Destination(s): <input style="width: 100%;" type="text"/>							
	l. Date, Time Length Dose Received During Previous Visits: <input style="width: 100%;" type="text"/>							
	m. EMERGENCY INFORMATION: <input style="width: 100%;" type="text"/>							
	Name <input style="width: 100%;" type="text"/>		Relationship <input style="width: 100%;" type="text"/>		Phone Number <input style="width: 100%;" type="text"/>		Contact Address <input style="width: 100%;" type="text"/>	
	n. Dosimetry Type(s): CD V- <input style="width: 100%;" type="text"/>		Serial Number(s): <input style="width: 100%;" type="text"/>		TLD Serial Number: <input style="width: 100%;" type="text"/>			
o. Point of Entry Authorized: <input style="width: 100%;" type="text"/>								
p. Locally Approved Route: <input style="width: 100%;" type="text"/>								
q. Local Approving Official: <input style="width: 100%;" type="text"/>		Title: <input style="width: 100%;" type="text"/>		Signature <input style="width: 100%;" type="text"/>				
2. N E	a. Date Authorized For Re-Entry: <input style="width: 100%;" type="text"/>		b. Authorized STAY TIME in Restricted Zone: <input style="width: 100%;" type="text"/>		Hours <input style="width: 100%;" type="text"/>		Minutes <input style="width: 100%;" type="text"/>	
	c. Maximum Authorized Exposure Limit This Visit: <input style="width: 100%;" type="text"/>		mR/Hr. <input style="width: 100%;" type="text"/>		d. Time Of Approval: <input style="width: 100%;" type="text"/>		e. Date Of Approval: <input style="width: 100%;" type="text"/>	
	f. Statal Approving Official: <input style="width: 100%;" type="text"/>		Title: <input style="width: 100%;" type="text"/>		Signature: <input style="width: 100%;" type="text"/>			
3. A C P	a. Access Point Official: <input style="width: 100%;" type="text"/>		b. Agency: <input style="width: 100%;" type="text"/>					
	c. Entry Date: <input style="width: 100%;" type="text"/>		d. Entry Time: <input style="width: 100%;" type="text"/>		e. Expected Exit Time: <input style="width: 100%;" type="text"/>		f. Initials of Applicant: <input style="width: 100%;" type="text"/>	
	g. Exit Date: <input style="width: 100%;" type="text"/>		h. Exit Time: <input style="width: 100%;" type="text"/>		i. Dosimeter Reading: <input style="width: 100%;" type="text"/>		mR/Hr. <input style="width: 100%;" type="text"/>	
	j. Comments: <input style="width: 100%;" type="text"/>							
4. D S	a. Monitoring Station Official: <input style="width: 100%;" type="text"/>		b. Agency: <input style="width: 100%;" type="text"/>					
	c. Date: <input style="width: 100%;" type="text"/>		d. Time: <input style="width: 100%;" type="text"/>		e. Station Location: <input style="width: 100%;" type="text"/>			
	f. Final Dosimeter Reading/Dose: <input style="width: 100%;" type="text"/>		mR/Hr. <input style="width: 100%;" type="text"/>					
	g. Station Comments: <input style="width: 100%;" type="text"/>							
5. A P P L I C A N T	I understand I am entering a restricted zone and agree to follow the instructions and limitations stated on Page 2 of this Admission Form. I have received instruction on dosimetry and understand that this Admission Form is non-transferable. In accepting this Admission Form, I acknowledge the responsibility for my personal safety.							
	a. Printed Name (First, MI, Last): <input style="width: 100%;" type="text"/>							
	b. Signature Of Applicant: <input style="width: 100%;" type="text"/>							
	c. Date Signed By Applicant: <input style="width: 100%;" type="text"/>							

<u>CONDITIONS FOR RE-ENTRY</u>	
Initials	By YOUR SIGNATURE on Page One and YOUR initials beside each "Restriction" listed below, YOU, as the APPLICANT agree:
1.	To LIMIT the TOTAL TIME in the Restricted Area to the AUTHORIZED TIME indicated on the FIRST PAGE of this ADMISSION FORM.
2.	To proceed to and from the Authorized Re-Entry Destination(s) by the most direct authorized Route Available.
3.	To check the issued self-reading dosimeter(s) every 30 minutes.
4.	To return to the "Re-Entry Point" if the self-reading dosimeter reaches 100 mR/Hr. or the maximum authorized exposure limit listed in Block 2c on the First Page of this Application.
5.	To go through the Emergency Decontamination Station upon exiting the "Restricted Area".
6.	To having received an adequate understanding of the effects and dangers of ionizing radiation.
7.	That regardless of the effects and dangers of ionizing radiation, you, as the applicant have requested entry in the "Restricted Area" for the specific purpose(s) as stated on the First Page of this Application.
8.	That if you, as the Applicant, exceed the "Maximum Authorized STAY TIME in the Restricted Area" (Block 2.b) or exceed the "Maximum Authorized Exposure Limit This Visit" (Block 2.c), it is grounds to DENY further entry into the RESTRICTED ZONE.
9.	To hold harmless, all authorities involved in authorizing entry into the "Restricted Area".
Comments:	<div style="border: 1px solid black; height: 30px;"></div>
	APPLICANT/LOCAL EOC = By Applicant and Local County Emergency Operations Center NE = By HHS Regulation and Licensure ACP = By Access Control Point DS = By Decontamination Station APPLICANT = By Person Requesting Re-Entry
	Original and 4 copies of Restricted Zone Re-Entry Admission Form for EACH Approved Application. Original Form = Upon approval, MUST accompany Applicant until completion of DeCon., then forwarded by DeCon Station to Local EOC, and given to HSS Regulation Licensure to be retained as record of Dose Received. Copy 1 = Must accompany Applicant until completion of DeCon., then forwarded by Decon to Local EOC to be retained as record of Re-Entry. Copy 2 = Must accompany Applicant to Access Control Point where it is retained as record of people who have Re-Entered from the Access Control Point. Copy 3 = Must accompany Applicant to DeCon Station where it is retained as record of people who have gone through the the DeCon Station. Copy 4 = Must accompany Applicant and is retained as record of Re-Entry by the Applicant. * The only drawback to this form is that ACP and DeCon will have to complete the Original and all 4 copies by hand.

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ABBREVIATIONS AND ACRONYMS

Abbreviations and Acronyms	Meaning
<u>A</u>	
A	Atomic Mass
A	Activity of Isotope
AC	Alternating Current
ACP	Access Control Point
AEC	U. S. Atomic Energy Commission
AGL	Above Ground Level
ALARA	As Low As Reasonably Achievable
ALC	Annual Letter of Certification
AMA	American Medical Association
AMS	Aerial Measuring System (DOE)
AN	Alert and Notification
ANI	American Nuclear Insurers
ANL	Argonne National Laboratory
ANSI	American National Standards Institute
Anti-Cs	Anti-Contamination Clothing
APR	Air-Purifying Respirator
ARAC	Atmospheric Release Advisory Capability (DOE)
ARC	American Red Cross
ARCA	Area Requiring Corrective Action
ARES	Amateur Radio Emergency Services
ARG	Accident Response Group (DOE)
α	Alpha Particle
<u>B</u>	
B	Beta Particle
B⁺	B ⁺ Particle (positron)
B⁻	B ⁻ Particle (electron)
Ba	Barium
BRA	Baseline Risk Assessment
Bq	Becquerel
BEIR	Biological Effects of Ionizing Radiation
Btu	British Thermal Unit
BWR	Boiling Water Reactor
<u>C</u>	
CAP	Civil Air Patrol
CAP	Corrective Action Program (HSEEP)
°C	Degrees Celsius

Abbreviations and Acronyms	Meaning
<u>C</u> Cont'd.	
cc	Cubic Centimeter
CA	Cooperative Agreement
CC	Congregate Care
CCC	Congregate Care Center
CD	Civil Defense
CDV	Civil Defense Victoreen
CDC	U.S. Centers for Disease Control and Prevention (HHS)
CDE	Committed Dose Equivalent
CDRG	Catastrophic Disaster Response Group
CEDE	Committed Effective Dose Equivalent
CEM	Certified Emergency Management
CEMP	Comprehensive Emergency Management Plan
CFA	Cognizant Federal Agency
CFAO	Cognizant Federal Agency Official
cfm	Cubic feet per minute
CFR	Code of Federal Regulations
CHEMTREC	Chemical Transportation Emergency Center
Ci	Curie
CNSNS	Commission for Nuclear Safety and Safeguards
CPG	Civil Preparedness Guide
CPG	Comprehensive Preparedness Guide
cpm	Counts Per Minute
CRCPD	Conference of Radiation Control Program Directors
CSEPP	Chemical Stockpile Emergency Preparedness Program
Cs	Cesium
<u>D</u>	
DAC	Disaster Application Center
DBA	Design-based Accident
DeCon	Decontamination
DFO	Disaster Field Office
DHEW	U.S. Department of Health, Education, and Welfare
DHHS	U.S. Department of Health and Human Services
DHHS, DPH	Nebraska Department of Health and Human Services, Division of Public Health
DHS	U.S. Department of Homeland Security
DIL	Derived Intervention Level
DNA	U.S. Defense Nuclear Agency

Abbreviations and Acronyms	Meaning
<u>D</u> Cont'd.	
DOC	U.S. Department of Commerce
DoD	U.S. Department of Defense
DOE	U.S. Department of Energy
DOH	U.S. Department of Health
DOI	U.S. Department of the Interior
DOL	U.S. Department of Labor
DOS	U.S. Department of State
DOT	U.S. Department of Transportation
DPM	Disintegrations Per Minute
DPS	Disintegrations Per Second
DRD	Direct-Reading Dosimeter
DRL	Derived Response Levels
DRP	Division of Radiation Protection (DOH Division)
DRSS	Division of Radiation Safety and Safeguards
DSO	Director of Site Operations (NRC)
<u>E</u>	
E 911	Enhanced 9-1-1
EAB	Exclusion Area Boundary
EACT	Emergency Action and Coordination Team
EAL	Emergency Action Level
EAS	Emergency Alert System (formerly Emergency Broadcast System [EBS])
EBS	Emergency Broadcast System (now the Emergency Alert System [EAS])
ECC	Emergency Communications Center
ECCS	Emergency Core Cooling System
ECL	Emergency Classification Level
EDE	Effective Dose Equivalent
EEM	Exercise Evaluation Methodology
EENET	Emergency educational Network
EICC	Emergency Information Coordination Center (FEMA)
EIS	Emergency Information System
EM	Emergency Management
EMI	Emergency Management Institute (FEMA)
EMPO	Emergency Medical Preparedness Office
EMS	Emergency Medical Services
EMT	Emergency Medical Technician

Abbreviations and Acronyms	Meaning
EO	Emergency Office
E.O.	Executive Order of the President
EOC	Emergency Operations Center (State or local government)
EOF	Emergency Operations Facility (utility)
EOP	Emergency Operations/Operating Plan or Procedure
EOP	Extent of Play
EOV	Emergency Operations Vehicle
EP	Emergency Preparedness
EPA	U. S. Environmental Protection Agency
EPD	Electronic Personnel Dosimeter
EPG	Exercise Preparation Guide
EPO	Environmental Protection Officer
EPZ	Emergency Planning Zone
ER	Emergency Room
ERC	Emergency Response Coordinator
ERDA	Energy Research and Development Administration
ERPA	Emergency Response Planning Area
ERPG	Emergency Response Planning Guidelines
ERPS	Effluents Radiation Protection Section
ERT	Emergency Response Team
ERT-A	Emergency Response Team – Advance
ESF	Emergency Response Function
ESP	Early Site Permit
EST	Emergency Support Team (FEMA)
ETA	Estimated Time of Arrival
ETE	Evacuation Time Estimate
ETS	Evacuation Time Study
EW	Emergency Worker
EWAC	Emergency Worker and Assistance Center
EWC	Emergency Worker Center
EWMDS	Emergency Worker Monitoring and Decontamination Station
E	
°F	Degrees Fahrenheit
FAA	Federal Aviation Administration
FBI	Federal Bureau of Investigation

Abbreviations and Acronyms	Meaning
<u>F</u> Cont'd.	
FCC	U.S. Federal Communications Commission
FCO	Federal Coordinating Officer
FCP	Field/Forward Command Post
FDA	U.S. Food and Drug Administration
FECC	Federal Emergency Communications Coordinator
FEMA	Federal Emergency Management Agency
FFE	Federal Field Exercise
FMT	Field Monitoring Team
FNF	Fixed Nuclear Facility
FOC	Forward Operations Center
FPC	Federal Preparedness Coordinator
FR	Federal Register
FRC	Federal Regional Center
FRC	Federal Response Center
FRERP	Federal Radiological Emergency Response Plan (superseded by NRF)
FRMAC	Federal Radiological Monitoring and Assessment Center
FRMAP	Federal Radiological Monitoring and Assistance Plan (replaced the IRAP and the NRF)
FRMT	Field Radiological Monitoring Team
FRPCC	Federal Radiological Preparedness Coordinating Committee
FRSSB	Facilities Radiological Safety and Safeguards Branch
FSA	Forward Staging Area
FSAR	Final Safety Analysis Report
ft	Foot/Feet
ft/min	Feet per Minute
ft³/min	Cubic Feet per Minute
FTC	Field Team Coordinator
FTS	Federal Telecommunications System
<u>G</u>	
γ	Gamma ray (photon)
G	Gram
GAR	Governor's Authorized Representative
GE	General Emergency
gal	Gallon
GCF	Ground Concentration Factor
Ge(Li)	Lithium drifted Germanium
GIS	Geographic Information System

Abbreviations and Acronyms	Meaning
<u>G Cont'd.</u>	
GM	Guidance Memorandum
G-T	Geiger-Mueller (radiation detector)
GMT	Greenwich Mean Time (a.k.a. UTC or Zulu)
GPS	Global Positioning System
GSA	U.S. General Services Administration
Gy	Gray
<u>H</u>	
H	Hour
HAB	Hostile Action-based
HAZMAT	Hazardous Materials
HEAR	Hospital Emergency Administration Radio
HEPA	High-Efficiency Particulate Are (as in HEPA filters)
HF	High Frequency
HOO	Headquarters Operations Officer (NRC)
H₂	Hydrogen (molecular)
H₂O	Water
HF	Hydrogen Fluoride
HP	Health Physicist
HPSI	High Pressure Safety Injection
HPT	Health Physics Technician
HSEEP	Homeland Security Exercise and Evaluation Program
HSPD	Homeland Security Presidential Directive
HUD	U.S. Department of Housing and Urban Development
HQ	Headquarters
<u>I</u>	
I	Iodine
I	Exposure Intensity
IAEA	International Atomic Energy Agency
ICPAE	Interagency Committee for Public Affairs in Emergencies
ICP	Incident Command Post
ICS	Incident Command System
IDLH	Immediately Dangerous to Life or Health
IEP	Ingestion Exposure Pathway
INL	Idaho National Laboratory
INPO	Institute for Nuclear Power Operations
IP	Implementing Procedure
IRAC	Interagency Radiological Assistance Committee

Abbreviations and Acronyms	Meaning
<u>I</u> Cont'd.	
IRAP	Interagency Radiological Assistance Plan (replaced with FRMAP)
IRZ	Immediate Response Zone
ISCORS	Interagency Steering Committee on Radiation Standards
<u>J</u>	
JCAH	Joint Commission on Accreditation of Hospitals
JIC	Joint Information Center
JIS	Joint Information System
JNC	Joint News Center
JOC	Joint Operations Center
JPIC	Joint Public Information Center
<u>K</u>	
k	Kilo (SI prefix 10 ³)
kg	Kilogram
KI	Potassium Iodide
kV	Kilovolt
kW	Kilowatt
kWh	Kilowatt Hour
<u>L</u>	
lb	Pound
lbf	Pound Force
LANL	Los Alamos National Laboratory
LAO	Lead Agency Official
Ld	Lethal Dose
LD-50	Lethal Dose – 50%
LEPC	Local Emergency Planning Committee
LERN	Law Enforcement Radio Net
LFA	Lead Federal Agency
LLNL	Lawrence Livermore National Laboratory
LOA	Letter of Agreement
LOCA	Loss of Coolant Accident
LOU	Letter of Understanding
LPN	Licensed Practical Nurse
LPZ	Low Population Zone
LWR	Light Water Reactor

Abbreviations and Acronyms	Meaning
<u>M</u>	
MAC	Monitoring and Analysis Coordinator
MAELU	Mutual Atomic Energy Liability Underwriters
MERRT	Medical Emergency Radiological Response Team
MERS	Mobile Emergency Response Support
MET	Meteorological
mg	Milligram
MHz	Megahertz
MOA	Memorandum of Agreement
MOU	Memorandum of Understanding
MPC	Maximum Permissible Concentration
mph	Miles Per Hour
mR	Milliroentgen/millirem
mR/h	Milliroentgen per Hour
mRem	Millirem
MRV	Mobile Response Vehicle
MS-1	Medical Service – 1 (Hospital)
MSHA	U.S. Mine Safety and Health Administration
MT	Metric Ton
MW	Megawatt Hour
MUDAC	Meteorological and Unified Dose Assessment Center
μ	Micro (SI prefix 10 ⁻⁶)
μCi	Microcuries
<u>N</u>	
NAAQS	National Ambient Air Quality Standards
NAERG	North American Emergency Response Guidebook
NaI(TI)	Sodium Iodide Doped with Thallium (Scintillator)
NARP	Nuclear Accident Response Plan (or Procedures)
NASA	National Aeronautic and Space Administration
NAWAS	National Warning System
NCC	National Coordinating Center for Telecommunications
NCP	National Contingency Plan
NCRP	National Council on Radiation Protection Measurements
NCS	National Communications System
NDA	National Defense Area
NEI	Nuclear Energy Institute
NEMA	National Emergency Management Agency

Abbreviations and Acronyms	Meaning
<u>N</u> Cont'd.	
NEMA	Nebraska Emergency Management Agency
NEP	National Exercise Program
NETC	National Emergency Training Center (FEMA)
NFPA	National Fire Protection Association
NGO	Non-Governmental Organization
NIFC	National Interagency Fire Center
NIMS	National Incident Management System
NIOSH	U.S. National Institute for Occupational Safety and Health
NIST	U.S. National Institute of Standards & Technology (formerly National Bureau of Standards [NBS])
NMSS	Nuclear Materials Safeguards and Security
NOAA	U.S. National Oceanic and Atmospheric Administration
NOUE	Notice of Unusual Event
NPD	National Preparedness Directorate
NPP	Nuclear Power Plant
NPPD	Nebraska Public Power District
NPS	Nuclear Power Station
NPS	U.S. National Park Service
NRC	U.S. Nuclear Regulatory Commission
NRF	National Response Framework
NRIA	Nuclear/Radiological Incident Annex (NRF)
NRT	National Response Team
NSA	National Security Area
NTS	Nevada Test Site
NTSB	U.S. National Transportation Safety Board
NUREG	Nuclear Regulation (NRC Documents Reference)
NUREG 0654	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, November 1980 (a.k.a. NUREG – 0654/FEMA REP-1)
NWS	National Weather Service
<u>O</u>	
OAR	Office of Air and Radiation
OCRWM	Office of Civilian Radioactive Waste Management
OFA	Other Federal Agencies
OEM	Office of Emergency Management

Abbreviations and Acronyms	Meaning
<u>O Cont'd.</u>	
OMB	Office of Management and Budget
OPPD	Omaha Public Power District
ORIA	Office of Radiation and Indoor Air (EPA)
ORNL	Oak Ridge National Laboratory
ORO	Offsite Response Organization
OSC	Operational Support Center
OSC	On-Scene Commander
OSHA	U.S. Occupational Safety and Health Administration
OST	Operational Support Team
<u>P</u>	
PA	Public Address or Public Affairs
PAs	Protective Actions
PAD	Protective Action Decision
PAG	Protective Action Guide
PAO	Public Affairs Officer
PAR	Protective Action Recommendation
PAZ	Protective Action Zone
PFO	Principal Federal Official
PEL	Permissible Exposure Limit
PHS	Public Health Service
PIC	Pressurized Ion Chamber
PIO	Public Information Officer
PKEMRA	Post-Katrina Emergency Management Reform Act
PL	Public Law
POR	Point of Review
PPE	Personal Protective Equipment
ppm	Parts Per Million
psi	Pounds Per Square Inch
psia	Pounds Per Square Inch Absolute
psig	Pounds Per Square Inch Gage
Pu	Plutonium
PWS	Pressurized Water Reactor
PZ	Precautionary Zone
§	Part (see CFR)
<u>Q</u>	
Q	Release rate of Activity
Q_i	Isotopic Release Rate
Q_T	Total Activity Released

Abbreviations and Acronyms	Meaning
<u>R</u>	
R	Roentgen
R/h	Roentgen Per Hour
Ra	Radium
RA	Regional Administrator
RAC	Regional Assistance Committee
RAC AC	Regional Assistance Committee Advisory Council
RACES	Radio Amateur Civil Emergency Services
rad	Radiation Absorbed Dose
RADLAB	Radiological Laboratory
RAM	Radiological Material
RAP	Radiological Assistance Program
RASCAL	Radiological Assessment System for Consequence Analysis
RC	Reception Center
RCC	Reception and Congregate Care
RCF	Release Conversion Factor
RCS	Reactor Coolant System
RCT	Response Coordination Team
RDO	Regional Duty Officer
REA	Radioactive Emergency Area
REAC/TS	Radiation Emergency Assistance Center/Training Site
REACT	Radio Emergency Associated Communication Team (Citizen Band – CB Radio Operators)
REDAM	Radiological Emergency Dose Assessment Model
REL	Recommended Exposure Limit
rem	Roentgen Equivalent man/mammal
REP	Radiological Emergency Preparedness
RERO	Radiological Emergency Response Operations
RERP	Radiological Emergency Response Plan
RERT	Radiological Emergency Response Team
RF	Radio Frequency
RG	Review Guide
R/h	Roentgens per Hour
RIS	Regulatory Issue Summary
RM	Radiological Monitor
RMT	Radiological Monitoring Team
RN	Registered Nurse
RO	Radiological Officer

Abbreviations and Acronyms	Meaning
<u>R</u> Cont'd.	
ROST	Regional Office Support Team
rpm	Revolutions Per Minute
RPT	Radiation Protection Technician
RRAC	Regional Radiological Assistance Committee
RRCC	Regional Response Coordination Center
RRF	Regional Response Force
RRT	Radiological Response Team
RRT	Regional Response Team
RX	Reactor
<u>S</u>	
SAE	Site Area Emergency
SAR	Search and Rescue
SAR	Safety Analysis Report
SARA	Superfund Amendments and Reauthorization Act of 1986
SAV	Staff Assistance Visit
SBA	U.S. Small Business Administration
SCBA	Self-Contained Breathing Apparatus
SCO	State Coordinating Officer
SEOC	State Emergency Operations Center
SERF	Standard Exercise Report Form
SFO	Senior FEMA Official (FRERP)
SGTR	Steam Generator Tube Rupture
SGTS	Standard Gas Treatment System
SI	International System of Dosage Units
SME	Subject Matter Expert
SOG	Standard Operating Guide
SOP	Standard Operating Procedure
Sr	Strontium
SRD	Self-Reading Dosimeter (See DRD)
SRF	Service or Agency Response Force
SRSC	Strategic Review Steering Committee
SRV	Safety Relief Valve
SSA	Senior State Advisor
SSE	Safe Shutdown Earthquake
ST-DOSE	Source Term To Dose
Sv	Sievert
SWAT	Special Weapons and Tactics

Abbreviations and Acronyms	Meaning
<u>T</u>	
TBA	Thyroid Blocking Agency (See KI)
TCL	Targeting Capabilities List
TCP	Traffic Control Point
TDD	Telecommunications Device for the Deaft
TEDE	Total Effective Dose Equivalent
TH	Technological Hazards
THD	Technological Hazards Division (FEMA)
TL	Team Leader
TLD	Thermoluminescent Dosimeter
TMI	Three Mile Island Nuclear Generating Station
TSC	Technical Support Center
TSP	Total Suspended Particles
TTC	Technical Training Center
TTX	Tabletop Exercise
<u>U</u>	
U	Uranium
µCi	microcuri
UHF	Ultra High Frequency
UO₂F₂	Uranyl fluoride
US&R	Urban Search and Rescue
USACE	U.S. Army Corps of Engineers
USC	United State Code
USCG	U.S. Coast Guard
USDA	U.S. Department of Agriculture
UTC	Coordinated Universal Time (a.k.a. GMT or Zulu)
<u>V</u>	
V	Volt
VA	U.S. Veterans Administration
VFD	Volunteer Fire Department
VFF	Very High Frequency
<u>W</u>	
W	Watt
WB	Whole Body
WP	Warning Point
Wt	Weight

Abbreviations and Acronyms	Meaning
<u>X</u>	
<u>Y</u>	
yd	Yard
yr	Year
<u>Z</u>	
Z	Atomic Number
Z	Zulu (a.k.a. UTC or GMT)
Zr	Zirconium

GLOSSARY OF REP TERMS

A full listing of disaster related definitions is contained in the State of Nebraska Emergency Operations Plan.

TERM	DEFINITION
Absorbed Dose	Energy absorbed by matter from ionizing radiation per unit mass of irradiated material at the place of interest in that material. The absorbed dose is expressed in metric units of "gray" or customary units of "rad" (1 rad = 0.01 gray).
Access Control	All activities accomplished for the purpose of controlling entry or re-entry into an area that has either been evacuated or is under a sheltering protective action decision, because of radiological contamination to minimize the radiation exposure of individuals. This function is needed to prevent the general public from entering restricted areas (sheltered and/or evacuated) and permitting only emergency workers with essential missions and limited members of the general public to enter.
Accident Assessment	The evaluation of the actual and potential consequences of a radiological incident.
Accident Response Group (ARG)	The DOE Response Group. A team of technical and scientific experts composed of U. S. Department of Energy (DOE) and DOE contractor personnel assigned responsibility for and trained, organized and equipped to provide DOE assistance to a peacetime accident and significant incidents involving nuclear weapons anywhere in the world.
Action Levels	Thresholds for contamination levels that trigger the need for decontamination established in the plans.
Activated	An Emergency Operations Center is considered Activated as soon as notification of an incident is received and the Director/Commissioner/EOC Representative makes the determination to activate the facility. The facility is not considered Operational until it is ready to carry out full emergency operations with key decision makers in place.
Activation of Personnel	The process by which emergency response personnel are notified of an emergency situation and requested to report for duty.
Activity	The rate of decay of radioactive material, expressed as the average number of nuclear disintegrations per second (See Becquerel and Curie).

TERM	DEFINITION
Acute Dose	An acute dose means a person received a radiation dose over a short period of time, usually less than an hour.
Acute Effect	Symptom of exposure to a hazardous material; normally the result of a short-term exposure which comes quickly to a crisis.
Adequate	As used in reviews of radiological emergency response plans and procedures, adequate means that the plan contents are consistent and in full compliance with the plan requirements delineated in the NUREG-0654/FEMA-REP-1 evaluation criteria or alternative approaches approved by FEMA.
Aerial Measuring System (AMS)	A DOE asset consisting of an integrated remote-sensing capability for rapidly determining radiological and ecological conditions of large areas of the environment. In conjunction with modern laboratory and assessment techniques, state-of-the-art airborne equipment is used for extremely low-level gamma radiation detection, high-altitude photography, airborne gas and particulate sampling, and multi-spectral photography and scanning.
Agreement State	A state that has entered into an agreement under the Atomic Energy Act of 1954, as amended, in which the Nuclear Regulatory Commission (NRC) has relinquished to such states the majority of its regulatory authority over source material, by-product, and special nuclear material in quantities not sufficient to form a critical mass.
Agricultural Protective Action Guides	<p>Are those PAGs that have been established to assist in decision-making for protecting the public from radiation that could be absorbed from the food chain. These PAGs are:</p> <ol style="list-style-type: none"> 1. <u>Preventative PAGs</u> are those that establish a level at which responsible officials should take protective action to prevent or reduce the concentration of radioactivity in food or animal feed. 2. <u>Emergency PAGs</u> establish a level at which responsible officials should isolate food containing radioactivity to prevent its introduction into commerce, and at which the responsible officials must determine whether condemnation or another disposition is appropriate.
Airborne Radioactivity	Any radioactive material dispersed in the air in the form of dusts, fumes, mists, vapors, or gases.

TERM	DEFINITION
Air Sampler	A device used to collect a sample of radioactive particulates suspended in air.
ALARA	Acronym meaning: "As Low As Reasonably Achievable".
ALERT	Within the Operational Emergency category, an Alert represents events in progress or having occurred which involve an actual or potential substantial reduction or the level of facility safety or protection. Any environmental releases of hazardous materials are expected to be limited to small fractions of the appropriate Protective Action Guideline (PAG) or Emergency Response Planning Guideline (ERPG) on-site.
Alerting of Personnel	Transmission of a signal or message that places personnel on notice that a situation has developed that may require that they report for emergency duty.
Alerting the Public	Activating an attention-getting warning signal through such means as sirens, tone alert radios, route alerting, and speakers on cars, helicopters, and boats.
Alert System	The hardware system(s) used to get the attention of the public within the plume EPZ. Examples of an Alert system are: sirens tone activated radios; and vehicles (including boats and airplanes) that utilize loud speakers/sirens, etc., to perform public alerting.
Alpha Particle	A positively charge particle ejected spontaneously from the nuclei of some radioactive elements. It is identical to a helium nucleus that has a mass number of 4 and an electrostatic charge of plus 2. It has low-penetrating power and short range (approximately 2 inches. The most energetic alpha particle will generally fail to penetrate the skin. Alpha is hazardous when an alpha-emitting isotope is introduced into the body. Alpha particles are the least penetrating of the three common types of radiation (alpha, beta, and gamma) and can be stopped by a piece of paper (cannot penetrate skin). If however, an alpha particle is inhaled or ingested, it will cause highly concentrated local damage to tissue and thus is an internal hazard. Symbol: α
Alternate EOC	An EOC outside the EPZ to which an emergency response organization may relocate if their "home EOC" is in the radioactive plume.
American Red Cross (ARC)	Supports Emergency Support Function #6 within the National Response Framework (NRF) and the Nebraska State Emergency Response Plan

TERM	DEFINITION
ARC Cont'd.	(SEOP) in Mass Care by coordinating federal assistance in support of State and local efforts to meet the mass care needs of victims of disaster. This federal assistance will support the delivery of mass care services of shelter, feeding, and emergency first aid to disaster victims; the establishment of systems to provide bulk distribution of emergency relief supplies to disaster victims; and the collection of information to operate a Disaster Welfare Information (DWI) system to report victim status and assist in family reunification.
Anemia	A deficiency of blood as a whole, deficiency in the number of the red corpuscles, or the hemoglobin.
Anode	Positive electrode: Electrode to which negative ions are attached.
Alternate EOC	An EOC outside the EPZ to which an emergency response organization may relocate if their "home EOC" is in the radioactive plume.
Annual Limit On Intake (ALI)	The derived limit for the amount of radioactive material taken into the body of an adult worker by inhalation or ingestion in a year. ALI is the smaller value of intake of a given radionuclide in a year by the reference man (International Commission Radiological Protections Publication 23) that would result in a committed effective dose equivalent of 0.05 sievert (5 REMs) or a committed dose equivalent of 0.5 sievert (50 REMs) to any individual organ or tissue.
As Low As Reasonable Achievable (ALARA)	Principle which means keeping radiation exposure as low as is reasonably achievable, taking into account the state of technology, the economics of improvements in relation to the benefits to public health and safety, other societal and socioeconomic considerations, and the utilization of atomic energy in the public interest (10 CFR 72.3)
Area Requiring Corrective Action (ARCA)	An observed or identified inadequacy of organizational performance in an exercise that is not considered, by itself, to adversely impact public health and safety. Correction of ARCAs should be verified before or during the next biennial exercise at that site.
Assessment	The evaluation and interpretation of radiological measurements and other information to provide a basis for decision-making. Assessment can include projections of the off-site radiological impact.

TERM	DEFINITION
Assessment Actions	Those actions taken during or immediately after an incident or emergency to gather and process the information necessary to make decisions and to implement specific emergency measures.
Atmospheric Release Advisory Capability (ARAC)	A DOE asset capable of providing a computer-generated model of the most probable path of the radioactive contamination released at a radiological accident site.
Atom	The smallest particle of an element having the chemical properties of that element and which cannot be divided or broken up by chemical means; the fundamental building block of matter. It consists of a central core called the nucleus, which contains protons and neutrons. Electrons revolve in orbits around the nucleus.
Atomic Energy	Energy released in nuclear reactions, more appropriately called "nuclear energy". Of particular interest is the energy released when a neutron initiates the breaking up or fissioning of an atom's nucleus into smaller pieces (fission), or when two nuclei are joined together under millions of degrees of heat (fusion).
Atomic Mass	The number of protons and neutrons in the nucleus of an atom.
Atomic Number	The number of protons in the nucleus of an atom, and also its positive charge. Each chemical element has its characteristic atomic number, and the atomic numbers of the known elements form a complete series from 1 (hydrogen) to 118 (Ununoctium). Symbol Z.
Background Radiation	The level of radiation in man's natural environment. Sources air, water, soil, potassium-40 both outside and inside the bodies of humans and animals and cosmic radiation from the sun. Manmade sources of radioactivity contribute to total background radiation levels. Approximately 90 percent of background radiation from man-made sources is related to the use of ionizing radiation in medicine and dentistry. The usually quoted individual background radiation exposure in man's natural environment is an average of 360 millirem per year.
Baseline Risk Assessment	Baseline risk assessment (BRA), the study and estimation of risk from taking no activity. Involves estimates of probability and consequences.

TERM	DEFINITION
Becquerel (Bq)	The Becquerel (Bq) is a unit of measure used to measure radioactivity. One Becquerel is that quantity of radioactive material that will have 1 transformation (also known as disintegration or count) in one second. Often radioactivity is expressed in larger units like: thousands (kBq), one millions (MBq) or even billions (GBq) of Becquerel. As a result of having one Becquerel being equal to one transformation per second, there are 3.7×10^{10} Bq in one curie. The basic (metric) unit used to express the measurement of a quantity of radioactivity. One Becquerel equals one disintegration per second.
Beta Particle	A charged particle emitted from a nucleus during radioactive decay having a single electrical charge and a mass equal to 1/1837 that of a proton. A negatively (-) charged beta particle is identical to an electron. A positively (+) charged beta particle is called a positron. Large amounts of beta radiation may cause skin burns, and beta emitters are harmful if they enter the body. Beta particles can penetrate the skin a fraction of an inch. Beta particles are easily stopped by a thin sheet of metal or plastic or personal protective equipment (PPE). As it can cause cataracts and tissue damage it is both an internal and external hazard. Symbol β .
Biological Effects:	The early or delayed results of biological damage caused by nuclear radiation (alpha, beta, gamma).
Biological Equivalent Dose (BED)	<p>The equivalent dose (H_T) is a measure of the radiation dose to tissue where an attempt has been made to allow for the different relative biological effects of different types of ionizing radiation. Equivalent dose is therefore a less fundamental quantity than radiation absorbed dose, but is more biologically significant. Equivalent dose has units of sieverts. Another unit, Roentgen equivalent man (REM or rem), is still in common use in the US, although regulatory and advisory bodies are encouraging transition to sieverts (100 Roentgen equivalent man = 100 REM = 1 sievert.) Equivalent dose (H_T) is calculated by multiplying the absorbed dose to the organ or tissue (D_T) with the radiation weighting factor, w_R. This factor is selected for the type and energy of the radiation incident on the body, or in the case of sources within the body, emitted by the source. The value of w_R is 1 for x-rays, gamma rays and beta particles, but higher for protons, neutrons, alpha particles etc.</p> $H_{T,R} = w_R \times D_{T,R}$ <p>Where $H_{T,R}$ = equivalent dose to tissue T from radiation R $D_{T,R}$ = absorbed dose D (in grays) to tissue T from radiation R</p>
Body Burden	The amount of radioactive material present in the body of a human or an animal.

TERM	DEFINITION
Boiling Water Reactor (BWR)	A light-water reactor in which water, used as both coolant and moderator, is allowed to boil in the core. The resulting steam can be used directly to drive a turbine. Cooper Nuclear Station is a boiling water reactor.
Breeder Reactor	A nuclear reactor that produces or "breeds" more fissionable material than it consumes. The reactor is built with a core of fissionable plutonium – 239, surrounded by a blanket of uranium – 238. As the plutonium fissions, neutrons bombard the uranium converting the uranium blanket to more plutonium-239.
Btu	A British thermal unit. The amount of heat required to change the temperature of one pound of water one degree Fahrenheit as sea level.
Buffer Zone	An area adjacent to a restricted zone, to which residents may return, but for which protective measures are recommended to minimize exposure to radiation.
Buffer Zone (medical facilities)	An area (within a hospital or other medical facility) adjacent to the radiological emergency area (restricted zone) for which protective measures are recommended to minimize both exposure to radiation and the spread of radiological contamination to radiological clear areas of the facility.
By-Product Material	Any radioactive material (except special nuclear material) yielded in or made radioactive by exposure from the radiation incident to the process of producing or utilizing special nuclear material.
Calibration	The check or correction of the accuracy of a measuring instrument to ensure proper operational characteristics.
Carcinogen	A cancer causing agent.
Carcinoma	Malignant neoplasm composed of epithelial cells, regardless of their derivation.
Cask	A heavily shielded container used to store and / or ship radioactive materials. Lead and steel are common materials used in the manufacture of casks.

TERM	DEFINITION
Chain-of-Custody Form	The documentation of the transfer of samples from one organization and individual to another with respect to the name of the organization and individual and dates of acceptance and/or transfer of samples.
Chain Reaction	A fission chain reaction occurs when a fissionable nucleus absorbs a neutron and fissions, releasing additional neutrons. These in turn can be absorbed by other fissionable nuclei, releasing more neutrons. A chain reaction is achieved when this process becomes self-sustaining.
Charged Particle	An ion; an elementary particle that carries a positive or negative electrical charge.
Check Source	A radioisotope with a known, relatively fixed activity level used to determine the responsiveness of survey instruments.
Chelating Agent	Chemicals that combine with metal ions and remove them from their sphere of action (the human body), also called sequestrants.
Chronic Dose	A chronic dose means a person received a radiation dose over a long period of time.
Chronic Effect	Effect of exposure to a hazardous material that develops slowly after many exposures or that recurs often.
Chronic Exposure	Exposure to small doses of radiation over an extended period of time. Repeated exposure or contact with a toxic substance over a long period of time. Or a term used to denote radiation exposure over a long duration, by fractionation or protraction. Generally any dosage absorbed over a period of 24 hours or longer.
Cladding	The outer jacket of nuclear fuel elements. It prevents corrosion of the fuel and the release of fission products into the coolant. Aluminum or its alloys, stainless steel and zirconium are common cladding materials.
Cobalt-60 (Co-60)	A radioactive isotope of cobalt formed from natural cobalt-59 by neutron activation in reactors. It is used for medical and industrial applications.
Cognizant Federal Agency (CFA)	The Federal Agency that owns, authorizes, regulates or is otherwise deemed responsible for the radiological activity causing the emergency and that has authority to take action on site.

TERM	DEFINITION
Cognizant Federal Agency Official (CFAO)	Lead official designated by the CFA to manage its response at the site of a radiological emergency.
Committed Dose	The dose that will be received over a period of 50 years from the ingestion or inhalation of a particular quantity of a radionuclide or specific mix of radionuclides.
Committed Dose Equivalent (CDE)	Organ Dose. The dose equivalent to organs or tissues of reference that will be received from an intake of radioactive material by an individual during the 50-year period following ingestion.
Committed Effective Dose Equivalent (CEDE)	Internal Dose. The sum of the 50-year committed dose to individual organs from inhalation (or ingestion) of radionuclides, where the individual organ does have weighted so that the associated risk of fatal cancer can be added to the risk of fatal cancer from whole-body dose.
Congregate Care (CC)	The provision of temporary housing and basic necessities for evacuees.
Congregate Care Center (CCC)	A facility for temporary housing, care, and feeding of evacuees.
Congregate Care Facility (CCF)	A public or private building located in a reception area and capable of housing and caring of evacuees.
Consequence	The result or effect (especially projected doses or dose rates) of a release of radioactive or hazardous materials to the environment.
Consequence Assessment	See Assessment.
Consolidation	The process whereby fuel rods are removed from an assembly and placed into a container in which a minimum of space is left unoccupied by the rods.
Containment	The provision of a gas-tight shell or other enclosure around a reactor that confines fission products and prevents their release to the environment in an accident.
Contaminated	The status resulting from the adhesion of radioactive particulates on the surface of structures, areas, objects, or personnel.

TERM	DEFINITION
Contaminated, injured, or exposed individuals	Individuals who are: (1) contaminated with radioactive material that cannot be removed by the simple methods described in NUREG-0654/FEMA-REP-1, Criteria J.12. and K.5.b., (2) contaminated and otherwise physically injured, or (3) exposed to high levels of radiation.
Contamination	(1) A frequently misunderstood term, contamination refers to radioactive materials not in their intended containers. "Fixed" or "Loose" contamination depends on the degree of effort required to unfix or remove the contamination from a surface. (2) A hazardous substance dispersed in materials or places where it is undesirable or not wanted.
Control Cell	Exercise personnel who facilitate interfaces with nonparticipating groups, such as State, local, and tribal government officials and special needs populations.
Control Rod	A rod containing a material that readily absorbs neutrons (such as boron). It is used to control the power of a nuclear reactor. By absorbing neutrons, a control rod slows the fission chain reaction by preventing neutrons from causing further fission.
Controller Injects	The introduction of events, data, and information into exercises to drive the demonstration of objectives.
Coolant	A substance, usually water, circulated through a nuclear reactor to remove or transfer heat.
Cool Down	The gradual decrease in reactor fuel rod temperature caused by the removal of heat from the reactor coolant system.
Cooling Tower	A heat exchanger designed to aid in the cooling of water that was used to cool exhaust steam exiting the turbines of a power plant. Cooling tower transfer exhaust heat into the air instead of into a body of water.
Coordinate	To bring into common action so as not to unnecessarily duplicate or omit important actions (does not involve direction of one agency by another).
Coordinating Agency	The federal agency that owns, authorizes, regulates, or is otherwise deemed responsible for the radiological activity causing the emergency and that has the authority to take action on-site. Normally for nuclear power station incidents, this function will be accomplished by the Nuclear Regulatory Commission.

TERM	DEFINITION
Core	The central portion of a nuclear reactor containing the fuel elements, moderator, neutron poisons, and support structures.
Core Melt Accident	Is a reactor accident in which the fuel core melts because of overheating.
Corrective Actions	Those measures taken to terminate or mitigate the consequences of an emergency at or near the source of the emergency.
Counting	Using an instrument to detect individual particles or gamma rays which interact with the detector on the instrument. For example, ambient radiation can be counted, or alternatively, the radiation emitted by specific samples can be counted in units of counts per minute (cpm) or counts per second (cps).
Critical	Able to sustain a nuclear reaction at a constant level.
Critical Mass	The mass of fissionable material needed to support a self-sustaining chain reaction.
Criticality	A term used in reactor physics to describe the state when the number of neutrons released by fission is exactly balanced by the neutrons being absorbed (by the fuel and poisons) and escaping the reactor core. A reactor is said to be "critical" when it achieves a self-sustaining nuclear chain reaction.
Cumulative Dose (Radiation)	The total dose resulting from repeated exposure to radiation of the same region, or of the whole body.
Curie (Ci)	<p>The basic (customary) unit of radioactivity used to describe the intensity of radioactivity in a sample of material. One curie is equal to 37 billion disintegrations (nuclear transformations) per second (or 37 Becquerel's). So, in one curie, 37 billion atoms decay in one second. Several commonly used fractions of the curie include:</p> <p>millicurie: 1/1,000 of a curie, (one thousandth of a curie, abbreviated mCi) microcurie: 1/1,000,000 of a curie (one millionth of a curie, abbreviated μCi) nanocurie: 1/1,000,000,000 of a curie (one billionth of a curie, abbreviated nCi) picocurie: 1/1,000,000,000,000 of a curie (one trillionth of a curie, abbreviated pCi)</p>
Daughter Product	An element formed by the radioactive decay of another element; often daughter products are radioactive themselves.

TERM	DEFINITION
<p>Decay (Radioactive)</p>	<p>¹ "The process whereby radioactive particles undergo a change from one form, or isotope, to another, releasing radioactive particles and/or energy." ² "The decrease in activity of any radionuclide over time, due to spontaneous emission of radiation from its atomic nuclei of either alpha particles, beta particles, or gamma rays. The rate of decay for a radionuclide is related to its half-life. ³ "Disintegration of the nucleus of unstable atoms by spontaneous emission of charged particles, electromagnetic radiation or both". ⁴ "The decrease in the radiation intensity of any radioactive material with respect to time.</p>
<p>Decontamination</p>	<p>¹ "The reduction or removal of contaminating radioactive material from a structure, area, object, or person. Or the removal of unwanted material (typically radioactive material) from facilities, soils, equipment or persons by washing, chemical action, mechanical cleansing or other techniques. ² "The process of making any person, object, or area safe by absorbing, destroying, neutralizing, making harmless or removing radioactive material clinging to or around it.</p>
<p>Decontamination Station</p>	<p>A building or location suitably equipped and organized where personnel and material are cleansed of radiological contamination.</p>
<p>Deficiency</p>	<p>An observed or identified inadequacy of organizational performance in an exercise that could cause a finding that offsite emergency preparedness is not adequate to provide reasonable assurance that appropriate protective measures can be taken in the event of a radiological emergency to protect the health and safety of the public living in the vicinity of a nuclear power plant.</p>
<p>Depleted Uranium</p>	<p>Uranium having a percentage of uranium-235 smaller than the 0.7% found in natural uranium. It is obtained from spent (used) fuel elements or as byproduct tails or residues from uranium isotope separation.</p>
<p>Derived Response Level (DRL)</p>	<p>The calculated concentration of a particular radionuclide in a particular medium (e.g., food) that will produce a dose equal to a protective action guide.</p>
<p>Design Basis Accidents (DBA)</p>	<p>Design Basis Accidents (DBAs) are accidents that are postulated for the purpose of establishing functional requirements for safety significant structures, systems, components, and equipment.</p>

TERM	DEFINITION
Direction and Control	The management of emergency functions within a particular context (e.g., an emergency operations center) through leadership and use of authority.
Direct-Reading Dosimeter (DRD)	A small ionization detection instrument that indicates radiation exposure directly. An auxiliary charging device is usually necessary. A DRD is also referred to as a "pencil dosimeter", "pocket dosimeter", and "self-reading" dosimeter.
Disabled Individual	An individual who is hearing-impaired, vision-impaired, non-ambulatory and requires support (e.g., crutches), frail, dependent upon life-support systems, and/or mentally or emotionally impaired.
Dose	¹ "Quantity of radiation or energy absorbed from ionization per unit of mass of tissue; measured in grays (rad)." ² "The amount of energy deposited in body tissue due to radiation exposure. Various technical terms, such as dose equivalent, effective dose equivalent, and collective dose, are used to evaluate the amount of radiation an exposed person receives. These terms are used to describe the differing interactions of radiation with tissue as well as to assist in the management of personnel exposure to radiation." ³ "A general term for denoting the quantity of radiation or energy absorbed. If unqualified, it refers to absorbed dose. For special purposes it must be appropriately qualified. If used to represent exposure expressed in roentgens (R), it is a measure of the total amount of ionization that the quantity of radiation could produce in air."
Dose Equivalent	A term used to express the amount of effective radiation when modifying factors have been considered. The product of absorbed dose multiplied by a quality factor multiplied by a distribution factor. It is expressed numerically in rem. The product of the absorbed dose in rad, a quality factor related to the biological effectiveness of the radiation involved and any other modifying factors.
Dose Equivalent (H)	¹ "A quantity of measurement used in radiation protection. This term expresses all radiations on a common scale for evaluating and comparing the effects of radiation in man. It is defined as the product of the absorbed dose in grays (rads), and certain modifying factors. The unit of dose equivalent is the sieverts (REM)." ² "The product of the absorbed dose (D) in gray (rad) in tissue, a quality factor (Q), and all other gray (rad) definition modifying factors (N). Dose equivalent is expressed in units of sievert (REM) {0.01 sievert =

TERM	DEFINITION
<p>Dose Equivalent (H) Cont'd.</p>	<p>1 REM}." ³"A term used to express the amount of effective radiation received by an individual. A dose equivalent considers the type of radiation, the amount of body exposed, and the risk of exposure. Measured in sieverts (REMs)."</p>
<p>Dose Limits for Emergency Workers</p>	<p>The allowable accumulated dose during the entire period of the emergency. Action to avoid exceeding the limit is taken based on actual measurements of integrated gamma exposure. In contrast, protective action guides are trigger levels of projected dose at which actions are taken to protect the public. These are taken prior to the dose being received.</p>
<p>Dose Rate</p>	<p>The absorbed dose delivered per unit of time. It is usually expressed as grays (rads) per hour, or in multiples or submultiples of these units such as millirads per hour. The dose rate is commonly used to indicate the level of hazard from a radioactive source.</p>
<p>Dosimeter</p>	<p>¹A portable device such as a TLD, film badge, or direct-reading ionization chamber used for measuring and registering the total accumulated exposure to ionizing radiation. ²An instrument that measures exposure to ionizing radiation. A small pocket-sized ionization chamber used for monitoring radiation exposure of personnel. It is known as a direct-reading dosimeter, pocket dosimeter, and self-reading dosimeter." ³A device to measure accumulated radiation dose." ⁴This could be a film badge, thermoluminescent dosimeter, or an electrostatic pocket dosimeter."</p>
<p>Dosimetry</p>	<p>The measurement of radiation doses. It applies to both the devices used (dosimeters) and to the techniques.</p>
<p>Drills and Exercises</p>	<p>Drills and exercises simulate or are based on possible real-life scenarios in order to improve emergency management, and should be based on the hazards identified for the specific region. There are several types of drills and exercises. They include:</p> <p>a. Drill: A drill is a supervised activity with a limited focus to test a procedure that is a component of the organization's overall emergency management or REP plan. That is, drills usually highlight and closely examine a limited portion of the overall emergency management plan or emergency response effort. For example, an organization might conduct a drill for the use of a radio system with those responsible for communicating on it.</p>

TERM	DEFINITION
<p>Drills and Exercises Cont'd.</p>	<p>b. Tabletop Exercise: A tabletop exercise uses written and verbal scenarios to evaluate the effectiveness of an organization's emergency management or REP plan and procedures and to highlight issues of coordination and assignment of responsibilities. Tabletop exercises do not physically simulate specific events, do not utilize equipment, and do not deploy resources. In a tabletop exercise, a facilitator usually coordinates discussion.</p>
	<p>c. Functional Exercise: A functional exercise simulates a disaster in the most realistic manner possible without moving real people or equipment to a real site. A functional exercise utilizes a carefully designed and scripted scenario, with timed messages and communications between players and simulators. The emergency operations center (EOC) – the facility or area from which disaster response is coordinated – is usually activated during a functional exercise and actual communications equipment may be used.</p>
	<p>d. Full-Scale Exercise or Field Exercise: A full-scale exercise is often the culmination of previous drills and exercises. It tests the mobilization of all or as many as possible of the response components, takes place in "real time," employs real equipment, and test several emergency functions. "Controllers," who maintain order and ensure that the exercise proceeds according to plan, are also usually used. Full-scale exercises are generally intended to evaluate the operations capability of emergency management systems in a community and to evaluate interagency coordination.</p>
<p>Dry Storage Facility</p>	<p>Shielded mobile or stationary containers, silos, modules, vaults, or dry wells filled with an inert gas or with air, as appropriate, in which spent fuel assemblies or canisters of highly radioactive material may be stored.</p>
<p>Edema</p>	<p>Presence of abnormally large amounts of fluid in the intercellular tissue spaces of the body or part of the body.</p>
<p>Effective Dose Equivalent (H_E) (EDE)</p>	<p>¹The sum of the products of the dose equivalent to each organ on a weighting factor, where the weighting factor is the ratio of the risk of mortality from delayed health effects arising from irradiation of a particular organ or tissue to the total risk of mortality from delayed health effects arising from irradiation of a particular organ or tissue to the total risk of mortality from delayed health effects when the whole body is irradiated uniformly to the same dose. ²The summation of the products of the dose equivalent received by specified tissues of the body (H_T) and the appropriate weighting factors (W_T) – that is (H_E = $\sum W_T H_T$). It includes the dose from radiation sources internal and/or external to the body. The effective dose equivalent is expressed in units of sievert (REM).</p>

TERM	DEFINITION
Effective Half-Life	The time required for a radionuclide contained in a biological system, such as in humans, to reduce its activity by half, as a combined result of radioactive decay and biological elimination.
Effluent	A waste discharge as a liquid.
Electromagnetic Radiation	A traveling wave motion that results from changing electric and magnetic fields. Familiar electromagnetic radiations range from those of short wavelengths, like x-rays and gamma rays, through the ultraviolet, visible, and infrared regions, to radar and radio waves of relatively long wavelengths.
Electron	An elementary particle with a negative charge. Electrons orbit the positively charged nucleus and determine the chemical properties of the atom. Symbol e ⁻ .
Element	Any of the 115 known chemical substances that cannot be broken down further without changing its chemical properties. Singularly or in combination, elements constitute all matter.
Emergency	An unexpected event during the operation of a nuclear facility that has a significant effect on the safety of the facility, personnel, or the public.
Emergency Actions	A collective term encompassing the assessment, corrective, and protective actions taken during the course of an emergency.
Emergency Action and Coordination Team (EACT)	The DOE senior management team at DOE Headquarters that coordinates the initial FRMAP response to a radiological emergency.
Emergency Alert System (EAS)	Emergency Alert System. The Emergency Alert System is composed of AM, FM, Cable and T.V. broadcast stations, the National Weather Service (NWS), and non-government industry entities operating on a voluntary, organized basis during emergencies at the national, state, or operational levels. This is one means by which emergency information may be disseminated to the public.

TERM	DEFINITION
EAS Activation, Operational Area	The process by which A-1 station begins transmission of an emergency message after being contacted by a designated official. Implies transmission of an emergency action notification attention signal to all participating EAS stations in the operational area. These stations, at the discretion of management, will conduct operations following the State EAS plan.
EAS Common Program Control Station (LP-1)	This is the principle station in an EAS Operational Area as outlined in the State EAS Plan. The LP-1 station coordinates the flow of emergency information through the other stations in the operational area that are voluntarily participating in the EAS. Following FCC regulations, for a station to be considered an LP-1 station, it must be able to provide coverage for the duration of the given incident. At all times, operation of EAS is subject to the independent discretion and responsibility of the radio stations concerned.
EAS Operational Area	This is a specified multi-county area. Designated local officials can request activation and provide information for the Operational Area EAS system. Operational Area activation may also be arranged by the SEOC. Cooper and Fort Calhoun Nuclear Stations are located in EAS Operational Area 1.
Emergency Action Levels	Specific, predetermined, observable criteria used to detect, recognize, and determine the emergency class of Nuclear Power Station/Plant operational emergencies. An EAL can be: an instrument reading; an equipment status indicator; a measurable parameter, on-site or off-site; a discrete, observable event; results of analyses; or another observed phenomenon that indicates entry into a particular emergency class.
Emergency Class	A subset under the categories of emergency (Operation, Energy, Continuity of Government). The class further differentiates an emergency by the degree of severity, depending on the actual or potential consequences of the emergency situation. For the Operational and Energy Emergency subcategories (i.e. Nuclear Power Stations), the classes are: Notice of Unusual Event, Alert, Site Area Emergency, and General Emergency.
Emergency Classification Level(s) (ECL)	Applies to commercial nuclear power plants only. They are: 1. Notification of Unusual Event (NOUE): Indicates that unusual events are in progress or have occurred that indicate a potential degradation in the level of plant safety or indicate a security threat to facility protection. No releases of radioactive material requiring offsite response or monitoring are expected, unless further degradation

TERM	DEFINITION
<p>Emergency Classification Level(s) (ECL)</p> <p>Cont'd.</p>	<p>1. Notification of Unusual Event (NOUE) Continued: Of safety systems is expected or occurs.</p>
	<p>2. Alert: Indicates that events are in progress or have occurred that involve an actual or potential substantial degradation in the level of plant safety or a security event that involves probable life threatening risk to site personnel or damage to site equipment because of intentional malicious dedicated efforts of a hostile act. Releases are expected to be limited to small fractions of the EPA protective action guides (PAG) exposure levels.</p>
	<p>3. Site Area Emergency (SAE): Indicates that events are in progress or have occurred that involve actual or likely major failures in the plant functions needed for protecting the public or security events that result in intentional damage or malicious acts; (1) toward site personnel or equipment that could lead to the likely failure of or; (2) prevents effective access to equipment needed for the protection of the public. Releases are not expected to exceed EPA PAG exposure levels beyond the site boundary.</p>
	<p>4. General Emergency (GE): Indicates that events are in progress or have occurred that involve actual or imminent substantial core degradation or melting, with potential for loss of containment integrity or security events that result in an actual loss of physical control of the facility. Releases can reasonably be expected to exceed EPA PAG exposure levels offsite for more than the immediate site area.</p> <p>5.</p>
	<p>Emergency Information and Coordination Center (EICC)</p>
<p>Emergency Information</p>	<p>Material designed to improve public knowledge or understanding of an emergency.</p>
<p>Emergency Instructions</p>	<p>Information provided to the general public during an emergency pertaining to protective action recommendations (PARs) for actions such as evacuation and sheltering. See Special News Broadcast.</p>

TERM	DEFINITION
Emergency Operations Facility (EOF)	¹ An emergency center operated by nuclear power station management. This center is the base of operations for nuclear power station support, on-site and off-site environmental surveillance, communications, as well as can serve as the point of interface between state and local governments. ² A facility that is the primary base of emergency operations for the Licensee in a radiological incident. An onsite operations facility provided by the NRC Licensee to facilitate the management of an overall emergency response. Utility and State officials, and a very limited number of Federal personnel may be accommodated.
Emergency Operations Center (EOC)	A facility that is the primary base of emergency operations for an ORO in a radiological emergency. Is a protected central command and control facility responsible for carrying out the four phases of emergency management, i.e. preparedness, response, recovery and mitigation. In the response phase it carries out disaster management functions at the strategic level in emergency situations, ensuring the continuity of operations and coordinates assistance for the incident commander and emergency response agencies responding in support of the incident commander.
Emergency Phase	The Initial phase of response actions, during which actions are taken in response to a threat of release or a release in progress.
Emergency Plan	A brief, clear, and concise description of the overall emergency organization, designation of responsibilities, and procedures, including notifications, involved in coping with any and all aspects of a potential credible emergency.
Emergency Planning	The development and preparation of emergency plans and procedures and the identification of necessary personnel and resources to provide an effective response.
Emergency Planning Zone (EPZ)	¹ A generic geographical area surrounding a commercial nuclear power station for which special off-site emergency planning and preparedness efforts are carried out to ensure that prompt and effective protective actions can be taken to reduce or minimize the impact to on-site and off-site personnel, public health and safety, and the environment in the event of an operational emergency. For commercial nuclear power stations, EPZs of about 10 and 50 miles are delineated for the plume and ingestion pathways respectively. ² A geographic area surrounding a commercial nuclear power plant for which emergency planning is needed to ensure that prompt and effective actions can be taken by

TERM	DEFINITION
Emergency Planning Zone (EPZ) Cont'd.	State and local governments to protect the public health and safety in the event of a radiological accident. The plume pathway EPZ is approximately 10 miles in radius, while the ingestion pathway EPZ has a radius of approximately 50 miles. Although the radius of the emergency planning zones implies a circular area around the Nuclear Power Station, the actual shape, especially for the 10-mile plume pathway EPZ will depend on conditions such as topography, land use characteristics, access routes and jurisdictional boundaries and other considerations.
Emergency Protective Actions	¹ Measures taken prior to and after a release of radioactive materials to prevent or minimize radiological exposures to persons in the threatened area. Examples of emergency protective actions as discussed in this plan are: area access control, evacuation, in-house shelter, decontamination and respiratory protection. ² Protective actions to isolate food to prevent its introduction into commerce and to determine whether condemnation or other disposition is appropriate.
Emergency Response Planning Area	See "Planning Area".
Emergency Response	The implementation of planning and preparedness during an emergency involving the effective decisions, actions, and application of resources that must be accomplished to mitigate consequences and recover from an emergency.
Emergency Response (ER) Manager	The Health Physics Professional from the Nebraska DHHS, DPH who is in charge and responsible for all radiological health decisions for the DHHS, DPH response team and all radiological health recommendations to the GAR for the health and safety of the general public.
Emergency Response Team (ERT)	A FEMA team deployed to a radiological emergency scene by the FEMA Administrator to make an initial assessment of the situation and then provide FEMA's primary response capability.
Emergency Support Team (EST)	The FEMA Headquarters' team that carries out notification, activation, and coordination procedures from the FEMA EICC. The EST is responsible for Federal agency headquarters coordination, staff support of the FEMA Administrator, and support of the SFO.

TERM	DEFINITION
Emergency Worker (EW)	¹ A person or persons who are primarily responsible for carrying out emergency functions. Emergency functions include radiological monitoring, fire fighting services, law enforcement, medical and health services, rescue activities, area security functions, communications, evacuation measures, welfare services, and other related functions assigned by competent authority to protect the health, safety and property of the general populace. ² Individual who has an essential mission zone to protect the health and safety of the public who could be exposed to ionizing radiation from the plume or from its deposition. Some examples of emergency workers are: radiation monitoring personnel; traffic control personnel; evacuation vehicle drivers; fire and rescue personnel, including ambulance crews; medical facilities personnel; emergency operations center personnel; personnel carrying out backup alerting procedures; and essential services or utility personnel.
Epidermis	The outermost layer of skin.
Epilation (Depilation)	The temporary or permanent removal of hair.
Erythema	An abnormal redness of the skin, due to distension of the capillaries with blood. It can be caused by many different agents; e.g., heat, certain drugs, ultraviolet rays, ionizing radiation.
Erythrocyte	A red blood corpuscle.
Essential Emergency Functions	These include communications, direction and control of operations, alert and notification of the public, accident assessment, information for the public and media, radiological monitoring, protective response, and medical and public health support.
Evacuation	The orderly withdrawal of individuals from a hazardous or threatened area until such time as the area is again deemed safe for use.
Evacuation (Citizen Evacuation)	A population protection strategy involving orderly movement of people away from an actual or potential hazard, and providing reception centers for those without their own resources for temporary relocation.
Evacuation Time Study (ETE)	An estimate, contained in emergency plans, of the time that would be required to evacuate general and special populations within the plume pathway emergency planning zone under emergency conditions.

TERM	DEFINITION
Evaluation Area Criterion	One of the 33 areas of ORO response capability which are evaluated during a REP exercise and which are contained in the FEMA REP Program Manual.
Evaluation Module	A tool for evaluator to document exercise performance.
Event	Any real-time occurrence or significant deviation from planned or expected behavior that could endanger or adversely affect people, property, or the environment.
Exception Area	An area located approximately 5 to 10 miles from a nuclear power plant and specifically designated in an ORO's plan, for which the 15-minute alerting and notification provision does not apply. For exception areas, offsite authorities have approximately 45 minutes to complete alert and notification of the public.
Exclusion Area	The area surrounding a nuclear power station in which the reactor licensee has the authority to determine all activities including exclusion or removal of personnel and property from that area. A specific area off-limits (miles) from a nuclear plant, but the term is synonymous with "on-site".
Exercise	See "Drills and Exercises".
Exercise Issue	A problem in organizational exercise performance that is linked with specific NUREG-0654/FEMA-REP-1 standards and applicable evaluation criteria. There are two categories of exercise issues: Deficiencies and Areas Requiring Corrective Actions (ARCAs).
Exposure	¹ A quantity used to indicate the amount of ionization in air produced by x- or gamma radiation. The unit is the roentgen (R). For practical purposes, one roentgen is comparable to 1 rad or 1 REM for x- and gamma radiation. ² The absorption of radiation or ingestion of a radionuclide. The exposure at a given point is a measurement of radiation in relation to its ability to produce ionization. The unit of measurement of the exposure is the roentgen. A measure of radiation dose received by a person, usually broken down and used to refer to whole-body exposure compared with exposure with exposure to the hands only.
Exposure Rate	The amount of gamma radiation that an individual would receive in one hour as measured in air (typically expressed in units of microroentgen per hour, milliroentgen per hour or roentgen per hour).

TERM	DEFINITION
Extent of Play (EOP)	The document that describes the agreed-up level of play vs. simulation at an emergency response exercise. May describe evaluation criteria to be demonstrated, equipment (including vehicles to be used), personnel to be deployed, facilities to be activated, etc.
Extremities	The hands and forearms and, with restrictions, the head, feet, and ankles. (Permissible radiation exposures in these regions are generally greater than in the whole body because they contain less blood-forming material and have smaller volumes for energy absorption.
Facility	Any building, center, room(s), or mobile unit(s) designed and equipped to support emergency operations.
Fast-Breaking Incident	Situation exists, severe core damage, requiring urgent action.
Federal Coordinating Officer (FCO)	The Federal official appointed by the President upon declaration of a major disaster or emergency under Public Law 93-288 to coordinate the overall Federal response.
Federal Emergency Management Agency (FEMA)	The agency responsible for establishing federal policies for and coordinating all civil defense and civil emergency planning, management, mitigation, and assistance functions of executive agencies. FEMA assists local and State agencies in their emergency planning. Its primary role is one of coordinating Federal, State, local and volunteer response actions.
Federal Radiological and Monitoring Assessment Center (FRMAC)	The FRMAC is a facility established by the Department of Energy usually at an airport near the scene of a radiological emergency, from which the off-site Technical Director conducts the Federal Radiological Monitoring and Assessment Plan (FRMAP) under the direction of the State or States' National Incident Management System set-up.
Federal Radiological Preparedness Coordinating Committee (FRPCC)	The National level coordination mechanism to provide technical assistance to State and local governments (see 44 CFR Part 351).

TERM	DEFINITION
Federal Response Center (FRC)	The On-scene focal point established by the Senior FEMA Official, as required, for coordinating the Federal response to an incident. Representatives of other Federal, State, local, and volunteer agencies will be located in the center.
Feed Water	Water supplied to the reactor pressure vessel (in a BWR) or the steam generator (in a PWR) that removes heat from the reactor fuel rods by boiling and becoming steam. The steam becomes the driving force for the plant turbine generator.
Field Command Post (FCP)	A center, either mobile or fixed, set up in a location convenient to the accident site, to facilitate emergency response, especially, for example, accident assessment activities such as direction of the field monitoring teams.
Field Team Coordinator (FTC)	The individual who manages the functions of field teams and coordinates data with the dose assessment group located in emergency operation centers and facilities.
Field Monitoring	The use of sensitive detection equipment instruments by trained personnel to perform measurements to determine the presence and levels of radioactive or other hazardous substance contamination at selected geographical locations in the off-site environment.
Fission	The splitting of a heavy nuclear into two or more radioactive nuclei, accompanied by the emission gamma rays, neutrons and a significant amount of energy. Fission usually is initiated by the heavy nucleus absorbing a neutron, but it also can occur spontaneously.
Fission Gases	Those fission products that exist in the gaseous state. Primarily the noble gases (e.g., krypton, xenon, radon).
Fission Products	The nuclei (fission fragments) formed by the fission of heavy elements plus the nuclides formed by the fission fragment in radioactive decay.
Film Badge	A photographic film packet to be carried by personnel, usually in the form of a badge, used for measuring and permanently recording gamma ray dosage.

TERM	DEFINITION
Fixed Nuclear Facility (FNF)	A stationary nuclear installation that uses or produces radioactive materials in its normal operations. FNFs include commercial nuclear power plants and other fixed facilities.
Fixed Contamination	Contamination that remains after loose contamination has been removed by decontamination.
Fixed (reproducible) Geometry	A method of measuring levels of radioactivity in samples by using a standard size or volume of samples held at a fixed distance from the measuring instrument.
Food Chain	The pathway of any material through the environment to edible plants, animals and ultimately to humans.
Forward EOC	If the State EOC is a significant distance from the plant site, the plans may indicate that a near-site or forward EOC will be established at the time of an accident.
Forward Command Post (FCP)	In a location near the affected area used to direct the activities of State field personnel performing emergency tasks in support of local government response. At times this location can also be the location for field team coordination.
Forward Operations Post (FOP)	A location in or near the affected area used to coordinate the monitoring and sampling activities of the Radiological Emergency Response Teams.
Forward Staging Area (FSA)	Location near accident site for location of resources for deployment.
Fuel Cycle	The series of steps involved in supplying fuel for nuclear power reactors. It includes mining, fabrication of fuel elements and assemblies, their use in a reactor, reprocessing spent fuel and re-fabrication into new fuel elements.
Fuel Element	A rod or other form into which nuclear fuel is fabricated for use in a nuclear reactor.

TERM	DEFINITION
Fusion	The formation of a heavier nucleus from two lighter ones, with the release of energy.
Gamma Radiation	¹ The most penetrating of the three types of ionizing radiation. Gamma rays are electromagnetic radiation-like light, radio waves and microwaves. Similar to, but usually more powerful than X-Rays, they have no mass; they are only energy. Gamma Rays are best stopped or shielded against by dense material such as concrete or lead. ² High energy, short wavelength electromagnetic radiation emitted from the nucleus. Gamma radiation frequently accompanies alpha and beta emissions and always accompanies fission. Gamma rays are very penetrating and are best stopped or shielded against by dense materials, such as lead or depleted uranium. Gamma rays are essentially similar to x-rays but are usually more energetic and are nuclear in origin.
Governor's Authorized Representative (GAR)	The person authorized by the Governor of the State concerned to act in the Governor's stead in all matters related to a nuclear power plant accident.
Geiger-Mueller (G-M) Detector	¹ A type of radiation detector that can be used to measure the gamma, or beta plus gamma radiation depending on whether the detector is covered by a beta shield. ² An instrument used to detect and measure radiation. The detecting element is a gas-filled chamber operated by a voltage whose electrical discharge will spread over the entire anode when triggered by a primary ionizing event.
General Emergency (GE)	One of the classes of emergencies in the Operational and Energy Emergency Categories. Within the category of Operational Emergency, a General Emergency represents events which are in progress or have occurred that involve actual or imminent catastrophic failure of facility safety systems with potential for loss of confinement integrity, catastrophic degradation of facility protection systems which could lead to substantial off-site impacts. Any environmental release of hazardous materials can reasonably be expected to exceed the appropriate Protective Action Guide (PAG) off-site.
Generator	Any person who is licensed by the Nuclear Regulatory Commission to use a utilization or production facility under the authority of the Atomic Energy Act of 1954.

TERM	DEFINITION
Genetic Effects	Genetic effects are those effects from some agent, like radiation, that are seen in the offspring of the individual who received the agent/exposure. The agent/exposure must be encountered preconception.
Gray	The gray (Gy) is a unit used to measure a quantity called absorbed dose. This related to the amount of energy actually absorbed in some material, and is used for any type of radiation and any material. One gray is equal to one joule of energy deposited in one kg of material. The unit gray can be used for any type of radiation, but it does not describe the biological effects of the different radiations. Absorbed dose is often expressed in terms of hundredths of a gray, or centigrays. One gray is equivalent to 100 rads.
Groundshine	Gamma and/or beta radiation from radioactive material deposited on the ground.
Half-Life	¹ "The time required for the activity of a radionuclide to decrease to half its initial value due to radioactive decay." ² "The time required for a radioactive substance to lose 50 percent of its activity by decay. The half-life of the radioisotope plutonium-239, for example is 24,000 years. Starting with a pound of plutonium-239, in 24,000 years there will be one-half pound of plutonium-239, in another 24,000 years there will be one-fourth pound, and so on. (A pound of material remains, but it gradually becomes a stable element.)" ³ The time required for the activity of a given radioactive species to decrease to half its initial value due to radioactive decay. The half-life is a characteristic property of each radioactive species and is independent of its amount or condition. The effective half-life of a given isotope on the body is the time in which the quantity in the body will decrease to half as a result of both radioactive decay and biological elimination. Half-lives vary from millionths of a second to billions of years.
Health Physics	The science concerned with recognition, evaluation, and control of health hazards from ionizing radiation.
Health Physics Professional	A person who has training and experience in the assigned position and has been designated by the Emergency Response Manager.
Health Physics Technician	An individual trained in radiation protection.

TERM	DEFINITION
High Exposure Rate	An exposure rate greater than 2.5 milliroentgens per hour.
High Levels of Radiation Exposure	Doses of 100 rem or greater.
High-Level Waste	No longer useful materials from nuclear operations, which have radioactivity concentrations of hundreds to thousands of curies per gallon or cubic foot.
Host Area	A geographical area that is at least 5 miles, and preferably 10 miles, beyond the boundaries of the 10-mile plume pathway EPZ (15 – 20 miles from the commercial nuclear power plant) where functions such as congregating, radiological monitoring, decontamination, and registration are conducted.
Host County	A county that lies outside the 10-mile emergency planning zone (EPZ) where residents evacuate to a reception center.
Host Regional Officer	The FEMA Regional Office that has program jurisdiction for a site because of the location of a commercial nuclear power plant within its regional borders.
Hostile Action	As defined in NRC Bulletin 2005-02, Emergency Preparedness and Response Actions for Security Based Events, a hostile action is “an act toward an NPP or its personnel that includes the use of violent force to destroy equipment, take hostages, and/or intimidate the licensees to achieve an end. This includes attack by air, land, or water using guns, explosives, projectiles, vehicles, or other devices used to deliver destructive force.”
Hot Spot	The region in a contaminated area in which the level of radioactive contamination is considerably greater than in neighboring regions.
Household Pet	A domesticated animal, such as a dog, cat, bird, rabbit, rodent, or turtle that is traditionally kept in the home for pleasure rather than for commercial purposes, can travel in commercial carriers, and be housed in temporary facilities. Household pets do not include reptiles (except turtles), amphibians, fish, insects/arachnids, farm animals (including horses), and animals kept for racing purposes.
Implementing Procedures (IP)	“Operating” procedure used by personnel to provide a detailed description, including checklists, of operations to be conducted by either a specific group of individuals or by a designated position. IPs are also referred to as “Standard Operating Procedures” (SOPs).

TERM	DEFINITION
Inadequate	As used in reviews of radiological emergency response plans or procedures, inadequate means the plan contents do not meet the NUREG-0654/FEMA-REP-1 evaluation criteria.
Incident Command Post (ICP)	The location at which the primary command functions are executed, usually co-located with the incident base.
Incident Commander (IC)	The individual responsible for the management of all operations at a particular hazardous materials emergency.
Incident Command System (ICS)	The combination of facilities, equipment, personnel procedures, and communications operating within a common organizational structure with responsibility for the management of assigned resources to effectively accomplish stated objectives pertaining to an incident.
Ingestion Exercise	An exercise involving ingestion exposure pathway protective action decision-making and implementation. A State should fully participate in the ingestion pathway portion of exercises at least once every six years. In States with more than one site, the State should rotate this participation from site to site.
Ingestion Exposure Pathway (IEP) EPZ	A geographical zone with approximately 50 miles radius centered at a nuclear power station for which plans are developed to protect the public from exposure to radiation principally from the ingestion of water or foods such as milk and fresh vegetables that have been contaminated with radiation as a result of a nuclear power station accident. The duration of primary exposure could range from hours to months.
In-House Shelter	A protective action where the public is directed to go/stay indoors (in residential, commercial or public housing), close all doors and windows, turn off all sources of outside air, listen to the radio or television for emergency information, and remain indoors until official notification that it is safe to go out. Also see Sheltering.
Interim Storage	The temporary holding of wastes on the generator's site when disposal space is not available. Monitoring and human control are provided, and subsequent actions involving treatment, transportation, or final disposition is expected.

TERM	DEFINITION
Internal Radiation	The nuclear radiation resulting from radioactive substances in the body. Some examples are iodine-131 found in the thyroid gland, and strontium-90 and plutonium found in bone.
Iodine (I)	An element of the periodic table. Only one stable isotope exists, the rest are radioactive and artificially created. The most common, iodine-131 and iodine-125, are used for medical treatment of the thyroid gland and in research.
Ion	¹ Atomic particle, atom, or chemical radical bearing an electrical charge, either negative or positive. ² An atom or molecule with a negative or positive electrical charge.
Ionization	¹ "Simply the removal of one or more electrons from the atom." ² "The separation of a normally electrically neutral atom or molecule into electrically charged components. The term is also employed to describe the degree or extent to which this separation occurs. Ionization is the removal of an electron (a negative charge) from an atom or molecule, either directly or indirectly, leaving a positively charged ion. The separated electron and ion are referred to as an ion pair." ³ "Removal of electrons from an atom, for example, by means of radiation, so that the atom becomes charged." ⁴ The process of adding or removing electrons from atoms or molecules, thereby creating ions. High temperatures, electrical discharges or nuclear radiation can cause ionization.
Ionizing Radiation	¹ "Any radiation that causes displacement of electrons from atoms or molecules, thereby producing ions." ² "Radiation that has enough energy to remove electrons from substances it passes through, forming ions. ³ Any radiation that displaces electrons from atoms or molecules, thereby producing ions. Alpha, beta and gamma radiation are examples. Ionizing radiation may damage skin and tissue.
Inverse Square Law	The relationship which states that gamma radiation intensity is inversely proportional to the square of the distance from a point source. For example, if at one foot from a point source the dose rate is 500 milliR/h, backing up to 2 feet, reduces the dose rate to 250 milliR/h. Continuing to double the distance, now to four feet, reduces the dose rate to 125 milliR/h and at 8 feet the dose rate would be 62.5 milliR/h, and so on.
Irradiation	Exposure to ionizing radiation.

TERM	DEFINITION
Isotope	<p>¹"One of two or more atoms with the same atomic number but with different numbers of neutrons." ²"An atom of an element which contains the same number of protons and electrons, but which has additional neutrons. Sometimes isotopes are unstable and lose their "extra" neutrons. These isotopes are called radioactive isotopes." ³Nuclides having the same number of protons in their nuclei and the same atomic number, but differing in the number of neutrons and atomic mass number. Some isotopes of a particular element may be radioactive while others are not.</p>
Job Aid	<p>A job-based reference tool that helps staff perform a task or any device (whether in written, mechanical, electronic, or other form) that can be used by a worker to facilitate the performance of a job or task. Job aids are often printed or visual summaries of key points or steps essential to the performance of a task.</p>
Joint Information Center (JIC)	<p>A centralized facility where organizations responding to an emergency coordinate the release of accurate and timely information to the public and the media and provide a central source for all instructions. A JIC is operated cooperatively by all responding levels of federal, state, and local governments and organizations, and the involved facility. A central point of contact for all news media at the scene of the incident. News media representatives are kept informed of activities and events via public information officials from all participating federal, state and local agencies.</p>
Key Staff	<p>Those emergency personnel, sufficient in numbers and functions, necessary to carry out emergency operations as required by scenario events and as set forth in the plans.</p>
KI (Potassium Iodide)	<p>See potassium iodide.</p>
Kilo	<p>A prefix that multiplies a basic unit by 1,000. Example: 1 kilometer = 1,000 meters (10³)</p>
Kilovolt(kv)	<p>The unit of electrical potential equal to 1,000 volts.</p>
LD-50 or LD₅₀ or LD⁵⁰ Dose	<p>The dose of radiation required to kill, within a specified period, 50 percent of the individuals in a large group of animals or organisms; e.g., LD-50/30, a lethal dose to 50 percent of the organisms in 30 days.</p>
Lead Agency Official (LAO)	<p>The designated official on scene from each participating Federal agency authorized to direct that agency's response.</p>

TERM	DEFINITION
Letter of Instruction	Letter(s) of Instruction are sets of instructions having the force of directives, covering those features of operations which lend themselves to a definite or standardized procedure without loss of effectiveness. Also see Standard Operating Procedures (SOPs).
Licensed Material	Source material, special nuclear material, or by-product material received, possessed, used, or transferred under a general or special license issued by the NRC or a State.
Licensee	The utility or organization that has applied for or has received from the NRC, (1) a license to construct or operate a commercial nuclear power plant, (2) a possession-only license for a commercial nuclear power plant, with the exception of licensees that have receive an NRC-approved exemption to 10 CFR§ 50.54(q) requirements, (3) an early site permit for a commercial nuclear power plant, (4) a combined construction permit and operating license for a commercial nuclear power plant, or (5) any other NRC license that is now or may become subject to requirements for offsite radiological emergency planning and preparedness activities.
Licensee Offsite response Organization	The Licensee's offsite emergency response organization comprised of Licensee, State, local, and tribal government, volunteer and other support personnel required to implement the Licensee's radiological emergency response plan. Such an organization entity is typically employed for situations where State, local and tribal governments do not participate in radiological emergency planning and preparedness.
Limited Response	Response to a request for radiological assistance that involved limited DOE or other agency resources and does not require the formal field management structure.
Low-Level Waste	Wastes containing types and concentrations of radioactivity that require little or no shielding for personnel exposure.
Malaise	A vague feeling of physical discomfort or uneasiness, such as feeling bad before developing a definite illness.
Mass Number	The sum of the neutrons and protons in a nucleus. The mass number is the nearest whole number to an atom's atomic weight. For instance, the mass number of uranium-235 is 235. Symbol A.

TERM	DEFINITION
Maximally Exposed Individual	A hypothetical individual who receives the greatest possible projected dose in the area of highest radiation levels over a specified period of time.
Maximum Permissible Body Burden	Maximum Permissible Body Burden (MPBB) is the maximum amount of specific radionuclide considered to produce no adverse health effects if deposited inside the body.
Measuring	Refers to counting to detect radiation levels or determining other parameters, such as the energy or radiation or physical characteristics of samples, such as the volume of an air sample.
Media Center	See Joint Information Center.
Medium Lethal Dose (LD-50)	The amount of radiation received over the whole body which would be fatal to about 50 percent of human beings, animals, or organisms. It is usually accepted that a dose of 400 to 450 R (roentgens) received over the whole body in the course of a few minutes represents the median lethal dose for human beings.
MET	The status of a REP exercise Evaluation Area Criterion indicating that the participating ORO demonstrated all demonstration criterion for the Evaluation Area Criterion to the level required in the extent-of-play agreement with no Deficiencies or ARCAs assessed in the current exercise and no unresolved prior ARCAs.
Meteorological Unified Dose Assessment Center (MUDAC)	An area within or near the facility which houses the personnel responsible for the coordination of radiological monitoring teams, collection of radiological monitoring data, calculation of dose projections and the recommendation of protective actions for the EPZs.
micro	A prefix that divides a basic unit by one million. It is represented by the Greek letter "mu" ("μ"). Example: 1 micrometer = 1μm=1/1,000,000 meters (1X10 ^{-3m}).
microcurie (μCi)	A one-thousandth part of a curie (see curie).
Milestone	A date at which a specified task in the preparation of an exercise report must be completed. Milestones are measured by the number of calendar days after the date of a REP exercise.

TERM	DEFINITION
milli	A prefix that divides a basic unit by one thousand. It is represented by the Greek letter "m". Example: 1 millimeter=1mm=1/1,000 meters (10^{-3} m).
millicurie (mCi)	A one-thousandth part of a curie (see curie).
millirem (mrem)	A one-thousandth part of a rem (see rem).
milliroentgen (mR)	A one-thousandth part of a roentgen (see roentgen).
Mobile Emergency Response Support (MERS)	FEMA's communications capability.
Mobility impaired	Those without transportation, including those without their own cars, those who are unable to drive and those who need assistance, any of whom will need transportation assistance to evacuate.
Mobilized Organization	An organization that has completed the activation process and is able to carry out the essential emergency functions, as required by scenario events as set forth in emergency response plans.
Monitoring	The act of detecting the presence of radiation and the measurement of radiation levels, usually with a portable survey instrument. The use of sampling and detection equipment to determine the levels of radiation or other toxic materials.
Monitoring and Decontamination Facility	A temporary facility established outside the plume emergency planning zone for the purpose of monitoring and decontaminating emergency workers, and their vehicles and equipment used in the plume and/or areas contaminated by the plume.
MS-1 Hospital	Hospitals trained and capable of treating members of the general public who may be injured and/or considered to have substantial radiation related injuries, or who may have been exposed to and contaminated by radioactive materials.
nano	A prefix that divides a basic unit by one billion (10^9). It is represented by the Greek letter "n". Example: 1 nanocurie=1/1,000,000,000 Ci (1×10^{-9} Ci)

TERM	DEFINITION
nanocurie (nCi)	One-billionth part of a curie (see curie)
Narrative	A body of text, prepared by the exercise evaluator, to accompany the Evaluation Area Criterion and describe in narrative form the events which transpired during the exercise and document the ORO's demonstration, identify and describe pertinent exercise issues (Deficiencies, ARCA's, or Plan Issues), and recommend appropriate corrective actions for each issue identified by the evaluator.
National Response Framework	<p>Primarily pertains to federal response in support of state and local governments during emergencies under the National Incident Management System. The NRF:</p> <ol style="list-style-type: none"> 1. Provides the federal government's concept of operations based on specific authorities for responding to radiological emergencies. 2. Outlines federal policies and planning assumptions that underlie the concept of operations on which federal agency response plans (in addition to their agency specific policies) are based. 3. Specifies authorities and responsibilities of each federal agency that may have a significant role in such emergencies.
Natural Radiation	Radiation that is always present in the environment from such sources as cosmic rays and radioactive materials in rocks and soils. Also known as background radiation.
Neutron	<p>¹"A particle that appears in the nucleus of all atoms except hydrogen. Neutrons are one of three basic particles that make up the atom. Neutrons have no electrical charge." ²"An uncharged elementary particle with a mass slightly greater than that of the proton; found in the nucleus of every atom heavier than hydrogen. A free neutron is unstable and decays with a half-life of about 13 minutes into an electron, proton, and neutrino. Neutrons sustain fission chain reaction in a nuclear reactor. Shield for neutrons is usually large quantities of materials such as water, paraffin, or polyethylene."</p>

TERM	DEFINITION
<p>National Incident Management System (NIMS)</p>	<p>The National Incident Management System (NIMS) is emergency management doctrine used across the United States to coordinate emergency preparedness and incident management and response among the public (Federal, Tribal, state, and local government agencies) and private sectors. NIMS is a comprehensive, national approach to incident management that is applicable at all jurisdictional levels and across functional disciplines. NIMS enables us to work together to prevent, protect against, respond to, recover from, and mitigate the effects of incidents, regardless of cause, size, location, or complexity, in order to reduce the loss of life and property and harm to the environment.</p>
<p>NOAA Weather Radio/Wire Service – National Oceanic Atmospheric Administration Weather Radio/Wire Service</p>	<p>A tone alert radio system/wire teletype system, operated by the National Weather Service (NWS) which may be used for dissemination of Special News Broadcast (SNB) messages by the NEMA in an emergency.</p>
<p>Noble Gases</p>	<p>The chemically inert radioactive gases that are released during an accident at a nuclear power plant.</p>
<p>Non-Participating Organization</p>	<p>State, local, and tribal governments that are not participating in emergency planning and preparedness for accidents at a commercial nuclear power plant.</p>
<p>Non-Penetrating Radiation</p>	<p>A general term used to describe external radiations of such low penetrating power that the absorbed dose from exposures to humans is principally in the skin and does not reach deeper organs to any significant extent. It refers to alpha, beta, and very low energy gamma or x-ray radiations.</p>
<p>Non-Stochastic Effects</p>	<p>Non-stochastic effects are effects that can be related directly to the radiation dose received. The effect is more severe with higher radiation dose, i.e. the burn gets worse as the dose increases. It typically has a threshold, below which the effect will not occur. A skin burn from radiation is a non-stochastic effect.</p>

TERM	DEFINITION
Not Demonstrated	Term applied to the status of a REP exercise Evaluation Criterion indicating that the ORO, for a justifiable reason, did not demonstrate the Evaluation Area Criterion, as required in the extent-of-play agreement or at the two-year or six-year interval required in the FEMA REP Program Manual. In general , an ORO may justify not demonstrating an Evaluation Criterion because of (1) the ORO's response to a real-life emergency during the time that the exercise was being conducted or (2) extenuating circumstances, such as a fire, flood, or other emergency, as the facility that was to be demonstrated.
Notification of Unusual Event	A Notice of Unusual Event (NOUE) is an event in progress or that has occurred which indicates a potential degradation of the level of safety of the plant. No release of radioactive material is expected unless further degradation of plant safety systems occurs.
Notification and Mobilization of Personnel	The transmission of messages to emergency personnel informing them of an emergency situation and directing them to report for emergency duty at their assigned duty station.
Notifying the Public	Distributing an instructional message, either through the Emergency Broadcast System or some other system.
Nuclear Criticality	The point at which nuclear material achieves a self-sustaining chain reaction.
Nuclear Fuel Cycle	The complete process or cycle of nuclear activities, which include mining, milling, conversion, enrichment, fuel fabrication, nuclear power station operations, spent fuel storage, reprocessing, and waste management operations.
Nuclear Power Station	A fixed nuclear facility/electric power generating plant that used nuclear material as the primary fuel to power a nuclear reactor.
Nuclear Radiation	The particulate and electromagnetic radiation emitted from atomic nuclei in various nuclear processes. The important types of nuclear radiation (from the weapons standpoint) are alpha and beta particles, gamma rays and neutrons. All nuclear radiations are ionizing radiations, but the reverse is not true.
Nuclear Reactor	An apparatus, other than an atomic weapon, designed or used to sustain nuclear fission in a self-sustaining chain reaction.

TERM	DEFINITION
Nuclear Regulatory Commission (NRC)	The NRC is the federal agency responsible for regulating commercial nuclear power stations and other commercial nuclear operations pursuant to the Atomic Energy Act of 1954, as amended.
Nucleus	The dense central positive part of the core of an atom that contains protons, neutrons, and other particles. It is only 1/100,000 diameter of the atom but contains nearly all the atom's mass. All nuclei contain both protons and neutrons, except the nucleus of ordinary hydrogen, which consists of a single proton.
Nuclide	¹ A general term applicable to all atomic forms of the elements. The term is often erroneously used as a synonym for "isotope", which properly has more limited definition. Whereas isotopes are various forms of a single element (hence, a family of nuclides and all have the same atomic members). Nuclides comprise all the isotopic forms of all the elements. ² A general term referring to all known isotopes, both stable (279) and unstable (5,000), of the chemical elements.
Objective	One of the 33 areas of ORO capability that are evaluated during a REP exercise and which are defined the REP Manual.
Off-Hours	The hours between 6:00 P.M. and 4:00 A.M. or any weekend hours.
Off-Site	¹ "That area or property surrounding a nuclear power station that is not owned by the nuclear power station or its parent company." ² " That area beyond the boundaries of the site."
Offsite Response Organization (ORO)	Any State, local, and/or tribal government; supporting private industry and voluntary organization; and Licensee offsite response organization (that are formed when State, local and/or tribal governments fail to participate in the REP Program) that are responsible for carrying out emergency functions during a radiological emergency.
On-Scene	¹ The area surrounding an accident site that is, or potentially could be, affected by the accident or incident. This area could both be on-site and off-site. ² The area surrounding a site that is, or potentially could be, impacted by an incident. This area includes both onsite and offsite areas.
On-Site Personnel	Licensee or contract personnel working at commercial nuclear power plants.

TERM	DEFINITION
Operational	The EOC/EOF/JIC/Assistance Center/Emergency Worker Center/Laboratories, etc., are considered "Operational" when all key decision makers are at their duty stations and capable of performing all emergency functions assigned to that facility.
Operationally Mobilized Organization	An organization that has completed the activation process required by scenario events and their emergency response plan and procedures. Operational mobilization is achieved when all key personnel are at their duty stations.
Particulate Radiation	Radiation in the form of particles (e.g., neutrons, electrons, alpha, and beta particles) as opposed to electromagnetic radiation.
Permissible Exposure Limit	The exposure, inhalation or dermal permissible exposure limit specified in 29 CFR 1920, subparts G and Z.
Petechia	A round, purplish red spot caused by bleeding under the skin.
pico	A prefix that divides a basic unit by one trillion (10^{-12}). It is represented by the letter "p". Example: 1 picocurie=1/1,000,000,000,000 Ci (1×10^{-12} Ci)
picocurie (pCi)	One-trillionth part of a curie (see curie).
Plan	An organization's documented concept of operations and implementing procedures for managing its internal response to radiological emergencies and coordinating its external response with other organizations.
Planning Area	A pre-designated geographic subdivision of the plume exposure pathway EPZ. In some plans, it may be referred to as an Emergency Response Planning Area or an equivalent term.
Plan Issue	An observed or identified inadequacy in the ORO's emergency plan or implementing procedures, rather than in the ORO's performance. Plan issues are not exercise issues and are required to be corrected through the revision of the appropriate plans or procedures during the next annual plan review and update, submitted for FEMA review, and reported in the State's Annual Letter of Certification.

TERM	DEFINITION
Plume	Airborne material spreading from a particular source. Used to denote the dispersal of particles, gases, vapors, and aerosols in the atmosphere. Occasionally referred to as a cloud (for example, a "radioactive cloud"). A release of material into the atmosphere for a short duration may also be denoted as a "puff". Can be measured or "seen" with radiation measurement equipment.
Plume Dose Projections	Estimates of dosage to the public from exposure to the plume, over a period of time, in the absence of initiating protective actions.
Plume Exposure Pathway	<p>The time of potential exposure could range in length from hours to days. Principal exposure sources are:</p> <ul style="list-style-type: none"> a. Whole body external exposure to gamma radiation from the plume and from deposited materials. b. Inhalation and absorption of constituents in the passing radioactive plume.
	<p>For planning purposes, the area within approximately a 10-mile radius of a nuclear power plant site. A term describing the means by which whole body radiation exposures occur as a result of immersion in a plume release. The area in which plume exposures are likely is describe in NUREG-0369 as an area extending out approximately 10 miles from the reactor site and forming roughly a "keyhole" shape, with the keyhole oriented downwind. In the EPZ-plume, actions may be required to protect the public from the effects of whole-body external exposure to gamma radiation from the plume and protect the public from the effects of whole-body external exposure to gamma radiation from the plume and from deposited materials and inhalation exposure from the passing radioactive plume's released materials. The duration of this exposure in this mode could range from hours to days in the case of particulate deposition.</p>
Plume Exposure Pathway Emergency Planning Zone (EPZ)	A geographic area, zero to approximately 10 miles, surrounding a commercial nuclear power plant in which the health and safety of the general public could be adversely affected by direct whole body external exposure to gamma radiation from deposited materials as well as inhalation exposure from the passing radioactive plume during a radiological accident. The duration of such exposures could range in length from hours to days.

TERM	DEFINITION
Plutonium (Pu)	An element of the periodic table that is an artificially-produced fissile material. The Pu-239 isotope is used primarily in nuclear weapons.
Population Dose Projection	Projection made by a Federal agency under the Federal Response Framework pertaining to the levels of radiation to which the population within the EPZ will be exposed.
Plutonium (Pu)	An element of the periodic table that is an artificially-produced fissile material. The Pu-239 isotope is used primarily in nuclear weapons.
Portal Monitor	A radiation monitor consisting of several radiation detectors arranged in a fixed position within a frame that forms a passageway for individuals being monitored.
Post Plume	Activities (ingestion, relocation, re-entry, and return) that occur after a plume has been released. These activities can be demonstrated with the plume phase or separately.
Potassium-40 (K-40)	A naturally occurring radioactive isotope of potassium, which is an element of the periodic table. It is a beta and gamma emitter and has an exceedingly long half-life. The average person receives about 20 millirems a year from K-40 in his/her body.
Potassium Iodide (KI)	A prophylactic compound commonly referred to as a radioprotective drug containing a stable (i.e., non-radioactive) form of iodide that can be used effectively to block the uptake of radioactive iodine by the thyroid gland in a human being. Thyroid blocking agent that may be used in radiological events involving releases of radioiodine-131.
Potential Dose	The Radiation dose that could result from a particular set of plant conditions that are not based on estimated or measured releases or environmental levels.
Precautionary Protective Actions	Any preventive or emergency protective actions implemented without the verification of radionuclide measurements by field monitoring or laboratory analysis.
Pressure Vessel	A strong-walled container housing the core of most types of power reactors.

TERM	DEFINITION
Pressurized Water Reactor	A nuclear reactor in which heat is transferred from the core to a heat exchanger via water kept under high pressure so that high temperatures can be maintained in the primary system without boiling the water. Steam is generated in a secondary circuit. Fort Calhoun Nuclear Station is a pressurized water reactor.
Preventive Protective Actions	Protective actions to prevent or reduce contamination of milk, food, and drinking water. Other preventive protective actions are washing, brushing, scrubbing, or peeling fruits and vegetables to remove surface contamination.
Price-Anderson Act	The legislation outlines the methods for compensating nuclear power stations or nuclear transportation accident victims. Passed as Subsection 170 of the Atomic Energy Act of 1954, the Price-Anderson Act established a system in which a combination of government guarantees and private insurance coverage would pay claims for personal injury and property damage caused by nuclear accidents. The legislation limits the liability any one utility must sustain by requiring all nuclear utilities (nuclear power stations) to assist in damage payments should an accident occur.
Principal Federal Official (PFO)	Pursuant to the Homeland Security Act of 2002 and Homeland Security Presidential Directive (HSPD) 5, the Secretary of Homeland Security is the principal Federal official for all domestic incidents requiring multiagency federal response. The Secretary may elect to designate a single individual to serve as his or her primary representative to ensure consistency of Federal support as well as the overall effectiveness of the Federal incident management. When appointed, such an individual serves in the field as the PFO for the incident.
Projected Dose	The estimated or calculated amount of radiation dose to an individual from exposure to the plume and/or deposited materials, over a period of time, in the absence of protective action.
Protective Action	Physical measures, such as evacuation or sheltering, taken to prevent potential health hazards resulting from a release of hazardous materials to the environment adversely affecting employees and/or the off-site population. See Protective Response.

TERM	DEFINITION
Protective Action Decision (PAD)	Measures taken in anticipation of, or in response to, a release of radioactive material to the environment. The purpose of PAs is to provide dose savings by avoiding or minimizing the radiation exposure received by individuals, thereby minimizing the health risks resulting from radiation exposure. Sheltering and evacuation are the two PAs that are relied upon for limiting the direct exposure of the general public within the plume exposure EPZ. Preventive and emergency PAs are two categories of PAs that will be relied upon for limiting exposure from contaminated food and water in the ingestion exposure EPZ.
Protective Action Guide (PAG) Protective Action Guide (PAG) Cont'd.	¹ A radiation exposure level or range established by appropriate federal or state agencies beyond which protective action should be considered. PAG values should reflect a balance of risks and costs to on-site personnel, public health and safety, and the environment weighted against the benefits obtained from protective actions. PAGs are the tools used as decision aids during the response to a radiological incident. ² Projected dose to an individual in the general population that warrants the implementation of protective actions. Specific PAGs (FDA and EPA) have been recommended in terms of the level of projected dose that warrants the implementation of evacuation and sheltering, relocation, and limiting use of contaminated food, water, or animal feed.
Protective Action Recommendation (PAR)	Advice to the State on emergency measures it should consider in determining action for the public to take to avoid or reduce their exposure to radiation.
Protective Response	Implementation of a protective action.
Proton	An elementary particle with a single positive electrical charge and a mass of approximately 1837 times that of the electron. Protons are constituents of all nuclei. The atomic number (Z) of an atom is equal to the number of protons in its nucleus.
Public Assembly Area	Pre-designated locations within the EPZ where persons needing transportation will assemble.
Public Education	A planned program which is designed to inform the public of protective actions they may be required to accomplish during a given state of emergency. This program also familiarizes the public with the basic REP terms and concepts.

TERM	DEFINITION
Public Information Officer	Appointed official spokesperson for either a government or private entity.
Public Information	Information delivered to the media via press conferences, interviews, technical briefings, printed media releases, and telephonic distribution of printed releases. Information should be current, accurate, and timely. All printed release should be coordinated with other authorities before distribution to the media. Ideally, information released in news conferences, briefings, and interviews should be coordinated before release. If pre-coordination does not occur, then post-notification of other authorities of critical points discussed in interviews, conferences, etc., should occur.
Public Instruction	Instructions (warning messages) that are PARs for the public. Instructions should be given by a public official and delivered directly to the public via the notification system (i.e., EAS radio). Message content and timeliness are very important. Messages should be repeated by Notification system at least every 15 minutes until updated by public authorities. If applicable, public instructions should be coordinated with other authorities.
Public Inquiry (Formerly Rumor Control)	Describe actions taken to combat or otherwise correct wrong or misunderstood information. It includes monitoring many types of media sources, the public and field government officials. Feedback developed through monitoring results in specific news releases, etc., directed against the rumors. The objective is to direct the public to authorized sources of information. This definition was formerly attributed to "Rumor Control" but was changed under the National Incident Command System.
Public Transportation	Any transportation, government or privately owned, arranged for by local government and provided to the general public to move them to reception areas and/or reception centers. Public transportation would generally be designated for institutionalized persons and those without private vehicles.
Purpura	Bleeding under the skin. Symptom of acute radiation sickness.

TERM	DEFINITION
RAC AC	Is the Regional Assistance Committee Advisory Council. Chairpersons from each of the 10 FEMA Regional Radiological Assistance Committees work with FEMA headquarters staff to ensure continuity throughout the Regions in the administration of the REP Program. When the council was chartered in 1997 it was per the Kay C. Goss, Associate Director for Preparedness, Training and Exercises memorandum dated February 25, 1997, addressed to FEMA Regional Administrators. That memorandum stated the following: "As you know, the RAC Chairperson Advisory Committee was established as an outgrowth of the first National Radiological Emergency Preparedness (REP) Conference held in Gettysburg, PA, 29 July – 2 August 1996. The committee is a standing Regional committee to discuss mutual program issues of substantive concern and provide consensus recommendation(s) to the PT&E Directorate. As a corollary responsibility, the Committee will provide technical expertise to the Federal Radiological Coordinating Committee (FRPCC), as appropriate."
R.A.C.E.S.	Radio Amateur Civil Emergency Service (HAM Radio Operators)
rad	¹ "Radiation absorbed dose, a measurement of ionizing radiation absorbed any material. A rad measures the absorption of a specific amount of work (100 ergs) in a gram of matter." ² "Unit of absorbed dose. One rad is equal to an absorbed dose of 100 ergs per gram or 0.01 joules per kilogram (0.01 gray)." ³ "Radiation absorbed dose. A (rad) is the unit absorbed dose. The rad is a measure of the energy imparted to matter by ionizing particles per unit mass of irradiated material at the place of interest. A rad is approximately equal to the absorbed dose in tissue when the exposure in air is one roentgen (R) of medium-voltage x-radiation." ⁴ radiation absorbed dose, the basic unit of absorbed dose radiation. One rad represents the absorption of 100 ergs of nuclear (or ionizing) radiation per gram of the absorbing material or tissue (see roentgen).
Radiation	¹ "Fast particles and electromagnetic waves emitted from the nucleus of an atom during radioactive disintegration." ² "The energy propagated through space or through material medium such as waves; for example, energy in the form of electromagnetic waves or of elastic waves. Radiation, or radiant energy, when unqualified, usually refers to electromagnetic radiation, such as radiation commonly is classified according to frequency, as Hertzian, infrared, visible (light), ultraviolet, x-ray and gamma ray. Also, particles such as alpha and beta radiation, or rays of mixed or unknown type – for instance cosmic rays can be called radiation."

TERM	DEFINITION																
Radiation Accident	An accident in which there is an unintended exposure to ionizing radiation or radioactive contamination.																
Radiation Level	The radiation dose-equivalent rate expressed in millirem/per hour (mrem/h).																
Radiation Safety Officer	A health physicist or other individual experienced in radiation protection who advises medical facility staff regarding the hazards associated with high levels of radiation.																
<p>Radiation Sickness Radiation Sickness</p>	<p>1The prodromal manifestations of acute radiation injury, varying in severity, scope, and cause, depending on the conditions of exposure to ionizing radiation. 2the complex of symptoms characterizing the disease known as radiation injury, resulting from excessive exposure of the whole body (or large part) to ionizing radiation. The earliest of these symptoms are nausea, fatigue, vomiting, and diarrhea, which may be followed by loss of hair (Epilation) hemorrhage, inflammation of the mouth and throat, and general loss of energy. In severe cases, where the radiation exposure has been relatively large, death may occur within 2 to 4 weeks. Those who survive 6 weeks after the receipt of a single large dose of radiation may generally be expected to recover.</p> <p style="text-align: center;">Probable Early Effects of Acute Radiation</p> <table border="0" style="width: 100%;"> <tr> <td style="width: 50%;">Accute Doses</td> <td style="width: 50%;">Probable Effects</td> </tr> <tr> <td>0 to 25 R (roentgens)</td> <td>No obvious injury</td> </tr> <tr> <td>25 to 50 R</td> <td>Possible blood changes, but no serious injury</td> </tr> <tr> <td>50 to 100 R</td> <td>Blood-cell changes, some injury, no disability</td> </tr> <tr> <td>100 to 200 R</td> <td>Injury, possible disability</td> </tr> <tr> <td>200 to 400 R</td> <td>Injury, and disability certain, death possible</td> </tr> <tr> <td>400 R</td> <td>Fatal to 50%</td> </tr> <tr> <td>600 R</td> <td>Fatal</td> </tr> </table>	Accute Doses	Probable Effects	0 to 25 R (roentgens)	No obvious injury	25 to 50 R	Possible blood changes, but no serious injury	50 to 100 R	Blood-cell changes, some injury, no disability	100 to 200 R	Injury, possible disability	200 to 400 R	Injury, and disability certain, death possible	400 R	Fatal to 50%	600 R	Fatal
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Radiation Emergency Assistance Center/Training Site (REAC/TC)	A multi-purpose medical facility located in Oak Ridge, TN, prepared to deal with all types of radiation exposure emergencies and provide medical and health physics advice and assistance in radiological emergencies.																

TERM	DEFINITION
Radioactive	Giving off, or capable of giving off, radiant energy in the form of particles (alpha or beta radiation) or rays (gamma radiation) by the spontaneous disintegration of the nuclei of atoms. Radioisotopes of elements lose particles and energy through the process of radioactive decay. Elements may decay into different atoms or different state of the same atom.
Radioactive Decay	The decrease in radiation intensity of any radioactive material with respect to time.
Radioactive Material	Any material having a specific activity greater than 0.002 micro-curies per gram ($\mu\text{Ci/g}$) [49 CFR 173.403].
Radioactivity	<p>¹The spontaneous emission of radiation, generally alpha or beta particles often accompanied by gamma rays, from the nucleus of an unstable atom. As a result of this emission, the radioactive atom is converted, or decays, into an atom of a different element that might or might not be radioactive. Ultimately, as a result of one or more stages of radioactive decay, a stable, non-radioactive atom is formed.</p> <p>¹The spontaneous emission of radiation, generally alpha or beta particles often accompanied by gamma rays, from the nucleus of an unstable atom. As a result of this emission, the radioactive atom is converted, or decays, into an atom of a different element that might or might not be radioactive. Ultimately, as a result of one or more stages of radioactive decay, a stable, non-radioactive atom is formed.</p> <p>²The spontaneous decay or disintegration of an unstable atomic nucleus, usually accompanied by the emission of ionizing radiation, generally alpha or beta particles, often accompanied by gamma rays from the nuclei of an unstable isotope.</p>
Radioisotope	An unstable isotope of an element that decays or disintegrates spontaneously, emitting radiation. Approximately 5000 natural and artificial radioisotopes have been identified.
Radiological Assistance Program (RAP) Team	¹ A team dispatched to the site of a radiological incident by the DOE Regional Office responding to the incident. ² A DOE program which provides for radiological assistance to federal, state, local and major NRC licensees in the event of an incident involving radioactive materials. The program has experienced DOE and/or DOE contractor professionals who are adequately equipped to conduct off-site radiological emergency monitoring. RAP teams are located in each DOE region and headquartered out of the DOE national laboratories. The DOE Region V RAP team that supports Nebraska located at the Argonne National Laboratory outside Chicago, IL.

TERM	DEFINITION
Radiological Emergency	A type of radiological incident that poses an actual or potential hazard to public health or safety or loss of property.
Radiological Emergency Area	An area established either on an ad hoc basis or pre-identified in a medical facility for monitoring, decontamination, and treatment of contaminated injured individuals, and for contamination control.
Radiological Monitoring	The use of detection equipment to determine the levels of radiation or the presence and concentration of radioactive contamination to include the planning and data collection necessary to the task.
Radiological Emergency Preparedness (REP) Program	The FEMA program that administers emergency preparedness for all commercial nuclear sites.
Radiological Emergency Response Plan	A detailed plan which coordinates and describes the emergency response organizations, responsibilities, and capabilities of utilities, local or State governments, and private organizations to ensure public health and safety during an emergency situation in which there is a potential for radiological release.
Radiological Emergency Response Team	A team located near the affected area that coordinates all field teams and sampling activities.
Radiological Survey	The directed effort to determine the distribution of radiological material and dose rates in an area.
Radiology	That branch of medicine dealing with the diagnostic and therapeutic applications of radiant energy, including x-rays and radioisotopes.
Radionuclide	A radioactive isotope of a particular element.
Range Reading Sticker	Indicates the acceptable range of readings that the meters should indicate when it is response checked using a standard test source. If the response check results in readings that fall outside of the range specified on the sticker, the instrument should be removed from service and not be used for recording activity levels.

TERM	DEFINITION
Reception Area	An area located at least five miles outside the 10-mile EPZ consisting of one or more congregate care facilities which would provide for the housing and feeding of evacuees. Reception areas are designated for each nuclear power station and can accommodate the entire risk population of the 10-mile EPZ. See Reception Center and Registration Center.
Reception Center	A pre-designed facility located outside the plume exposure pathway EPZ (at a minimum 15 miles from the nuclear power plant) at which the evacuated public can register; receive radiation monitoring and decontamination; receive assistance in contacting others; receive directions to congregate care centers; reunite with others; and receive general information. It generally refers to a facility where monitoring, decontamination, and registration of evacuees are conducted. An RC is also referred to as a relocation center, registration center, or public registration and decontamination center. See Reception Area and Registration Center.
Registration Center	A single facility located in each reception area that provides for registration of evacuees. Assignments to congregate care space and feeding facilities will be made at the registration center. See Reception Area and Reception Center.
Recovery	Actions taken after a nuclear power station (plant/facility) has been brought to a stable or shutdown condition to return the nuclear power station (plant/facility) to normal operations and/or assist personnel, material and the environment to return to pre-accident conditions as best as possible.
Recovery Plan	A plan developed by the State to restore the affected area with Federal assistance if needed.
Recovery Worker	An individual who is permitted to enter the restricted zone under controlled conditions to perform work or to retrieve valuable property.
Re-entry	¹ Temporary entry into a restricted zone under controlled conditions. ² The provisions for the return of the public after evacuation, when the radiation risk has been reduced to acceptable levels.

TERM	DEFINITION
Re-entry Recommendation	Advice provided to the State by the CFA in conjunction with the SFO and appropriate Federal departments and agencies concerning State and local government guidance or recommendations that may be issued to the public for returning to an area affected by a radiological emergency.
Regional Office Support Team (ROST)	A FEMA regional team that supports the ERT. The ROST facilitates deployment of the ERT; interfaces with the EST at FEMA headquarters, with other regional departments or agencies, and with State and local agencies and organizations during deployment; provides regional support during deployment; and assists with recall of the ERT.
Regional Radiological Assistance Committee (RAC)	A committee of representatives from a number of Federal agencies which have agreed to assist the FEMA Region in providing technical assistance to State, local and tribal governments and to evaluate radiological emergency response plans and exercises on the basis of their special authorities, missions and expertise (see "RAC AC").
Regional Response Force (RRF)	Force identified in the Nuclear Accident Response Capabilities Listing (NARCL) (at JNACC) belonging to DoD or DOE installation, facilities, or activities within the U.S. and its territories. The RRF may be tasked with taking emergency response actions necessary to maintain command and control on-site pending arrival of the Service or Agency Response Force (SRF). Function which the RRF may be tasked with, within their capabilities, are (1) rescue operations; (2) accident site security; (3) firefighting; (4) initial weapons emergency safing; (5) radiological monitoring; (6) establishing command, control, and communications; and (7) public affairs activities.
Release	¹ Means any spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping, or disposing into the environment (including the abandonment or discarding of barrels, containers, and other closed receptacles containing any hazardous substance or pollutant or contaminant) including radiation. ² Escape of radioactive materials into the environment.
Relocation	The removal or continued exclusion of people (households) from contaminated areas to avoid chronic radiation exposure.
Relocation Center	Generally refers to a facility where monitoring, decontamination, registration, and congregate care of evacuees are conducted. Relocation centers are also referred to as "congregate care centers."

TERM	DEFINITION
Relocation PAG	Protective action guide which requires relocation from a contaminated area to avoid chronic radiation exposure.
Rem	Acronym for Roentgen equivalent man. The unit of dose of any ionizing radiation that produces the same biological effects as a unit of absorbed dose of ordinary x-rays. A unit of dose for measuring the amount of ionizing radiation energy absorbed in biological tissue.
Remedial Exercise	This exercise tests deficiencies found during a previous full-scale exercise that are significant enough to impact the public health and safety. It is conducted within 120 days after the biennial REP exercise for the purpose of demonstrating remedial actions to correct one or more deficiencies.
Residual Contamination	Contamination that remains after steps have been taken to remove it. These steps may consist of nothing more than allowing the contamination to decay naturally.
Responsible Offsite Response Organization (ORO)	An organization designated in an emergency response plan as the organization responsible for a specific emergency function.
Responsible School Official	The School Official participating in an exercise or drill, who is responsible for implementing school emergency procedures according to the plan.
Restricted Zone	An area of controlled access from which the population has been evacuated, relocated, or sheltered-in-place.
Return	The process of reoccupying areas cleared for unrestricted residence or use by previously evacuated or relocated populations.
Risk County	An entire or partial county that lies within the 10-mile emergency planning zone (EPZ) where residents must evacuate to a host county.

TERM	DEFINITION
<p>Roentgen</p>	<p>¹The unit of exposure from x- or gamma radiation. The roentgen is a unit used to measure a quantity called exposure. This can only be used to describe an amount of gamma or x-ray, and only in air. One roentgen is equal to 2.58×10^{-4} coulombs per kg of dry air. It is a measure of the ionizations of the molecules in a mass of air. The main advantage of this unit is that it is easy to measure directly, but it is limited because it is only for deposition in air, and only for gamma and x-rays. ²A unit of exposure of gamma (or X-ray) radiation in field dosimetry. One roentgen is essentially equal to one rad (see "rad"). A unit for measuring the amount of radiation energy imparted to a volume of air. The roentgen can be used only to measure X-rays or gamma rays.</p>
<p>Roentgen Equivalent Man (rem)</p>	<p>¹The REM is a unit of radiation dose equivalent. The dose equivalent in REMs is numerically equal to the absorbed dose multiplied by the quality factor (Q), the distribution factor, and the necessary modifying factors. The unit is used in radiation protection to measure the amount of damage to human tissue from a dose of ionizing radiation. Incorporates health risks from radiation. The scientific metric equal is the sievert (Sv). ²The REM is the quantity of ionizing radiation of any type which, when absorbed by man or other mammals, produces a physiological effect equivalent to that produced by the absorption of 1 roentgen of X-ray or gamma radiation.</p>
<p>Rumor</p>	<p>¹Common talk or opinions which are widely disseminated not necessarily having a discernable foundation or source. Also may be an unconfirmed piece of information or explanation disseminated among the public by other than formal news agencies or official sources. ²Information circulated by individuals and organizations during an emergency that may or may not be true. (Usually, rumors originate and are spread on an ad hoc, not official basis.)</p>
<p>Rumor Control</p>	<p>A term formerly used to describe actions taken to combat or otherwise correct wrong or misunderstood information. It includes monitoring many types of media sources, the public and field government officials. Feedback developed through monitoring results in specific news releases, etc., directed against the rumors. The objective is to direct the public to authorized sources of information. This definition is now used for "Public Inquiry".</p>

TERM	DEFINITION
Safeguards Information	Information which specifically identifies measures taken for the physical protection of special nuclear material (spent nuclear fuel and high-level waste), or measures taken for the physical protection of equipment vital to the safety of operations at fixed sites and in transit. Safeguards information includes: the transportation physical security plan; schedules and itineraries for specific shipments; details of vehicle immobilization features, intrusion alarm devices, and communications systems; arrangements with, and capabilities of local police response forces; locations of safe havens; details regarding limitations or radio-telephone communications; and procedures for response to safeguards emergencies.
Safeguards System	An integrated system of physical protection, material accountability, and material control measures that have capabilities for the protection of spent nuclear fuel and high-level waste at fixed sites and in-transit.
Sampling	The collection of specimens of material such as particles or radioiodine in the air, animal feed, vegetation, water soil, milk crops, feed, plants, and weeds as well as testing of animals in field locations for radiological contamination.
Scenarios	Time-based simulations of emergency events postulated to allow the demonstration of response capabilities.
Schools	In the context of the REP program, schools include public and private schools, kindergartens, and all licensed day care centers and homes with more than 10 children.
SCRAM (Safety Control Rod Axe Man)	The sudden shut down of a nuclear reactor, usually by rapid insertion of the control rods. Emergencies or deviations from normal reactor operations cause the reactor to automatically scram.
Senior FEMA Official (SFO)	Official appointed by the Administrator of FEMA, or his representative, to direct the FEMA response at the scene of a radiological emergency.
Service Animal	Any guide, signal dog, or other animal individually trained to provide assistance to an individual with a disability including, but not limited to, guiding individuals with impaired vision, alerting individuals with impaired hearing to intruders or sounds, providing minimal protection or rescue work, pulling a wheel chair, or fetching dropped items.

TERM	DEFINITION
Shadow Evacuation	The self-evacuation by the public who are not be in the affected hazard area, but fear the potential danger or hazard.
Sheltering	An in-place, immediate protective action which calls for people to go indoors, close all doors and windows, turn off all sources of outside air, listen to the radio or television for emergency information, and remain indoors until official notification that it is safe to go out.
Shelter-In-Place	A protective action that includes going indoors, listening to an EAS radio or television station, closing all windows and doors, closing exterior vents, and turning off heating and air conditioning equipment using outside air.
Shield	Material used to reduce or stop radiation.
Sievert	The sievert (Sv) is a metric unit used to derive a quantity called equivalent dose. This relates the absorbed dose in human tissue to the effective biological damage of the radiation. No all radiation has the same biological effect, even for the same amount of absorbed dose. Equivalent dose is often expressed in terms of millionths of a sievert, or micro-sievert. To determine the equivalent dose (Sv), you multiply absorbed dose (Gy) by a quantity factor (Q) that is unique to the type of the incident radiation. One sievert is equal to 100 REM.
Site	Refers to the location at which there is a commercial nuclear power station. A nuclear power station is synonymous with a nuclear power plant and nuclear power facility. Also see "On-Site".
Site Area Emergency (SAE)	A site area emergency (SAE) is one of the classes of emergency in the operational and energy categories. Within the context of an operational emergency, a SAE represents events which are in progress or have occurred involving actual or likely major failure(s) of facility safety or safeguards systems needed for the protection of on-site personnel, the public health and safety, the environment, or national security. Any environmental releases of hazardous materials are not expected to exceed the appropriate Protective Action Guide (PAG) off-site.

TERM	DEFINITION
Somatic Effect	Effects of radiation seen in an individual and limited to that exposed individual who received the exposure, as distinguished from genetic effects, which also affect subsequent, unexposed generations.
Source Term	The amount of radioactive material available for release.
Special Facility	Includes schools, day care centers, hospitals, nursing homes, certain types of industrial plants that may require a lengthy shut-down period, etc. within the plume EPZ that need to be considered separately from the general population when planning for an incident or accident at a nuclear power plant.
Special News Broadcasts (SNB)	Information concerning individual actions which will be made available to affected residents and transients in an emergency to ensure public safety.
Special Nuclear Material	By law, includes plutonium, uranium-233, and uranium containing more than the natural concentration of uranium-235.
Special Populations	Groups and/or individuals with physical or mental handicaps that need assistance when protective actions are implemented.
Spent Fuel	Nuclear reactor fuel that has been irradiated to the extent that it can no longer effectively sustain a chain reaction.
Spent Fuel Assemblies	Nuclear fuel is fabricated into small pellets. These pellets are encased into strong cylindrical rods. AN assembly is a group of these rods fastened together. Referred to as a "bundle" for some boiling water reactors.
Spent Fuel Storage Pool	A water filled basin used by reactors for the temporary or interim storage of spent fuel before it is transported for reprocessing, disposal or other temporary/interim storage.
Spent Nuclear Fuel	Spent nuclear fuel (SNF) is fuel that has been withdrawn from a nuclear reactor following irradiation, the constituent elements of which have not separated by reprocessing. SNF includes (1) intact, non-defective fuel assemblies; (2) failed fuel assemblies in canisters; (3) fuel assemblies in canisters; (4) consolidated fuel rods in canisters; (5) non-fuel components inserted in pressurized water reactor fuel assemblies; (6) fuel channels attached to boiling water reactor fuel assemblies; and (7) non-fuel components and structural parts of assemblies in canisters.

TERM	DEFINITION
Stable Isotope	An isotope of an element that is not radioactive.
Standard Exercise Report Format	The document which defines or describes the structured format to be used in preparing REP Program Biennial exercise reports, the contents of each section of the report, and basic guidance on the preparation of REP Program Exercise Reports.
Standard Operating Procedures	Standard operating procedures (SOP) are sets of instructions having the force of directives, covering those features of operations which lend themselves to a definite or standardized procedure without loss of effectiveness.
State Coordinating Officer (SCO)	An official designated by the Governor of an affected State to work with the Cognizant Federal Agency Official and Senior FEMA Official in coordinating the response efforts of Federal, State, local, volunteer, and private agencies.
State EOF Liaison Field Team	An emergency state government field direction and control activity deployed in support of a radiological incident normally to the nuclear power station EOF. Field activities of this element will be coordinated by the Governor's Authorized Representative (GAR). Appropriate state agency liaison and public information personnel will be located at/near this facility. Communications contact will be maintained with the SEOC and local government. The EOF complex is also able to support short-range radio communications for key state agency personnel operating out of the EOF.
State Emergency Operations Center (SEOC)	The SEOC is a protected location and a function of the Nebraska Emergency Management Agency where state level Direction, Control, and Warning functions essential to emergency preparedness and response operations are accomplished. It provides support to other state agencies and local governments and serves as an operational link between the local EOCs and the nuclear power station EOF. See "Emergency Operations Center" for additional information.
State Radiation Response Team/ Radiological Monitoring Team	A radiological response team of health physics professionals dispatched to the affected nuclear power station's EOF and areas surrounding the nuclear power station by the Nebraska Department of Health and Human Services, Division of Public Health (DHHS, DPH). This team or teams may be augmented by other states health physics professionals, local hazardous materials teams, local emergency management agencies' radiological monitoring resources and federal resources to include aerial monitoring if requested.

TERM	DEFINITION
State Radiation Response Team/ Radiological Monitoring Team Cont'd.	During an incident, all radiation control capabilities are coordinated by the DHHS, DPH Response Team Emergency Manager who may also furnish technical guidance and other services to local governments.
Stochastic Effects	Stochastic effects are effects that occur on a random basis with its effect being independent of the size of the dose. The effect typically has no threshold and is based on probabilities, with the chances of seeing the effect increasing with dose. Cancer is a stochastic effect.
Strontium	A high-energy beta source that can be used as an energy source for satellites, remote weather stations and navigation buoys. Four naturally stable and 12 unstable isotopes of strontium exist. The most common unstable isotope is strontium-90, a product of nuclear fallout that has a half-life of 28 years.
Substantial	That the final decision as to whether or not a change is substantially negative and agreed upon by the ORO and FEMA Region.
Survey Meter	A portable instrument used for radiological monitoring to detect and measure ionizing radiation under varied physical conditions. The term covers a wide range of devices.
Teratogenic Effects	Teratogenic effects are those effects from some agent like radiation, that are seen in the offspring of the individual who received the agent/radiation. The agent/radiation must be encountered during the gestation period.
TDD	Telecommunications device(s) for the deaf.
Threshold Dose	The minimum dose of radiation that will produce a detectable effect.
Thermo-luminescent Dosimeter (TLD)	A dosimetry badge used to measure an individual's level of exposure to ionizing radiation. It is characteristic of thermoluminescent material that radiation produces internal changes that cause the material, when subsequently heated, to give off a measurable amount of light directly proportional to the radiation dose.
Thyroid Exposure	Exposure of the thyroid gland to radiation from radioactive isotopes of iodine that have been either inhaled or ingested.

TERM	DEFINITION
Timeline	The tabular illustration, in an exercise report, of the time at which significant events occurred at all participating OROs in a biennial REP exercise.
Timely	The responsible ORO personnel/representatives demonstrate actions to disseminate the appropriate information/instructions with a sense of urgency and without undue delay.
Timely Manner	"Timely Manner" is defined as "with a sense of urgency and without delay.
Total Effective Dose Equivalent (TEDE)	The sum of the deep dose equivalent (for external dose/exposures) + the committed effective dose equivalent (for internal dose/exposures).
Traffic Control	All activities accomplished for the purpose of facilitating the evacuation of the general public in vehicles along specific routes.
Transient Persons	Non-resident. Persons who do not permanently reside in the plume exposure pathway EPZ, but may be present during an emergency.
Transuranic Elements	All elements above uranium on the periodic table – those with an atomic number greater than 92. All transuranics are produced artificially and are radioactive.
Tritium	The one radioactive isotope of hydrogen. A small percentage of natural hydrogen is tritium, but the primary source of tritium is nuclear reactors. It has a half-life of 12 years, but will remain in the body only a few days if taken internally. It is not considered a major health hazard since it is a very weak beta emitter and not harmful unless consumed in very large quantities.
Uranium	AN element of the periodic table. There are two primary isotopes: uranium-238, which accounts for 99 percent of all uranium; and uranium-235, the fissionable isotope that sustains the fission reaction in a nuclear reactor.
Vapor	The gaseous form of substances that are normally in liquid or solid form.

TERM	DEFINITION
Voluntary Evacuation	The self-evacuation by the public after learning of a potential problem, danger or hazard, even though the situation does not warrant an official evacuation at the time.
Whole Body Dose	The dose of radiation received by the body in its entirety, as distinct from a dose to a limited area of the body. See "Whole Body Exposure"
Whole Body Exposure	AN exposure of the body to radiation, in which the entire body rather than an isolated part is irradiated. Where a radioisotope is uniformly distributed throughout the body tissue, rather than being concentrated in certain parts, the irradiation can be considered as a whole-body exposure. See "Whole Body Dose".
X-Ray	¹ Electromagnetic radiations used in medical diagnosis; a penetrating electromagnetic radiation, usually generated by accelerating atoms to high velocity and suddenly stopping them by collision with a solid body." ² Penetrating electromagnetic radiation whose wave lengths are shorter than those of visible light. They are usually produced by bombarding a metallic target with fast electrons in a high vacuum. In nuclear reactions, it is customary to refer to photons originating in the nucleus as gamma rays, and to those originating in the extra-nuclear parts of the atom as x-rays. These rays are sometimes called roentgen rays after their discoverer, Wilhelm C. Roentgen. ³ A penetrating form of electromagnetic radiation that is used in medical and industrial applications.

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NUREG 0654 / FEMA REP -1 CROSS REFERENCE		
Criterion Description	Page No.	Paragraph No.
<p>NUREG CRITERION A.1.a -Organizations Part of Response Each plan shall identify the State, local, Federal, and private sector organizations (including utilities), that are intended to be a part of the overall response organization for Emergency Planning Zones (EPZs) (See[NUREG-0654/FEMA-REP-1] Appendix 5).</p>		
<p>√-1 Describe all Federal, state, local, tribal, and private-sector organizations comprising the overall ORO. Tribal governments shall submit their own plans/procedures or may choose to be included as part of the state plans/procedures within which the tribal land falls.</p>	<p>9 13 A-2 B-2 C-2 D-2 E-2 F-2 G-2</p>	<p>Basic Plan, Paragraph V Basic Plan, Attachment 1 Annex A, Paragraph III Annex B, Paragraph III Annex C, Paragraph III Annex D, Paragraph III Annex E, Paragraph III Annex F, Paragraph III Annex G, Paragraph III</p>
<p>√-2 Identify the principal response organizations.</p>	<p>9 13</p>	<p>Basic Plan, Paragraph V Basic Plan, Attachment 1</p>
<p>NUREG CRITERION A.1.b - Organizations having role "Concept of Operations" Each organization and suborganization having an operational role shall specify its concept of operations and its relationship to the total effort.</p>		
<p>√-1 Specify the organization's role in an emergency.</p>	<p>10 A-2 B-2 C-2 D-2 E-2 F-3 G-3</p>	<p>Basic Plan, Paragraph VI Annex A, Paragraph IV Annex B, Paragraph IV Annex C, Paragraph IV Annex D, Paragraph IV Annex E, Paragraph IV Annex F, Paragraph IV Annex G, Paragraph IV</p>
<p>√-2 Specify how the organization will carry out its role in an emergency.</p>	<p>9 A-2 B-2 C-2 D-2 E-2 F-2 G-2</p>	<p>Basic Plan, Paragraph V Annex A, Paragraph III Annex B, Paragraph III Annex C, Paragraph III Annex D, Paragraph III Annex E, Paragraph III Annex F, Paragraph III Annex G, Paragraph III</p>
<p>NUREG CRITERION A.1.c - Interrelationships Block Diagram Each plan shall illustrate these interrelationships in a block diagram.</p>		

NUREG 0654 / FEMA REP -1 CROSS REFERENCE			
✓-1	Include an illustration of each organization and its relationship to the total emergency response effort.	13 A-1 B-1 C-1 D-1 E-1 F-1 G-1	Basic Plan, Attachment 1 Annex A, Annex B, Annex C, Annex D, Annex E, Annex F, Annex G,
NUREG CRITERION A.1.d - Individual in Charge of Emergency Response Each organization shall identify a specific individual by title who shall be in charge of the emergency response.			
✓-1	Identify a specific individual, by title/position, who is in charge of the emergency response. In Basic Plan ADD line who is specifically in charge by title to each position. ADD information on the State Government Executive Group for Decision Making as well as ESFs	9 13 A-2 G-2	Basic Plan, Paragraph V.A Basic Plan, Attachment 1 Annex A, Paragraph III. A Annex G, Paragraph III.A
✓-2	Identify who, by title/position, coordinates response activities under the authority of the person in charge.	9 13 A-3	Basic Plan, Paragraph V.A Basic Plan, Attachment 1 Annex A, Paragraph IV.C.1
NUREG CRITERION A.1.e - 24- Hour per day Emergency Response Each organization shall provide 24-Hour per day emergency response, including 24-per day manning of communication links.			
✓-1	Specify who, by title/position, is responsible for managing the communications center. NEED TO ADD SPECIFIC LANGUAGE TO PLAN.	B-2	Annex B, Paragraph III.A
✓-2	Describe the procedures to provide 24-hour emergency response.	B-2	Annex B, Paragraph IV. A-E
✓-3	Specify where the 24-hour communications center is located. NEED TO ADD SPECIFIC LANGUAGE TO THE PLAN.	B-2	Annex B Paragraph II.A
✓-4	Refer to a personnel roster for maintaining 24-hour communications.	B-4	Annex B, Paragraph V.A
✓-5	Specify primary and backup means of notification. NEED TO ADD SPECIFIC LANGUAGE TO THE PLAN.	B-3	Annex B, IV.E.3

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<p>NUREG CRITERION A.2.a - Organization Functions & Responsibilities Each Organization shall specify the functions & responsibilities for major elements and key individuals by title, of emergency response, including the following: Command and Control, Alerting and Notification, Communications, Public Information, Accident Assessment, Public Health and Sanitation, Social Services, Fire and Rescue, Traffic Control, Emergency Medical Services, Law Enforcement, Transportation, Protective Response (including authority to request Federal assistance and to initiate other protective actions), and Radiological Exposure Control. The description of these functions shall include a clear and concise summary such as a table of primary and support responsibilities using the agency on one axis, and the function as the other.</p>			
✓-1	Identify key individuals, by title/position, who have emergency response roles.	9	Basic Plan, Paragraph V
✓-2	Describe the responsibilities by functional area.	10 A-2 B-2 C-2 D-2 E-2 F-2 G-2	Basic Plan, Paragraph VI. A-F Annex A, Paragraph III.A Annex B, Paragraph III. A & III.B.1-2 Annex C, Paragraph II. A & III.A-B Annex D, Paragraph III.A-D Annex E, Paragraph III. A-C Annex F, Paragraph III.A Annex G, Paragraph III.A-F
✓-3	Include a matrix of these responsibilities by functional area that identifies organizations responsible for primary and support roles.	13	Basic Plan, Attachment 1
<p>NUREG CRITERION A.2.b - Legal Basis for Functions & Responsibilities Each plan shall contain (by reference to specific acts, codes, or statutes) the legal basis for such authorizes.</p>			
✓-1	Identify the legal authority to assign lead responsibility for emergency preparedness to a particular state agency.	1	Basic Plan, Paragraph I
✓-2	Indicate who (e.g., the Governor) may declare a "state of emergency" (or state of disaster emergency) and what special powers may ensue.	A-2	Annex A, Paragraph II.C
✓-3	Identify the legal authority to delegate responsibility and authority for preparedness and response at the local level.	9	Basic Plan, Paragraph V.A
✓-4	Identify any limitations on the authority of Letter of Agreement signatories.	1	Basic Plan, Paragraph I

NUREG 0654 / FEMA REP -1 CROSS REFERENCE

NUREG A.3 - Written Agreements Between Organizations			
Each plan shall include written segments referring to the concept of operations developed between Federal, State, and local agencies and other support organizations having an emergency response role within the Emergency Planning Zone. The agreements shall identify the emergency measures to be provided and the mutually acceptable criteria for their implementation, and specify the arrangements for exchange of information. These agreements may be provided in an appendix to the plan, or the plan itself may contain descriptions of these matters and a signature page in the plan may serve to verify the agreements. The signature page format is appropriate for organizations where response functions are covered by laws, regulations, or executive orders where separate written agreements are not necessary.			
✓-1	Identify assisting organizations and the type of assistance (capabilities and resources) they will provide.		Resolution ii & iii For other Agreements refer to Nemaha County RERP.
✓-2	Specify for each organization identified whether the aid is covered under an inter- governmental mutual assistance compact or whether a Letter of Agreement (LOA) is needed.	15-29	Basic Plan, Appendix 1
✓-3	Include LOAs by reference or in a suitable appendix.	15-29	Basic Plan, Appendix 1
✓-4	Include or reference applicable LOAs between the licensee and ORO arrangements for access to the NPP site, if appropriate.		For Agreements refer to Nemaha County RERP.
✓-5	State that the LOAs include details on what services will be provided and how the agreements will be activated.	15-29	Basic Plan, Appendix 1 For other Agreements refer to Nemaha County RERP.
✓-6	State that LOAs are reviewed annually to verify their validity (See Criterion P.4)	12	Basic Plan, Paragraph VII.C
NUREG A.4 - Organization capable of 24-Hour Operations			
Each principle organization shall be capable of continue (24-hour) operations for a protracted period.			
✓-1	Identify key individuals by title/position, who are responsible for ensuring continuity of resources in support of 24-hour operations.	A-2 B-2	Annex A, Paragraph IV.A. 2&3 Annex B, Paragraph II.A
✓-2	Include a reference to a roster that identifies at least two shifts of key staff, as well as provisions for its maintenance.	A-2	Annex A, Paragraph IV.A.3
✓-3	Identify who is responsible, by title/position, for maintaining the roster, and where the roster is located.	11	Basic Plan, Paragraph VII.A.1
✓-4	Indicate the shift period (e.g., 8 or 12 hours), and specify that the outgoing staff will brief the incoming staff on the status of the emergency and the response activities occurring.	A-2	Annex A, Paragraph IV.A.2
✓-5	Describe the responsibilities by the functional areas listed above.	9	Basic Plan, Paragraph V.A-I
NUREG CRITERION C.1.a - Person who Requests Federal Assistance			
Specify persons by title authorized to request Federal Assistance; see A.1.d and A2.a			N/A
✓-1	Identify by title/position, the key official authorized to request Federal Assistance.		

NUREG 0654 / FEMA REP -1 CROSS REFERENCE			
NUREG CRITERION C.1.b - Federal Resources Expected Specific Federal Resources expected, including times of arrival at specific nuclear facility sites.			N/A
✓-1	A process for identifying potential shortfalls in resources.		
✓-2	Information on and a list of resources that an ORO can expect to receive from the Federal Government.		
✓-3	An estimate of how long it will take those resources to arrive at the desired location.		
NUREG CRITERION C.1.c - Resources Available to Support Federal Response Specific licensee, State and local resources available to support the Federal response, e.g., airfields, command posts, telephone lines, radio frequencies, and telecommunications systems.			
✓-1	Describe the facilities that may be made available to Federal response personnel.	10	Basic Plan, Paragraph VI
✓-2	Identify the general geographical areas for the locations of these facilities and the unique features of the area.	10	Basic Plan, Paragraph VI
✓-3	Describe the interoperable communications plans/procedures, equipment, and protocols that may be made available to Federal response personnel.	10	Basic Plan, Paragraph VI
NUREG CRITERION C.2.a - State Representatives to Licensee EOF Each principal offsite organization may dispatch representatives to the licensee's Emergency Operations Facility (EOF). (State technical analysis representatives at the EOF are preferred.)			
✓-1	Indicate whether the ORO plans to send a representative to the licensee's emergency operations facility and if so, which person, by title/position, would be dispatched.		Refer to Nemaha County RERP Page 12 Paragraph VI.C
NUREG CRITERION C.3 - Radiological Laboratory Support Each organization shall identify radiological laboratories, their general capabilities and expected availability to provide radiological monitoring and analyses services which can be used in an emergency.			N/A
✓-1	List the laboratories that are qualified to analyze samples of materials that may have been contaminated with radionuclides.		
✓-2	Indicate the radionuclides and analytical capabilities of each laboratory (e.g., the ability to analyze milk and other foodstuffs, soil samples, and water samples).		
✓-3	Indicate the number of samples the laboratories would be able to process in a given period.		
✓-4	Include the location and potential availability of the laboratories.		
NUREG CRITERION C.4 - Organizations that can provide Assistance. Each organization shall identify nuclear and other facilities, organizations, or individuals that can be relied upon in an emergency to provide assistance. Such assistance shall be identified and supported by appropriate Letters of Agreement.			

NUREG 0654 / FEMA REP -1 CROSS REFERENCE			
✓-1	Meet the requirements specified in Criterion A.3		Resolution ii & iii For other Agreements refer to Nemaha County RERP. See Criterion A.3
NUREG CRITERION C.6 - Provide means for Onsite Response Support from OROs during a HAB Event Each organization shall make provisions to enable onsite response support from OROs in a hostile action-based incident as needed.			
✓-1	Include provisions to allow ORO law enforcement and other initial first responders prompt access to the NPP site.	2	Annex H Paragraph IV.A.2
✓-2	Include provisions for coordination between inbound response resources and evacuation efforts.	3	Annex H, Paragraph IV.A.7
✓-3	Identify any mutual aid agreements for alternate personnel to supplement local resources (see also Criterion A.3)	17	Nemaha County RERP, Basic Plan Appendix 1
✓-4	Addressing radiological training requirements for the primary and alternate personnel, including just-in-time training.	5	Annex H Paragraph IV.C.18
✓-5	Include procedures for activating qualified alternate personnel.	10	Annex H Paragraph VII.E.3.i
NUREG CRITERION D.3 - Emergency Classification Scheme Each State and local organization shall establish an emergency classification system (ECL) and emergency action level (EAL) scheme consistent with that established by the facility licensee.			
✓-1	Include reference to the standard Emergency Classification Levels (ECLs).	6	Basic Plan, Paragraph III.E
✓-2	Acknowledge that the ECL system will form the basis for determining the level of response to a nuclear incident that will be consistent with the licensee.	6	Basic Plan, Paragraph III.E
NUREG CRITERION D.4 -Procedures for Emergency Actions to be Taken Each State and local organization should have procedures in place that provide for emergency actions to be taken which are consistent with the emergency actions recommended by the nuclear facility licensee, taking into account local offsite conditions that exist at the time of the emergency.			
✓-1	Indicate the emergency actions to be taken to protect the public at each ECL, given the local conditions at the time of the emergency.	6	Basic Plan, Paragraph III.E
NUREG CRITERION E.1 - Procedures for Notification for Emergency Response Organizations Each organization shall establish procedures that describe mutually agreeable bases for notification of response organizations consistent with the emergency classification and action level schemes as set forth in (NUREG-0654/FEMA-REP-1) Appendix 1. These procedures shall include means for verification of messages. The specific details of verification need not be included in the plan.			

NUREG 0654 / FEMA REP -1 CROSS REFERENCE			
✓-1	Initial notification from the licensee to a designated offsite 24-hour warning point (e.g., fire or police department dispatch, 911 emergency center). Offsite plans/procedures indicate the location of the warning point and the method of notification and backup (e.g., commercial telephone, dedicated telephone, fax machine, or pager). If the initial notification from the licensee to the warning point is over a non-secure system, the criterion requires message verification (e.g., via a return call). If the primary means of notification from the licensee to the warning point is on a dedicated system (i.e., one capable of being used only by a known, limited number of organizations), OROs may choose whether to verify receipt of notification.	6 10	Basic Plan, Paragraph III.3 Paragraph VI.A&B
✓-2	Initial notification to licensee and the ORO when a notification originates from an entity other than the licensee. The plans/procedures identify the points of contact for the licensee and ORO, method of notification and backup, and method of verifying notification.		Refer to the State HAB Annex
✓-3	Subsequent notifications for the licensee and/or ORO to other offsite organizations. The plans/procedures may call for subsequent notifications to locations other than the warning point or other designated entities. For example, after the EOC is operational, the plans/procedures may state that all further notifications are made directly to the EOC rather than to the warning point.	6 10	Basic Plan, Paragraph III.3 Paragraph VI.A&B
NUREG CRITERION E.2 - Procedures for Notification and Mobilization of Emergency Response Personnel			
Each organization shall establish procedures for alerting, notifying, and mobilizing emergency response personnel.			
✓-1	Indicate who by title/position, is responsible for notifying each staff member, either by including a notification call list or making reference to such a list.	A-2 B-2	Annex A, Paragraph IV.A Annex B, Paragraph IV. A-E
✓-2	Describe the process used to notify all applicable OROs once the 24-hour warning point, or other designated entity, has received and verified the initial notification, if necessary.	A-2 B-2	Annex A, Paragraph IV.A Annex B, Paragraph IV. A-E
✓-3	Describe who, by title/position, has the responsibility for notifying all appropriate organizations once the initial notification to the 24-hour warning point has been made. For example, the responsibility of the warning point for notification may end after it places a call to the state and county emergency management agencies. A diagram that shows how the notification process works (e.g., call down) may supplement a plan/procedure description.	A-2 B-2	Annex A, Paragraph IV.A Annex B, Paragraph IV. A-E
✓-4	Indicate the specific notifications made at each ECL.	A-2 B-2	Annex A, Paragraph IV.A Annex B, Paragraph IV. A-E
✓-5	Indicate the means by which notifications will be accomplished (e.g., pagers, telephones, radios, auto dialers).	A-2 B-2	Annex A, Paragraph IV.A Annex B, Paragraph IV. A-E
NUREG E.5 - System for dissemination of Public Information			
State and local government organizations shall establish a system for disseminating to the public appropriate information contained in initial and follow-up messages received from the licensee, including appropriate notification to appropriate broadcast media, e.g., the Emergency Alert System (EAS).			

NUREG 0654 / FEMA REP -1 CROSS REFERENCE			
✓-1	List the broadcast stations and other systems (e.g., tone alert radios, route alerting) used to provide emergency instructions to the public.	E-2	Annex E, Paragraph IV
✓-2	Establish individual responsibilities for each broadcasting station and system and document commitments between them and the ORO (e.g., MOUs and/or LOAs) to honor these responsibilities in a radiological emergency. (See also Criterion A.3)	E-2	Annex E, Paragraph IV See State MOU Binder
✓-3	Document or reference the broadcast stations' or systems' capability to participate in the public notification process. A statement that the station participates in a "Local Emergency Alert System Operational Area Plan" is considered satisfactory.	E-2	Annex E, Paragraph IV See State MOU Binder
✓-4	Identify broadcast station and system points of contact, by title/position, who are accessible 24 hours a day, 7 days a week. (Also see Criterion A.4)	E-2	Annex E, Paragraph IV See State MOU Binder
✓-5	Establish the interval for broadcasting official statements.	E-2	Annex E, Paragraph IV See State MOU Binder
✓-6	Identify an alternate station, if a selected station does not have a backup power supply.	NA	NA
NUREG E.6 - Procedures of providing Instructions to the Public Each organization shall establish administrative and physical means, and the time required for notifying and providing prompt instruction to the public within the plume exposure pathway Emergency Planning Zone. (See [NUREG-0654/FEMA-REP-1] Appendix 3) It shall be the licensee's responsibility to demonstrate that such means exist, regardless of who implements this requirement. It shall be the responsibility of the State and local governments to activate such a system.			Does not apply to Otoe County because it is not within the plume EPZ.
✓-1	State that the alert and notification system (ANS) is capable of meeting the 15-minute design objective.		
✓-2	Describe the primary and backup physical means of alert and notification, including the system(s) used to alert and notify the general public, persons with disabilities and access/functional needs, and exception areas, and their respective point(s) of activation.		
✓-3	Describe the administrative means of alert and notification, including:		
	✓-3a - The title of the organization or individuals responsible for: (1) making the decision to activate the ANS and (2) activating the system.		
	✓-3b - The ANS activation procedures and time required to implement the procedures.		
	✓-3c - A discussion of how the requirements for periodic siren testing will be accomplished.		
NUREG E.7 - EAS Messages Each organization shall provide written messages intended for the public, consistent with the licensee's classification scheme. In particular, draft messages to the public giving instructions with regard to specific protective actions to be taken by occupants of affected areas shall be prepared and included as part of the State and local plans. Such messages should include the appropriate aspects of sheltering, ad hoc respiratory protection, e.g., handkerchief over mouth, thyroid blocking, or evacuation. The role of the licensee is to provide supporting information for the messages. For ad hoc respiratory protection see "Respiratory Protective Devices Manual" American Industrial Hygiene Association, 1963, pp. 123-126.			Does not apply to Otoe County because it is not within the plume EPZ.
✓-1	EAS message templates that would be modified as necessary and sent to the EAS station(s) for broadcast.		

NUREG 0654 / FEMA REP -1 CROSS REFERENCE			
✓-2	Provisions for special news broadcasts as supplements to the EAS Message(s).		
✓-3	Provisions for foreign language translations of EAS messages and special news broadcasts, if required.		
✓-4	The process for selecting, modifying, approving, and releasing messages.		
✓-5	The methodology for EAS message re-broadcast, along with the frequency (how many times and at what interval, such as every 15 minutes).		
NUREG F.1a - 24 Hour Activation of Emergency Response Provisions for 24-hour per day notification to and activation of the State/local emergency response network; and, at a minimum, a telephone link and alternate, including 24-hour per day manning of communications links that initiate emergency response actions.			
✓-1	Describe the equipment used (e.g., dedicated telephone line or specific radio net) for notifying and communicating with the organization's personnel and other response organizations. The equipment must include a primary link and alternate means of communication.	B-2	Annex B, Paragraph II
✓-2	Describe the system used to ensure 24-hour availability to receive and pass along notifications. The system is generally a continuously staffed warning point (e.g., a police dispatch center) or a duty officer system in which the designated duty officer carries a pager.	B-2	Annex B, Paragraph II
NUREG CRITERION F.1.b - Communications Provisions within the EPZ. Provisions for communications with contiguous State/local governments within the Emergency Planning Zone;			
✓-1	Primary and back-up communications capability between all local governments within the plume EPZ.	B-3	Annex B, Paragraph IV.E
✓-2	Primary and back-up communications capability between each local government and any associated host/support counties located outside the plume EPZ.	B-3	Annex B, Paragraph IV.E
✓-3	Primary and backup communications capability between each state government and all local governments within its jurisdiction and within the plume and/or ingestion EPZ.	B-3	Annex B, Paragraph IV.E
NUREG CRITERION F.1.c - Communications with Federal Response Organizations. Provisions for communications, as needed with Federal response organizations.			Coordinated by the state
✓-1	The system(s) available for communicating with Federal response organizations (e.g., ordinary commercial telephone, dedicated telephone lines, radio nets).		

NUREG 0654 / FEMA REP -1 CROSS REFERENCE			
✓-2	The primary system and at least one back up system.		
NUREG CRITERION F.1.d - Communications with the SEOC, EOF and Radiation Monitoring Teams Provisions for communications between the nuclear facility and the licensee's Emergency Operations Facility, State and local emergency operations centers, and radiological monitoring teams;			
✓-1	The primary and backup communications systems that provide links to the emergency operations facility.	B-3	Annex B, Paragraph IV.E
✓-2	For jurisdictions that deploy radiological monitoring and other field teams, the primary and back-up systems used to communicate with the teams.	B-3	Annex B, Paragraph IV.E
NUREG CRITERION F.1.e - Alert/Activating Emergency Response Organizations. Provisions for alerting or activating emergency personnel in each response organization.			
✓-1	Contain a general description of how personnel are activated (i.e., notified of an incident and requested to report to their emergency duty station).	10	Basic Plan, Paragraph VI. A-B
✓-2	Include or reference lists of names and phone numbers of personnel to alert or activate based on the ECL.	10	Basic Plan, Paragraph VI. A-B
NUREG CRITERION F.2 - Communications with Medical Support Each organization shall ensure that a coordinated communication link for fixed and mobile medical support facilities exists.			
✓-1	Identification of communication links between the ambulance and the designated hospital/medial facilities.	B-11	Attachment 4
✓-2	A description of primary and back-up communications among the hospital/medical faculties, the jurisdiction's EOC and the licensee.	B-11	Attachment 4
NUREG CRITERION F.3 - Periodic Testing of Emergency Communicate- tions System. Each organization shall conduct periodic testing of the entire emergency communications system (see[NUREG-0654/FEMA-REP-1] Evaluation Criterion H.10 and N.2.a, and Appendix 3).			
✓-1	Describe the test method and period (e.g., monthly, quarterly or annually) for each communication system used for the functions identified in Criteria F.1 and F.2	B-4	Annex B, Paragraph V.B

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<p>NUREG CRITERION G.1 - Annual Dissemination of Information to the Public Each organization shall provide a coordinated periodic (at least annually) dissemination of information to the public regarding how they will be notified and what their actions should be in an emergency. This information shall include, but not necessarily be limited to:</p> <ul style="list-style-type: none"> a. educational information on radiation; b. contact for additional information; c. protective measures, e.g., evacuation routes and relocation centers, sheltering, respiratory protection, radioprotective drugs; and d. special needs of the handicapped. <p>Means for accomplishing this dissemination may include, but are not necessarily limited to: information in the telephone book; periodic information in utility bills; postings in public areas; and publications distributed on an annual basis.</p>			Beyond the Capabilities of local government, covered in the State Plan
✓-1	A description of each item (e.g., brochure, calendar, utility bill insert) used to disseminate public information annually. Copies of these items must be provided to FEMA for review on an annual basis through the ALC. In addition to the ALC submission, materials may be reviewed during an SAV, exercise, separate mailing, etc.	31 F-7	
✓-2	Provisions for identifying individuals needing assistance with evacuation and how personnel information will be provided.		
✓-3	A description of materials directed to transient populations.		
✓-4	A description of materials addressing information for the ingestion pathway, if separate from the general public information materials.		
✓-5	A description of each item translated into non-English languages that are spoken within the EPZ by more than 5% or 10,000 persons of the county population, as well as information accessible to other persons with disabilities and access/functional needs located within the EPZ.		
<p>NUREG CRITERION G-2 - Public Information Program The public information program shall provide the permanent and transient adult population within the plume exposure EPZ an adequate opportunity to become aware of the information annually. The programs should include provisions for written material that is likely to be available in a residence during an emergency. Updated information shall be disseminated at least annually. Signs or other measures (e.g., decals, posted notices, or other means placed in hotels, motels, gasoline stations, and phone booths) shall also be used to disseminate to any transient population within the plume exposure pathway appropriate information that would be helpful if an emergency or accident occurs. Such notices should refer the transient to the telephone directory or other source of local emergency information and guide the visitor to appropriate radio and television frequencies.</p>			Beyond the Capabilities of local government, covered in the State Plan
✓-1	Methods used to disseminate public information, assuring that all residents in the plume EPZ will be covered, and that written material will likely be available in a resident during an emergency.		
✓-2	Methods for distributing ingestion exposure pathway information annually within the 10-mile EPZ, and provisions for distribution within the 50-mile EPZ if needed.		
✓-3	Methods used to disseminate and maintain public information for transient population.		

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NUREG CRITERION G.3.a - Designated Point of Contact & Locations for News Media			
Each principal organization shall designate the points of contact and physical locations for use by news media during an emergency.			
✓-1	Identify the location where the jurisdiction will brief the media, whether at the Joint Information Center (JIC), separate facility, or both	E-2	Annex E, Paragraph IV.C
✓-2	Include a physical description of the facility, including its location and size, and any steps necessary to activate it for use (e.g., coordination with other organizations consistent with Incident Command System, installation of equipment, and rearranging of furnishings), for jurisdictions that operate a media facility.	E-2	Annex E, Paragraph IV.C
✓-3	If the primary facility is located within the EPZ, identify an alternate facility located outside the EPZ available to provide the same capabilities, and describe the facility with the same level of detail specified for the primary facility.		Primary facility not within the EPZ
✓-4	Describe the organization's capability to answer media telephone inquiries.	E-2	Annex E, Paragraph IV.A-G
✓-5	Describe the mechanism for coordination between the team of personnel designated to answer media calls and the organization's public information officer (PIO), as well as with points of contact located at other facilities supporting the JIC.	E-2	Annex E, Paragraph IV.A-G
NUREG CRITERION G.4.a - Designated Spokesperson			
Each principal organization shall designate a spokesperson who should have access to all necessary information.			
✓-1	Identify who, by title/position, will serve as the main PIO for the organization and where the PIO will be located. If media interaction is planned for more than one location, a main PIO is designated for each location.	E-2	Annex E, Paragraph III.A
✓-2	Describe how the PIO will obtain access to information about the emergency and the organizations' response efforts, gather and verify such information, and coordinate/communicate with the appropriate personnel for approval in advance of disseminating any information to the public and/or the media.	E-2	Annex E, Paragraph IV
✓-3	If the PIO will be operating at the location remote from the EOC, describe:	E-2	Annex E, Paragraph IV.C
✓-3a	<ul style="list-style-type: none"> Who, by title/position, will be the main point of contact in the EOC for exchanging information with the PIO. 	E-2	Annex E, Paragraph IV.B
✓-3b	<ul style="list-style-type: none"> What physical means (e.g., telephone, fax, or computer network) will be used for communicating information between the EOC and PIO. 	E-2	Annex E, Paragraph IV.A-G
✓-4	Include procedures for authorizing the release of information and, in particular, for control and release of sensitive information.	E-2	Annex E, Paragraph IV.A-G
NUREG CRITERION G.4.b - Timely Exchange of Information			
Each organization shall establish arrangements for timely exchange of information among designated spokespersons.			
✓-1	The exchange, discussion, and coordination of information among PIOs, if information is provided to the media primarily through a JIC (e.g., meetings to coordinate and share information prior to press briefings/ conferences, circulation of press releases among the PIOs and their staffs).	E-2	Annex E, Paragraph IV

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√-2	If the jurisdiction has a PIO at a separate facility (in addition to or instead of the JIC), equipment and procedures for timely exchange of information with other PIOs including:	E-2	Annex E, Paragraph IV
√-3	Who, by title/position, is responsible for ensure that the exchanges take place.	E-2	Annex E, Paragraph IV
√-4	What physical communications means (E.g., telephone, fax, computer network, electronic mail, video or Internet-based teleconference system) will be used.	E-2	Annex E, Paragraph IV
NEREG 4.G.c - Public Inquiry (formerly Rumors Control) Each organization shall establish coordinated arrangements for dealing with rumors.			
√-1	Describe the capability to receive and effectively respond to numerous simultaneous telephone calls for the general public and respond to questions, requests, or comments posed by the public.	E-2	Annex E, Paragraph IV
√-2	Identify the method for publicizing the dedicated telephone number(s) and other contact information (e.g., website address) for public inquiries and/or media information.	E-2	Annex E, Paragraph IV
√-3	Include or describe procedures to effectively monitor media information messages to identify incomplete, inaccurate, or ambiguous information related to the emergency in the public domain.	E-2	Annex E, Paragraph IV
√-4	If a jurisdiction sends a delegate to a joint public inquiry program or relies on another organization to answer public inquiries, identify which organization provides or coordinates the public inquires program and the method for contacting that organization.	E-2	Annex E, Paragraph IV
NUREG CRITERION G.5 - Program to Acquaint News Media with NRERP Each organization shall conduct coordinated programs at least annually to acquaint news organizations with the emergency plans, information concerning radiation, and points of contact for release of public information in an emergency.			
√-1	Provisions for an annual media briefing.		Coordinated by the state
√-2	Distribution of written materials (media kits) covering topics described below.		
√-3	Each item provided as baseline information about REP to the local media.		
NUREG H.3 - State Emergency Operations Center Each organization shall establish an emergency operations center for use in directing and controlling response functions.			
√-1	A description or reference to the location and layout of the EOC.	9	Basic Plan Paragraph V
√-2	A listing of facility equipment necessary to support operations.	9	Basic Plan Paragraph V
√-3	The EOC's backup power capability, if available.	9	Basic Plan Paragraph V
√-4	Details and methods of access control to the facility.	9	Basic Plan Paragraph V
√-5	Reference to the location of the alternate EOC, if applicable.	9	Basic Plan Paragraph V
√-6	The organization and official, by title/position, responsible for maintaining the operational readiness of the EOC.	9	Basic Plan Paragraph V
NUREG H.4 - Activation and Staffing of Facilities and Centers Each organization shall provide for timely activation and staffing of the facilities and centers described in the plan.			
√-1	Detailed procedures for activation and staffing for all emergency facilities	A-2	Annex A Paragraph IV
√-2	Criteria used for declaring facilities operational.	A-2	Annex A Paragraph IV

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✓-3	A list of staff, by title/position, assigned to each facility and rosters of key positions. (SEE Explanation for what is required).	A-2	Annex A Paragraph IV
NUREG H.7 - Offsite Radiological Monitoring Equipment Each organization, where appropriate, shall provide for offsite radiological monitoring equipment in the vicinity of the nuclear facility.			Does not apply. Not within the Plume EPZ
✓-1	Radiological monitoring equipment, by type and number, that is located or stored near the NPP or that will be brought in by the ORO.		
✓-2	Fixed radiological monitoring stations near the NPP.		
NUREG H.10 - Inspection, Inventory & Operational Checks of Equipment Each organization shall make provisions to inspect, inventory, and operationally check emergency equipment/instruments at least once each calendar quarter and after each use. There shall be sufficient reserves of instruments/ equipment to replace those that are removed from emergency kits for calibration or repair. Calibration of equipment shall be at intervals recommended by the supplier of the equipment.			
✓-1	Describe the organization(s) responsible for maintenance of all radiological equipment.	F-2	Annex F Paragraph III.A
✓-2	Describe the specifics regarding the inventory, operational checks, and calibration for dosimetry, portal monitors, radiological survey equipment, air sampling equipment, and laboratory equipment.	F-2	Annex F Paragraph III.A
NUREG H.11- Identification of Emergency Response Kits Each plan shall, in an appendix, include identification of emergency kits by general category (protective equipment, communications equipment, radiological monitoring equipment, and emergency supplies).			
✓-1	The number and contents of emergency response kits by location and general category.	F-20	Annex F, Attachment 10
✓-2	The quantity of each item per kit.	F-20	Annex F, Attachment 10
NUREG H.12- Identification of Central Point of Field Data Each organization shall establish a central point (preferably associated with the licensee's Emergency Operations Facility), for receipt and analysis of all field monitoring data and coordination of sample media.			Does not apply to reception county.
✓-1	Describe the organization(s) responsible for assessing radiological data.		
✓-2	Describe the location of the central point for compiling and analyzing all field monitoring data, including the means used by FMTs to relay information to the central point.		
✓-3	Describe the coordination and analysis of sample media, including procedures for transporting samples and transferring the data from the laboratory to the central point.		
NUREG I.7 - Capability and Resources for Field Monitoring Each organization shall describe the capability and resources for field monitoring within the plume exposure Emergency Planning Zone that are an intrinsic part of the concept of operations for the facility.			Does not apply to reception county.
✓-1	Describe which organizations have primary responsibility for field monitoring activities.		
✓-2	Describe the capabilities and resources state, local, tribal, and non-governmental organizations will contribute.		

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<p>NUREG 1.8 - Rapid Assessment of Radiological Hazard Pathways Each organization, where appropriate, shall provide methods, equipment, and expertise to make rapid assessments of the actual or potential magnitude and locations of any radiological hazards through liquid or gaseous release pathways. This shall include activation, notification means, field team composition, transportation, communication, monitoring equipment, and estimated deployment times.</p>		Does not apply to reception county.
√-1	Describe the process for activating and notifying field teams.	
√-2	Describe the composition of the Field Monitoring Teams FMTs (e.g., organizations involved, number of teams [two or more], number of members on each time).	
√-3	Describe the types and sources of transportation resource(s) for FMTs and estimated deployment times to reach a site from various locations, if applicable.	
√-4	Describe the location of any staging areas.	
√-5	Describe the title/position of the person responsible for directing FMTs to proper locations for monitoring and air sampling.	
√-6	Describe the monitoring, sampling, and communications equipment that will be used by the FMTs.	
√-7	Describe the procedures that will be followed for field monitoring, sample collection, and field sample analysis.	
√-8	Describe the laboratories to which specific samples will be sent for analysis, including estimated delivery time analysis times, transportation and temporary storage arrangements, and procedures for chain-of-custody records.	
√-9	Describe how ORO will obtain centerline measurements.	
<p>NUREG 1.9 - Capability to Detect & Measure Radioiodine Concentrations Each organization shall have a capability to detect and measure radioiodine concentrations in air in the plume exposure EPZ as low as 10^{-7} $\mu\text{Ci/cc}$ (microcuries per cubic centimeter) under field conditions. Interference from the presence of noble gas and background radiation shall not decrease the stated minimum detectable activity.</p>		Does not apply. Not within the Plume EPZ
√-1	Describe the capability to collect air samples within the plume and perform analysis that will detect radioiodine concentrations as low as 10^{-7} $\mu\text{Ci/cc}$ under field conditions.	
√-2	Describe the process used for collecting air samples, including location of sampling points, timing of sample collection, and techniques used to collect and count (see Criterion 1.8).	
<p>NUREG 1.10 - Means for relating various Measures to Dose Rates Each organization shall establish means for relating the various measured parameters (e.g., contamination levels, water, and air activity levels) to dose rates for key isotopes (i.e., those given in [NUREG-0654/FEMA-REP-1] Table 3, page 18) and gross radioactivity measurements. Provisions shall be made for estimating integrated dose from the projected and actual dose rates and for comparing these estimates with the protective action guides. The detailed provisions shall be described in separate procedures.</p>		N/A
√-1	Personnel and equipment that will be involved in dose assessment.	
√-2	Computer software and documentation, including data input procedures, that will be used.	

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✓-3	Alternate methods that may be used (e.g., hand calculations).		
✓-4	Information/variables to run the model, including proper units of measure.		
✓-5	Means for obtaining initial information (e.g., from licensee monitors or inventory estimates).		
✓-6	Use of filed data to verify and modify model results.		
✓-7	Procedures for comparing dose results with those of other organizations that perform dose assessments.		
NUREG H.11 - Arrangements to Locate and Track Airborne Radiological Plume			N/A
Arrangements to locate and track the airborne radioactive plume shall be made, using either or both Federal and State resources.			
✓-1	The planned use of any outside resources to locate and track the plume, including taking measurements and collecting air samples from or near the plume's peak concentration, if applicable.		
NUREG J.2 - Evacuation and Transportation for On-Site Individuals			
Each licensee shall make provisions for evacuation routs and transportation for onsite individuals to some suitable offsite location, including alternatives for inclement weather, high traffic density, and specific radiological conditions.			
✓-1	Describe assistance that will be provided to licensees during an evacuation of the site or a statement that no assistance is required.	5	Basic Plan, Paragraph III.A-D
✓-2	The alternatives that will be implemented during inclement weather and/or high traffic densities.	C-2	Annex C, Paragraph IV.A
✓-3	Provisions for coordinating arrangements with other offsite organizations to expedite evacuation of onsite personnel.	C-2	Annex C, Paragraph IV.A
NUREG J.9 - Capabilities/Implementation of Protective Measures from Exposure			
Each State and local organization shall establish a capability for implementing protective measures on the basis of Protective Action Guides and other criteria. This shall be consistent with the recommendations of the EPA regarding exposure resulting from passage of radioactive airborne plumes, ((EPA-400-R-92-001) and with those of the DHEW 9HHS)/FDA regarding radioactive contamination of human food and animal feeds as published in the Federal Register of August 13, 1998 (63 FR 43402). Plans and Procedures shall include:			
✓-1	The organization's procedures for making PADs and implementing protective actions based upon PAGs that are consistent with EPA recommendations.	6	Basic Plan, Parragraph III.E
✓-2	The process followed to ensure coordination of PADs with all appropriate jurisdictions.	F-4	Annex F, Paragraph IV.C
NUREG J.10.a - Maps of Evacuation Routes, Areas, Radiation Points			
Maps showing evacuation routes, evacuation areas, pre-selected radiological sampling and monitoring points, relocation centers in host areas, and shelter areas (identification of radiological sampling and monitoring points shall include the designators in [NUREG-0654/FEMA-REP-1] Table J-1 or an equivalent uniform system described in the plan); Plans and Procedures shall:			

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√-1	Include clearly legible maps of all evacuation routes, evacuation areas, pre-selected radiological sampling and monitoring points (including water supplies), reception and congregate care centers in host/support jurisdictions, decontamination facilities, and shelter areas.	C-6	Annex C, Attachment 2
√-2	Describe the procedures and organization(s) responsible for updating and maintaining maps, as necessary, using the most current and accurate data (e.g., census data, state and county records, etc.).	11	Basic Plan Paragraph VII.A
NUREG J.10.b - Maps of Population Distribution			
Maps showing population distribution around the nuclear facility. This shall be by evacuation areas (licensees shall also present the information in a sector format).			
√-1	Clear, legible maps showing population distribution around the NPP, possibly in a separate appendix.	A-11	Annex A, Attachment 4
NUREG J.10.c - Means for Notification of Transients / Residents			
Means for notifying all segments of the transient and resident population; To meet this criterion, the ORO plans/procedures shall:			
√-1	Meet the requirements listed under Criteria E.5, E.6 and E.7	E-2-E-3	Annex E
NUREG J.10.d - Means for Protecting Special Needs Personnel			
Means for protecting those persons whose mobility may be impaired due to such factors as institutional or other confinement; the ORO plans/procedures shall:			
√-1	Describe the means to protect those persons whose mobility may be impaired because of institutional or other confinement (e.g., children in schools and licensed daycare centers and persons in nursing homes, hospitals, and correctional facilities).	5	Basic Plan, Paragraph III.C&D
√-2	Describe the methods for determining the number of persons who may need assistance and the type of assistance, per planning area.	5	Basic Plan, Paragraph III.C&D
√-3	Reference lists of documented individuals who need assistance in an evacuation of the EPZ and processes for keeping the lists up to date.	5	Basic Plan, Paragraph III.C&D
√-4	Describe processes for evacuating persons with disabilities and access / functional needs and for sheltering in place those who cannot be moved.	5	Basic Plan, Paragraph III.C&D
√-5	Describe any special transportation needs for these groups and the transportation resources, including types and quantities of vehicles, used to move them.	5	Basic Plan, Paragraph III.C&D
NUREG J.10.e - Provisions for the use of KI			
Provisions for the use of radioprotective drugs, particularly for emergency workers and institutionalized persons within the plume exposure EPZ whose immediate evacuation may be infeasible or very difficult, including quantities, storage, and means of distribution; the ORO plans/procedures shall describe:			
√-1	What groups might be advised to take KI.	F-31	Annex F, Attachment 16
√-2	Adequate supply of radioprotective drugs for each individual, including quantities, storage locations, and means of distribution.	F-31	Annex F, Attachment 16
√-3	Adequate maintenance, shelf life extensions, and timely replacement of radioprotective drugs.	F-31	Annex F, Attachment 16

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✓-4	Means for communicating a recommendation to take radioprotective drugs to emergency workers, institutionalized persons, and (if included as an option in the plans/procedures) the general public.	F-31	Annex F, Attachment 16
NUREG J.10.f - Methods by which decisions are made by DHHS, DPH for use of KI State and local organizations' plans should include the method by which decisions by the State Health Department for administering radioprotective drugs to the general population are made during an emergency and the pre-determined conditions under which such drugs may be used by offsite emergency workers; the ORO plans/procedures shall:			
✓-1	Identify, by title/position, those who will make decisions regarding the use of KI during an emergency.	F-31	Annex F, Attachment 16
✓-2	Describe the criteria and decision-making processes for recommending KI.	F-31	Annex F, Attachment 16
NUREG J.10.g - Means of Evacuation To meet the intent of this criterion, ORO plans/procedures shall describe how the public within the plume exposure pathway EPZ will be evacuated, including:			Does not apply to host county
✓-1	Means for controlling traffic to assure a safe and efficient evacuation.		
✓-2	Procedures for implementing alternate evacuation routes, if warranted.		
✓-3	Transportation resources, including drivers.		
✓-4	The methods for determining the number of persons without private transportation, per planning area.		
✓-5	Designated pick-up points for persons without private transportation.		
NUREG J.10.h - Location of Relocation Centers Relocation centers in host areas which are at least 5 miles, and preferably 10 miles, beyond the boundaries of the plume exposure emergency planning zone (see [NUREG-0654/FEMA-REP-1] J.12):			
✓-1	All relocation centers and host schools for evacuees and students by name and address.	G-10	Annex G, Attachment 2
✓-2	Organizations responsible for managing the centers and staffing requirements for each center.	G-2	Annex G, Paragraph III.
✓-3	Arrangements for handling students at relocations centers and/or host schools.	G-3	Annex G Paragraph IV
✓-4	Arrangements for handling service animals.	G-3	Annex G Paragraph IV
✓-5	Hospitals, correctional facilities, and nursing homes that will receive evacuees.	G-10	Annex G, Attachment 2
✓-6	Provisions for the radiological monitoring of evacuees, service animals, and evacuee vehicles, according to plans/procedures. If students are taken to host schools where monitoring capabilities are not present, the plans/procedures address any special considerations for radiological monitoring of student evacuees following a release.	G-3	Annex G Paragraph IV
✓-7	Provisions for students at schools outside the EPZ who reside within the EPZ.	G-3	Annex G Paragraph IV
NUREG J.10.i - Projected traffic capacities of Evacuation Routes Projected traffic capacities of evacuation routes under emergency conditions; ORO plans and procedures shall:			
✓-1	Reference the evacuation time estimate (ETE) studies and include the results of the ETEs.	8	Basic Plan, Paragraph IV.E
✓-2	Reference the traffic capacities of the evacuation routes.	8	Basic Plan, Paragraph IV.E

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✓-3	Discuss the potential need to use alternate routes because traffic impediments, adverse weather conditions, an airborne radioactive plume, areas affected by hostile actions, or other factors that might hinder a timely, safe evacuation.	C-2	Annex C, Paragraph IV.A
✓-4	Provide maps as described in Criterion J.10.a	C-6	Annex C, Attachment 2
NUREG J.10.j - Control of access to evacuated areas and organization responsibilities for such control ORO plans and procedures shall describe:			Does not apply to reception county.
✓-1	Procedures for controlling road access to sheltered and/or evacuated areas, including organization(s) responsible for staffing TCPs and Access Control Points (ACPs).		
✓-2	Maps identifying TCPs/ACPs (may be incorporated by reference).		
✓-3	Equipment and resources needed (e.g., cones or barricades).		
✓-4	Procedures and responsibilities for controlling access via other transportation modes.		
✓-5	Procedures and responsibilities for controlling ingress and egress to other areas affected by an incident.		
✓-6	Procedures for providing TCP/ACP staff with the status of emergency response activities.		
NUREG J.10.k - Identification of and Means for dealing with Potential Impediments to use Evacuation Routes: ORO plans and procedures shall describe:			
✓-1	Resources available (e.g., personnel and equipment) to clear impediments to evacuation and emergency response in areas affected by incidents.	C-2	Annex C, Paragraph III.A
✓-2	Responsibility for directing resources and rerouting traffic as needed.	C-2	Annex C, Paragraph III.A
NUREG J.10.l - Time Estimates for Evacuation of Areas Time estimates for evacuation of various sectors and distances based on a dynamic analysis (time-motion study under various conditions) for the plume exposure pathway emergency planning zone (see [NUREG-0654/FEMA-REP-1] Appendix 4); ORO plans and procedures shall describe or reference:			Does not apply to reception county.
✓-1	Time estimates for evacuation of various sectors or evacuation areas.		
✓-2	The times required for the movement of school children and other persons with disabilities and access/functional needs.		
NUREG J.10.m - Bases for choices of protective actions The bases for the choices of recommended protective actions from the plume exposure pathway during emergency conditions. This shall include expected local protection afforded in residential units or other shelter for direct and inhalation exposure, as well as evacuation time estimates.			N/A
✓-1	The rationales for any pre-planned precautionary actions, including the triggering events that would lead to the decision to implement these actions.		
✓-2	The rationales used to make initial PADs.		
✓-3	The rationales used for subsequent PDs, including the consideration of various possible options.		

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<p>NUREG J.11 - Protective Measures used for Ingestion Pathway Each State shall specify the protective measures to be used for the ingestion pathway, including the methods for protecting the public from consumption of contaminated food-stuffs. This shall include the criteria for deciding whether dairy animals should be put on stored feed. The plan shall identify procedures for detecting contamination, for estimating the dose commitment consequences of uncontrolled ingestion, and for imposing protection procedures such as impoundment, decontamination, processing, decay, product diversion, and preservation. Maps for recording survey and monitoring data, key land use data (e.g., farming), dairies, food processing plants, water sheds, water supply intake and water treatment plants and reservoirs shall be maintained. Provisions for maps showing detailed crop information may be made by including reference to their availability and location and a plan for their use. The maps shall start at the facility and include all the 50-mile ingestion pathway EPZ. Up-to-date lists of the name and location of all facilities which regularly process milk products and other large amounts of food or agricultural products originating in the ingestion pathway Emergency Planning Zone, but located elsewhere, shall be maintained.</p>			N/A
✓-1	The individual(s), by title/position, and organization with the authority to make decisions in the ingestion pathway zone.	K-6	
✓-2	The ingestion protective actions planned and the rationale for the selection of actions, also see Criteria J.9 and J.10.m	K-7	
✓-3	The methodology used to designate the areas of concern where monitoring and sampling will be implemented.		
✓-4	The methodology for collecting agricultural samples, including identifying field team members, providing necessary supplies, names and addresses of contact points to obtain permission to collect samples, and chain of custody procedures.		
✓-5	The analytical laboratory capability to analyze various samples and the procedures for reporting analytical results to the appropriate organization.		
✓-6	The location and means of obtaining up-to-date information on permanent agribusiness facilities within the EPZ. This information includes dairies, food processing plants, surface water supplies, water intakes, and other permanent facilities. Information also includes facilities outside the EPZ that could receive potentially contaminated products from within the EPZ, including names and telephone numbers of points of contact.		
✓-7	The location and means of obtaining up-to-date information on land use (i.e., which crops are being grown in which areas). This information includes the status of harvesting.		
✓-8	The DILs that would warrant implementation of protective actions and the rationale and assumptions used to develop the DILS.	A-16 A-46	
✓-9	The availability of suitable maps for recording various data. The use of electronic means to capture and map survey and dose data (e.g. geographic information systems) are acceptable.		

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✓-10	The means by which the agribusiness person will be notified of a PAD that would affect his/her ability to sell or move food or agricultural products.		
NUREG J.12 - Describe the means of registration and monitoring of Evacuees at Relocation Centers. Each organization shall describe the means for registering and monitoring of evacuees at relocation centers in host areas. The personnel and equipment available should be capable of monitoring within about a 12-hour period all residents and transients in the plume exposure EPZ arriving at relocation centers.			
✓-1	Radiological monitoring of evacuees, service animals, vehicles and possessions. OROs need to be capable of monitoring 20 percent of the EPZ population (including transients) assigned to each facility within a 12-hour period.	F-3	Annex F Paragraph IV.A
✓-2	Decontamination procedures, including the trigger/action levels that indicate the need for decontamination activities and procedures for medial attention referral.	F-8	Annex F Attachment 2
✓-3	Contamination control measures, such as safety requirements, decontamination site layout, and decontamination protocol.	F-8	Annex F Attachment 2
✓-4	The physical layout of the area, with diagrams that show the flow and layout of operations, including a description of the means of separating contaminated, uncontaminated, and unscreened individuals, vehicles, and service animals.	F-26	Annex F, Attachment 14
✓-5	The processes for registering evacuees and service animals in host/support jurisdictions, including documentation of monitoring for referral to temporary care facilities.	F-8	Annex F Attachment 2
NUREG K.3.a - Provisions for determining doses of Emergency Workers Each organization shall make provision for 24-hour-per-day capability to determine the doses received by emergency personnel involved in an nuclear accident, including volunteer. Each organization shall make provisions for the distribution of dosimeters, both self-reading (direct-reading) and permanent record devices (thermoluminescent or electronic dosimeters deemed appropriate by State authorities).			
✓-1	Methods or options for emergency worker exposure control, to include exposure from inhalation.	F-2	Annex F, Paragraph III.A
✓-2	Dose limits for emergency workers.	F-3	Annex F, Paragraph IV
✓-3	Types and quantities of dosimeters and dosimeter chargers available per location and the number of emergency workers needing dosimetry devices.	F-3	Annex F, Paragraph IV
✓-4	Process for reading PRDs and any early reading of PRDs (e.g., when an emergency worker's task assignment is completed or as otherwise specified).	F-3	Annex F, Paragraph IV
✓-5	Specific dosimetry instructions, including when, where, and to whom individuals return their dosimetry devices.	F-3	Annex F, Paragraph IV
✓-6	Dosimetry storage locations.	F-3	Annex F, Paragraph IV

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✓-7	Distribution of dosimetry to all emergency workers and, when permitted, members of the public needing access to the restricted area.	F-3	Annex F, Paragraph IV
✓-8	Proper documentation of authorization to exceed administrative dose limits.	F-3	Annex F, Paragraph IV
NUREG K.3.b - Dosimeter Checks & Maintaining Dose Records Each organization shall ensure that dosimeters are read at appropriate frequencies and provide for maintaining dose records for emergency workers involved in any nuclear accident). Plans and Procedures shall indicate:			
✓-1	The method for obtaining dose information from emergency workers.	F-15	Annex F, Attachment 5
✓-2	The timeframes for reading dosimeters (e.g., every 15 or 30 minutes).	F-15	Annex F, Attachment 5
✓-3	The methods for recording doses (e.g., the form used)	F-15	Annex F, Attachment 5
✓-4	Appropriate reporting if administrative limits have been reached or exceeded (refer to Criterion K.4).	F-15	Annex F, Attachment 5
NUREG K.4 - Decision Chain for Emergency Workers to incur exposures in excess of EPA PAGs Each State and local organization shall establish the decision chain for authorizing emergency workers to incur exposures in excess of the EPA General Public Protective Action Guides (i.e., EPA GAPGs for emergency workers and lifesaving activities). Plans and Procedures shall specify:			
✓-1	Dose limits (TEDE) for missions, accounting for dose from inhalation.	F-4	Annex F, Paragraph IV.B.2
✓-2	Actions taken when exposure limits have been reached	F-4	Annex F, Paragraph IV.B.2
✓-3	Any special conditions requiring additional limitations (e.g., pregnant emergency workers).	F-4	Annex F, Paragraph IV.B.2
✓-4	Authorization to exceed pre-authorized exposure limits and management of emergency workers' exposure limit above the limits.	F-4	Annex F, Paragraph IV.B.2
✓-5	Points of Contact for authorization to remain in the hazard area and receive additional exposure (e.g., for special life-saving missions) if the allowable upper limit has been reached.	F-4	Annex F, Paragraph IV.B.2
✓-6	Information on risk and threshold doses for health effects to be provided to emergency workers volunteering for higher dose exposure.	F-4	Annex F, Paragraph IV.B.2
✓-7	Administrative Limits.	F-4	Annex F, Paragraph IV.B.2
NUREG K.5.a - Determine the need of Decontamination Each organization, as appropriate, shall specify action levels for determining the need for decontamination. Plans and Procedures shall describe:			
✓-1	Facilities for monitoring and decontaminating emergency workers, equipment and vehicles, along with operating and implementing procedures.	F-12	Annex F, Attachment 3
✓-2	Locations of monitoring and decontamination facilities (preferably located outside the plume EPZ).	F-12	Annex F, Attachment 3
✓-3	Methods for controlling the spread of contamination at the emergency worker monitoring facilities.	F-12	Annex F, Attachment 3

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✓-4	Radioactive contamination levels that will trigger decontamination of emergency workers, equipment, and vehicles, expressed in applicable units (e.g., cmp, mR/hr).	F-12	Annex F, Attachment 3
✓-5	Survey instruments (i.e., specific appropriate equipment and sensitivity, including radiation type) used to monitor emergency workers, equipment, and vehicles.	F-12	Annex F, Attachment 3
✓-6	Procedures for monitoring individuals and equipment.	F-12	Annex F, Attachment 3
NUREG K.5.b - Means of Radiological Decontamination Each organization, as appropriate, shall establish the means for radiological decontamination of emergency personnel wounds, supplies, instruments and equipment, and for waste disposal. Plans and Procedures shall address:			
✓-1	Supplies and equipment for decontamination.	F-8	Annex F, Attachment 2
✓-2	Decontaminating people, equipment and vehicles.	F-8	Annex F, Attachment 2
✓-3	Re-monitoring people, equipment, and vehicles and recording the results.	F-8	Annex F, Attachment 2
✓-4	Criteria for sending individuals with fixed contamination for medical attention.	F-8	Annex F, Attachment 2
✓-5	Controlling the spread of contamination.	F-8	Annex F, Attachment 2
✓-6	Number of people needed to perform decontamination in the event of an emergency.	F-8	Annex F, Attachment 2
✓-7	Contamination waste collection, handling, and storage.	F-8	Annex F, Attachment 2
NUREG L.1 - Local and Back-Up Hospital Services Each organization shall arrange for local and backup hospital and medical services having the capability for evaluation of radiation exposure and uptake, including assurance that persons providing these services are adequately prepared to handle contaminated individuals. Plans and Procedures shall:			
✓-1	Reference written agreements or LOAs with hospitals/medical facilities.	F-10	Annex F, Attachment 2 I.D.12 Refer to Nemaha County RERP pg. F-9 Paragraph V.F
✓-2	Reference written agreements or LOAs for technical staff that are not employed by the hospital/medical facility.	F-10	Annex F, Attachment 2 I.D.12 Refer to Nemaha County RERP pg. F-9 Paragraph V.F
✓-3	Include individual facility capabilities, including the number of radiological trained medical personnel and support staff.	F-10	Annex F, Attachment 2 I.D.12 Refer to Nemaha County RERP pg. F-9 Paragraph V.F
✓-4	Describe hospital/medical facility and support service operations for treating contaminated, injured, or exposed individuals.	F-10	Annex F, Attachment 2 I.D.12 Refer to Nemaha County RERP pg. F-9 Paragraph V.F
✓-5	Describe dosimetry procedures, including record keeping and final receipt for processing.	F-10	Annex F, Attachment 2 I.D.12 Refer to Nemaha County RERP pg. F-9 Paragraph V.F
NUREG L.3 - Local and Back-Up Hospital Services Each State shall develop lists indicating the location of public, private, and military hospitals and other emergency services facilities within the State or contiguous States considered capable of providing medical support for nay contaminated injured individual. The listing shall include the name, location, type of facility and capacity, and any special radiological capabilities. These emergency medical services shold be able to radiologically monitor contaminated personnel, and have facilities and trained personnel able to care for contaminated injured persons. Plans and Procedures shall:			N/A

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✓-1	Lists of additional hospital/medical facilities capable of providing medical support for contaminated, injured, or exposed individuals.		
NUREG L.4 - Transportation of Victims t Medical Support Facilities Each organization shall arrange for transporting victims of radiological accidents to medical support facilities. Plans and Procedures shall describe:			Does not apply to reception county.
✓-1	The method for determining an appropriate hospital/medial facility and the person, by title/position, responsible for the determination.		
✓-2	Means of transporting individuals, including how to request additional emergency medical services.		
✓-3	Communications between the transport crew and hospital / medical staff.		
✓-4	Specifics of radiological monitoring.		
✓-5	Contamination control measures during transport.		
✓-6	Decontamination techniques, including trigger/action levels.		
✓-7	Dosimeter for the transport crew.		
✓-8	LOAs with transportation providers (See Criterion A.3)		
NUREG M.1 - Recovery and Re-entry Plans and Procedures Each organization, as appropriate, shall develop general plans and procedures for re-entry and recovery and describe the means by which decisions to relax protective measures (e.f., allow re-entry into an evacuated area) are reached. This process should consider both existing and potential conditions. Plans and Procedures shall describe actions during intermediate and late phases of an incident, including:			
✓-1	Continuing environmental radiation measurements and dose assessments.	4 A-3 G-9	Basic Plan, Paragraph II.Q Annex A, Paragraph IV.D Annex G, Attachment 1
✓-2	Establishing restricted and buffer zones.	4 A-3 G-9	Basic Plan, Paragraph II.Q Annex A, Paragraph IV.D Annex G, Attachment 1
✓-3	Relocation.	4 A-3 G-9	Basic Plan, Paragraph II.Q Annex A, Paragraph IV.D Annex G, Attachment 1
✓-4	Controlled re-entry into restricted areas.	4 A-3 G-9	Basic Plan, Paragraph II.Q Annex A, Paragraph IV.D Annex G, Attachment 1
✓-5	Return of the public to previously evacuated areas.	4 A-3 G-9	Basic Plan, Paragraph II.Q Annex A, Paragraph IV.D Annex G, Attachment 1
✓-6	Recovery, including a list of actions that may be needed and organizations responsible for carrying them out.	4 A-3 G-9	Basic Plan, Paragraph II.Q Annex A, Paragraph IV.D Annex G, Attachment 1
NUREG M.3 - Means to Notify Response Organizations of Recovery Operations being Initiated Each licensee and State plan shall specify means for informing members of the response organizations that a recovery operation is to be initiated, and of nay changes in the organizational structure that may occur. Plans and Procedures shall indicate:			N/A

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√-1	Means used to keep all involved response organizations (e.g., OROs with affected populations and/or areas) informed of recovery phase plans/procedures being developed, such as remedial measures, how long they will take, and what final outcome is expected.		
√-2	Changes that might take place in the organizational structure (e.g., the Governor being in charge under a "state of emergency" that may then revert to a new or other authority).		
NUREG M.4 - Periodic estimation of population exposure Each plan shall establish a method for periodically estimating total population exposure. Plans and Procedures shall:			N/A
√-1	Identify agencies responsible for and involved in long-term dose assessment activities after an incident.		
NUREG N.1.a - Exercises An exercise is an event that tests the integrated capability and a major portion of the basic elements existing within emergency preparedness plans and organizations. Exercises shall be conducted as set forth in NRC and FEMA rules and policy. Plans and procedures shall indicate that:			
√-1	REP Exercises will be conducted in accordance with NRC and FEMA rules and policy.	12	Basic Plan, Paragraph VII.A.8
NUREG N.1.b - Demonstrate all major elements of plans/procedures in eight-year exercise cycle An exercise shall demonstrate the key skills of response organizations to adequately respond to an incident scenario. The scenarios shall vary such that the major elements of emergency plans are exercised within an eight-year exercise cycle. Each scenario variation shall be demonstrated at least once during the eight-year exercise cycle and shall include, but not be limited to, the following: a. Hostile action directed at the plant site involving the integration of offsite resources with onsite response; b. An initial classification of or rapid escalation to a Site Area Emergency or General Emergency; c. No radiological release or an unplanned minimal radiological release that requires the site to declare a Site Area Emergency, but does not require declaration of a General Emergency. For this scenario variation the following conditions shall apply: i. The licensee is required to demonstrate the ability to respond to a no/minimal radiological release scenario at least once within the eight-year exercise cycle. State, Tribal and local response organizations have the option, and are encouraged, to participate jointly in this demonstration. ii. When planning for a joint no/minimal radiological release exercise, affected State, Tribal and local jurisdictions, the licensee, and FEMA will identify offsite capabilities that may still need to be evaluated and agree upon appropriate alternative evaluation methods to satisfy FEMA's biennial criteria requirements. Alternative evaluation methods that could be considered during the extent of play negotiations include expansion of the exercise scenario, out of sequence activities, plan reviews, staff assistance visits or other means as described in FEMA guidance. iii. If the offsite organizations elect not to participate in the licensee's required minimal or no-release exercise, they will still be obligated to meet the exercise requirements as specified in 44 CFR § 350.9. Plans and procedures shall indicate that:			
√-1	All major elements of the plans/procedures will be tested at minimum at the frequency specified by the REP Program Manual, Exhibit III-2.	12	Basic Plan, Paragraph VII.A.8 Exercises coordinated by the state. Including scenarios and critiques.

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✓-2	Scenarios for exercises will be varied from exercise to exercise and include all required scenario variations during the exercise cycle.	12	Basic Plan, Paragraph VII.A.8 Exercises coordinated by the state. Including scenarios and critiques.
NUREG N.1.d - Demonstrate the mobilization of personnel and resources in Exercises. An exercise shall include mobilization and implementation of State and local (as appropriate) personnel and resources adequate to verify the capability and response to a large radiological release requiring ingestion pathway protective actions beyond the 10 mile EPZ at least once every 8 years. Organizations shall specify who is responsible for the decision-making process. OROs shall reference or include the organization's procedures for making PADs and implementing protective actions based upon PAGs that are consistent with EPA recommendations, and the process for ensuring coordination of PADs with all applicable jurisdictions. Plans/procedures shall indicate that:			
✓-1	The state and other OROs (as appropriate) will participate in an ingestion exercise at least once every 8 years.		
✓-2	States that do not have an NPP located within their borders, but are located within the 50-mile EPZ of a boarding state's NPP, must fully participate in at least one exercise at least once every 8 years at the boarding state's site(s).		
✓-3	ORO's within the 50-mile EPZ that are not part of the full-participation ingestion exercise with the state participate in an ingestion tabletop exercise or other ingestion pathway training activity at least once during the exercise cycle.		
✓-4	The number and types of personnel participating in ingestion aspects of an exercise will be sufficient for carrying out those ingestion measures required by the incident scenario.		
NUREG N.2.a - Communications Drills Communications with State and local governments within the plume exposure pathway Emergency Planning Zone shall be tested monthly. Communications with Federal emergency response organizations and States within the ingestion pathway shall be tested quarterly. Communications between the nuclear facility, State and local emergency operations centers, and field assessment teams shall be tested annually. Communications drills shall also include the aspect of understanding the content of the messages. Plans/procedures shall indicate that:			Coordinated by the state
✓-1	ORO communications systems are tested monthly (including ingestion counties).		
✓-2	Communications with the Federal response organizations and states within the ingestion pathway are tested quarterly.		
✓-3	Communications with the NPP, ORO EOCs, and field assessment teams are tested annually.		
✓-4	All communications drills include a message content check.		
NUREG N.2.c - Medical Emergency Drills A medical emergency drill involving a simulated contaminated individual which contains provisions for participation by the local support services agencies (i.e., ambulance and offsite medical treatment facility) shall be conducted annually. The offsite portions of the medical drill may be performed as part of the required biennial exercise.:			Coordinated by the state
✓-1	Medical emergency drills are conducted annually.		

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	<p>NUREG N.2.d - Radiological Monitoring Drills Plant environs and radiological monitoring drills (onsite and offsite) shall be conducted annually. These drills shall include collection and analysis of all sample media (e.g., water, vegetation, soil and air), and provisions for communications and record keeping. The State drills need not be at each site. Where appropriate, local organizations shall participate. Plans/procedures shall indicate that:</p>	Coordinated by the state
	<p>NUREG N.2.e(1) - Health Physics Drills Health physics drills shall be conducted semi-annually which involve response to, and analysis of, simulated elevated airborne and liquid samples and direct radiation measurements in the environment. The State drills need not be at each site. Plans/procedures shall indicate that:</p>	Coordinated by the state
√-1	Health Physics drills are conducted semi-annually.	
	<p>NUREG N.3 - Explanation of Exercises and Drills Each organization shall describe how exercises and drills are to be carried out to allow free play for decision-making and to meet the following objectives. Pending the development of exercise scenarios and exercise evaluation guidance by the NRC and FEMA the scenarios for use in exercises and drills shall include, but not be limited to:</p> <ul style="list-style-type: none"> a. The basic objective(s) of each drill and exercise and appropriate evaluation criteria. b. The date(s), time period, place(s), and participating organizations; c. The simulated events; d. A time schedule of real and simulated initiating events; e. A narrative summary describing the conduct of the exercise or drills to include such things as simulated casualties, offsite fire department assistance, rescue of personnel, use of protective clothing, deployment of radiological monitoring teams, and public information activities; and f. A description of the arrangements for and advance materials to be provided to official observers. <p>Plans/procedures shall indicate that:</p>	Coordinated by the state
√-1	Each of the items "a" through "f" above will be addressed in the scenario developed for the exercise.	
	<p>NUREG N.4 - Critique of Exercises Biennial exercises shall be evaluated and critiqued as required. FEMA evaluators shall evaluate offsite emergency response organization performance in the biennial exercise in accordance with FEMA REP exercise methodology. Plans/procedures shall state that:</p>	Coordinated by the state
√-1	ORO exercise performance is evaluated according to FEMA REP exercise methodology.	
	<p>NUREG N.5 - Capturing comments for implementing improvement plan and assigning corrective action responsibilities Each organization shall establish means for evaluating observer and participant comments on areas needing improvement, including emergency plan procedural changes, and for assigning responsibility for implementing correction actions. Each organization shall establish management control used to ensure that corrective actions are implemented. Plans/procedures shall describe:</p>	Coordinated by the state
√-1	Process for correcting issues identified during exercises.	

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NUREG O.1 - Training of Appropriate Personnel			
Each organization shall assure the training of appropriate personnel. Plans/ Procedures shall:			
√-1	Identify organizations responsible for coordinating radiological training.	11 12	Basic Plan, Paragraph VII Basic Plan, Paragraph VII.B
√-2	Identify organizations that will ensure radiological emergency response training will be included as part of fire, police, and ambulance/rescue training, if appropriate.	11 12	Basic Plan, Paragraph VII Basic Plan, Paragraph VII.B
√-3	Describe provisions to ensure availability of just-in-time training on basic radiation protection for all emergency workers, as needed.	11 12	Basic Plan, Paragraph VII Basic Plan, Paragraph VII.B
√-4	Describe the provisions to ensure appropriate personnel participate in training courses designed for individuals who will assist in radiological emergency response (e.g., transportation providers).	11 12	Basic Plan, Paragraph VII Basic Plan, Paragraph VII.B
NUREG O.1.b - Participation and Receiving Training			
Each offsite response organization shall participate in and receive training. Where mutual aid agreements exist between local agencies such as fire, police, and ambulance/rescue, the training shall also be offered to the other departments that are members of the mutual aid districts. Plans/ Procedures shall state that:			See Radiological Training Manual
√-1	Training is offered to the mutual aid district, if mutual aid plans/ procedures have been established between local agencies.		
NUREG O.4.a - Training of Emergency Management Directors/ Coordinators			
Directors or coordinators of the response organizations; Plans/ Procedures shall discuss:			Not within the capability of local government. See Nebraska Radiological Training Manual.
√-1	Training programs specific to directors/coordinators.		
√-2	Scope of the training programs.		
√-3	Time intervals at which these programs will be offered.		
√-4	Organizations (e.g., licensee, FEMA) that will provide training assistance, if applicable.		

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NUREG O.4.b - Training of Accident Assessment Personnel			N/A
Personnel responsible for accident assessment; Plans/ Procedures shall discuss:			
✓-1	Training programs specific to accident assessment personnel.		
✓-2	Scope of the training programs.		
✓-3	Time intervals at which these programs will be offered.		
✓-4	Organizations (e.g., licensee, FEMA) that will provide training assistance, if applicable.		
NUREG O.4.c - Training Radiological Monitoring Teams			N/A
Personnel responsible for radiological monitoring and radiological analysis; Plans/ Procedures shall discuss:			
✓-1	Training programs specific to radiological monitoring teams and radiological analysis personnel.		
✓-2	Scope of the training programs.		
✓-3	Time intervals at which these programs will be offered.		
✓-4	Organizations (e.g., licensee, FEMA) that will provide training assistance, if applicable.		
NUREG O.4.d - Training of Police, security and fire-fighting personnel.			Not within the capability of local government. See Nebraska Radiological Training Manual.
Personnel responsible for law enforcement, traffic access and control, security, and fire-fighting; Plans/ Procedures shall state that:			
✓-1	Training programs specific to police, security, and firefighting personnel.		
✓-2	Scope of the training programs.		
✓-3	Time intervals at which these programs will be offered.		
✓-4	Organizations (e.g., licensee, FEMA) that will provide training assistance, if applicable.		
NUREG O.4.f - First aid and rescue personnel;			Not within the capability of local government. See Nebraska Radiological Training Manual.
Personnel responsible for first-aid and rescue; Plans/ Procedures shall discuss:			
✓-1	Training programs specific to first aid and rescue personnel.		
✓-2	Scope of the training programs.		
✓-3	Time intervals at which these programs will be offered.		
✓-4	Organizations (e.g., licensee, FEMA) that will provide training assistance, if applicable.		
NUREG O.4.g - Local support services personnel including Civil Defense/Emergency Services personnel.			Not within the capability of local government. See Nebraska Radiological Training Manual.
Personnel responsible for local support services including emergency management and emergency services; Plans/ Procedures shall discuss:			
✓-1	Training programs specific to local support services including emergency management and emergency services.		
✓-2	Scope of the training programs.		
✓-3	Time intervals at which these programs will be offered.		
✓-4	Organizations (e.g., licensee, FEMA) that will provide training assistance, if applicable.		

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NUREG O.4.h - Training of Medical Support Personnel. Personnel responsible for medical support; Plans/ Procedures shall discuss:			Not within the capability of local government. See Nebraska Radiological Training Manual.
√-1	Training programs specific to local support services including emergency management and emergency services.		
√-2	Scope of the training programs.		
√-3	Time intervals at which these programs will be offered.		
√-4	Organizations (e.g., licensee, FEMA) that will provide training assistance, if applicable.		
NUREG O.4.j - Training of Personnel responsible for transmission of Emergency Information. Personnel responsible for the transmission of emergency information; Plans/ Procedures shall discuss:			Not within the capability of local government. See Nebraska Radiological Training Manual.
√-1	Training programs specific to programs specific to personnel responsible for transmission of emergency information and instructions.		
√-2	Scope of the training programs.		
√-3	Time intervals at which these programs will be offered.		
√-4	Organizations (e.g., licensee, FEMA) that will provide training assistance, if applicable.		
NUREG O.5 - Initial and Annual Re-Training of Personnel Each organization shall provide for the initial and annual retraining of personnel with emergency responsibilities; Plans/ Procedures shall:			Not within the capability of local government. See Nebraska Radiological Training Manual.
√-1	State which organizations will provide initial training as well as retraining.		
NUREG P.1 - Training of Individuals responsible for planning Each organization shall provide for the training of individuals responsible for the planning effort; Plans/ Procedures shall:			Not within the capability of local government. See Nebraska Radiological Training Manual.
√-1	Identify, by title/position, individuals responsible for oversight of plan/procedure development and maintenance, including the positions referred to in Criteria P.2 and P.3, and any other positions with planning responsibilities.		
√-2	Specify the training regimen for the identified individuals.		
NUREG P.2 - Person responsible for Radiological Emergency Response Training Each organization shall identify by title the individual with the overall authority and responsibility for radiological emergency response planning; Plans/ Procedures shall:			
√-1	Identify, by title/position, the individual for radiological emergency response planning.	12	Basic Plan, Paragraph VII.B
NUREG P.3 - Emergency Planning Coordinator responsible for updating Emergency Plans Each organization shall designate an Emergency Planning Coordinator with responsibility for the development and updating of emergency plans and coordination of these plans with other response organizations; Plans/ Procedures shall:			

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✓-1	Identify, by title/position, the individual for developing and updating emergency plans/procedures as well as coordinating plans/ procedures with other response organizations.	12	Basic Plan, Paragraph VII.A
NUREG P.4 - Update Plans / Procedures as Needed Each organization shall update its plan and agreements as needed, review and certify it to be current on an annual basis. The update shall take into account changes identified by drills and exercises; Plans/ Procedures shall include:			
✓-1	Evidence that plans / procedures and agreements have been reviewed for accuracy and completeness of information and appropriate changes made within the last year (e.g., a signature page).	12	Basic Plan, Paragraph VII.A
✓-2	A process for correcting plan issues identified in drills and exercises.	12	Basic Plan, Paragraph VII.A
✓-3	A process for periodic update of maps.	12	Basic Plan, Paragraph VII.A
✓-4	A process for periodic updating of ingestion pathway information (e.g., a list of food processing facilities, etc.)(See also Criterion J.11).	12	Basic Plan, Paragraph VII.A
NUREG P.5 - Emergency Plans to Appropriate Organizations. The emergency response plans and approved changes to the plans shall be forwarded to all organizations and appropriate individuals with responsibility for implementation of the plans. Revised pages shall be dated and marked to show where changes have been made; Plans/ Procedures shall:			
✓-1	List the organizations and individuals who are given the updated plans/ procedures.		Plan Signature Page & Distribution List
✓-2	Identify individual(s), by title/position, responsible for distributing plans/ procedure updates and what the update cycle is.		
✓-3	Include revision bar markings or equivalent visual indicators on revised pages to reflect where changes were made and on what date, or a summary of changes in cases where changes are so numerous or extensive that revision bars are impractical.		
NUREG P.6 - Plan contains detailed listing of Supporting Plans and Sources Each plan shall contain a detailed listing of supporting plans and their sources; Plans/ Procedures shall:			
✓-1	A list of supporting radiological emergency plans/procedures.	1	Basic Plan, Paragraph I
NUREG P.7 - Plan contains Appendix listing Procedures to Implement Plan Each plan shall contain an appendix listing, by title, procedures required to be implemented the plan. The listing shall include the section(s) of the plan to be implemented by each procedure; Plans/ Procedures shall:			
✓-1	Include a list of all implementing procedures associated with the body of the plan. The list indicates which section(s) of the plan are implemented by each procedure.		All annexes contain Action Guides Describing implementing procedures
NUREG P.8 - Plan contains Table of Contents Each plan shall contain a specific table of contents. Plans submitted for review should be cross-referenced to these criteria; Plans/ Procedures shall contain:			
✓-1	A specific table of contents	v	Table of Contents
✓-2	A cross-reference between the plans / procedures and the NUREG-0654 / FEMA-REP-1 Evaluation Criteria.		Cross Reference
NUREG P.10 - Organizations provide updated Telephone Numbers Each organization shall provide for updating telephone numbers in emergency procedures at least quarterly; Plans/ Procedures shall indicate:			
✓-1	Who, by title/position, is responsible for quarterly updates of each procedure that contains telephone numbers.	12	Basic Plan Paragraph VII.A.2.