RADIOACTIVE MATERIALS TRANSPORTATION ACCIDENT PLAN (RAMTAP)

The reliance upon, and use of, radioactive material in agriculture, industry, and medicine continues to increase. As the manufacture, use, and disposal of radioactive material has increased, so has the need to transport it. Consequently, the potential for a transportation accident involving radioactive materials has also increased.

I. Purpose

It is the purpose of this plan to:

A. Serve as a guide for State agencies and to provide guidelines to assist local planners.

B. Provide an effective means for State agencies to interface with local governments in response to any transportation accident involving radioactive material (i.e., high-level radioactive waste, low-level radioactive waste, radioactive fuel for both irradiation facilities and nuclear power stations, yellow cake, nuclear weapons and components, etc.), which is transported in and through Nebraska.

C. Provide reasonable assurance that government efforts will be directed towards mitigating the consequences of such accidents and appropriate measures will be taken to protect health and safety of the general public and prevent damage to property.

D. Delineate responsibilities and provide for cooperation and coordination of State agencies with local governments and their emergency response agencies, to include coordination with other states in an effective response to accidents involving radioactive materials throughout Nebraska.

II. Authority

The Nebraska Radioactive Materials Transportation Accident Plan (RAMTAP) is adopted pursuant to the Nebraska Emergency Management Act of 1996 as amended (§81-829.35 to 81-829.75) and the Radiation Control Act as amended (§71.3501 to 71.3520). For this plan, "radioactive material" means any material having a specific activity greater than 0.002 microcuries per gram (µCi/gm) [49 CFR 173.403].
III. Situation

A. Nebraska has (2) two nuclear power generating stations located along the west bank of the Missouri River.

1. The Cooper Nuclear Station (CNS), managed by “Entergy Nuclear” through a contract with the owner, Nebraska Public Power District (NPPD), is located near the village of Brownville in the county of Nemaha, Nebraska.

2. The Fort Calhoun Nuclear Station (FCNS) operated and managed by “Exelon Corporation” through a contract with the owner, Omaha Public Power District is located near city of Blair in the county of Washington, Nebraska.

3. Both nuclear power generating stations are using “dry cask” storage areas located at their facilities for spent nuclear fuel in order to make room within their spent nuclear fuel pools.

4. Both nuclear power generating stations are refueled approximately every 18 months.

B. There are four (4) irradiation facilities located within the borders of Nebraska. These facilities use Cobalt-60 as fuel in 24-inch “pencils” to irradiate items and the irradiation facilities replace the “pencils” every 12 to 18 months.

C. There is one uranium mine located at Crow Butte just outside Crawford, NE which mines, processes and ships yellow cake on a regular basis to Canada.

D. In the panhandle of Nebraska, there are Minuteman Missile Launch Sites that maintain the U. S. land-based leg of the nuclear deterrent which require routine maintenance and replacement.

E. In addition to the above, Nebraska has several moisture density gages, radiography sources and other radioactive sources used for measuring density or taking pictures of objects. Many of these are constantly being transported in and through Nebraska.

F. Radionuclides in Medicine

1. Some Nebraska hospitals have gamma knives used to treat cancer which must have new radioactive sources installed on a regular basis.
2. Radiopharmaceuticals are used at medical centers and transported throughout Nebraska by highway or by air.

G. Nebraska is a major transportation corridor state.

1. Major Highway Systems Include:

a. Interstate 80 running west from the Iowa-Nebraska State Line to the Nebraska-Wyoming State Line.

b. Interstate 680 running from the Iowa-Nebraska State Line through the northeast side of Omaha to Interstate 80 on the western side of Omaha.

c. In southern Nebraska, State Highway Route 2 running from the Iowa-Nebraska State Line west through Lincoln, NE and linking with Interstate 80.

d. In northern Nebraska, U. S. Highway 20 running from the Iowa-Nebraska State Line west to the Nebraska-Wyoming State Line.

e. In eastern Nebraska, U. S. Highway 75 running from the Kansas-Nebraska State Line through Omaha north to the Iowa-Nebraska State Line.

f. In eastern Nebraska, U. S. Highway 81 running from the Kansas-Nebraska State Line through York, Columbus and Norfolk north to the Nebraska-South Dakota State Line.

g. In east-central Nebraska, U. S. Highway 281 running from the Kansas-Nebraska State Line through Hastings, Grand Island and O’Neill north to the Nebraska-South Dakota State Line.

h. In west-central Nebraska, U. S. Highway 83 running from the Kansas-Nebraska State Line through McCook, North Platte, Thedford and Valentine north to the Nebraska-South Dakota State Line.

i. State Highway 61 running from the Kansas-Nebraska State Line through Ogallala, Hyannis and Merriman north to the Nebraska-South Dakota State Line.

j. U. S. Highway 385 running from Sidney, Nebraska through Bridgeport, Alliance and Chadron north to the Nebraska-South Dakota State Line.
k. State Highway 71 running from the Colorado-Nebraska State Line through Kimball Scottsbluff and Crawford north to the Nebraska-South Dakota State Line.

l. See Map #1 – “Transportation Corridors in Nebraska” below for details.

Map #1 – Transportation Corridors in Nebraska

2. Major Railroad Systems

a. The Burlington Northern and Santa Fe (BNSF) Railroad has rail lines that run both north to south and east to west. BNSF has not participated in any major radioactive material shipping campaigns to date.

b. The Union Pacific (UP) Railroad has rail lines that run both south to north and east to west. The east to west lines, either enter at the Iowa-Nebraska State Line or the Kansas-Nebraska State Line and either exit at the Colorado-Nebraska State Line or the Wyoming-Nebraska State Line. The UP has participated in high-level and low-level radioactive waste shipment campaigns.
c. See Map #2 – “Railroad System of Nebraska” below for more details.

H. Radioactive Material Shipments

1. Nebraska is a primary transportation corridor for shipments of radioactive material and for radioactive waste. Facilities that require radioactive material for refueling within Nebraska result in some shipments of radioactive material in Nebraska. By far though, the majority of shipments are due to all the radioactive waste disposal sites being located to the west and south of Nebraska. To get the majority of high-level and low-level radioactive waste to disposal sites requires that the shipments come through Nebraska either by Highway or Rail.

2. Military Shipments

   a. The U.S. Department of Energy (DOE) presently covertly ships naval nuclear reactor spent fuel by rail from the east and west coasts of the U.S. DOE also covertly ships nuclear warheads and components for military installations to Texas or from Texas to the various military installations requiring them.

   b. The U.S. Navy ships spent nuclear fuel from nuclear naval vessels at various naval installations via rail to storage facilities.
3. DOE Legacy Waste Shipments

a. DOE ships radioactive waste from facilities such as Hanford, Washington, Pacific Northwest National Laboratory, Richland, Washington, Lawrence Livermore and Lawrence Berkeley in California to the Oak Ridge National Laboratory, Savannah River National Laboratory or Paducah, Kentucky for various reasons including characterization of waste before it is disposed of.

b. DOE ships radioactive waste from Oak Ridge, TN and Savannah, SC and other east coast locations to the Idaho National Laboratory for characterization, packaging or staging prior to disposal.

4. DOE Waste Isolation Pilot Plant (WIPP) Shipments

Another type of legacy waste is transuranic waste which is shipped in either a Type B cask that can carry “contact-handled” waste or another Type B cask that can carry “remote-handled” waste. These shipments come from all over the U. S. and are destined for the Waste Isolation Pilot Plant (WIPP), Carlsbad, NM where it is buried in a salt sea bed 2,150 feet below the surface of the desert. When WIPP is in operation, the number of shipments through Nebraska can range from approximately two (2) a month to four (4) a week.

5. See Map #3 on the following page which reflects the major shipping routes used by DOE.

MAP #3 – “Interstate System Used for DOE Shipment"
IV. Assumptions and Planning Factors

A. Assumptions

1. As long as radioactive materials continue to be used day to day in agriculture, industry and medicine they will need to be transported by highway, rail and air to the end user.

2. As long as nuclear power continues to be used within the United States, high-level radioactive waste will continue to be generated and will need to be transported to either regional or national repositories by barge, highway and rail.

3. The U. S. Department of Transportation regulates the safe transportation of radioactive materials including which type of container is required for the amount of radioactive material transported.

4. The U. S. Nuclear Regulatory Commission regulates radioactive material and radioactive waste and approves the licensing of Type B transportation cask.

5. The U. S. Department of Energy is responsible for the safe and uneventful transportation of radioactive waste under their purview.

B. Planning Factors

1. In spite of the most stringent regulations and the most robust packaging used, there will be transportation accidents involving radioactive material and radioactive waste.

2. In the event of a transportation accident involving radioactive materials, the likely release of radioactive material negligible.

3. The risk of death or injury due to a release of radioactive materials from a radiological transportation accident is insignificant. Death and/or injury may occur due to the transportation conveyance or cargo containers.

4. The highway and railroad routes selected for the shipment radiological materials will dictate where additional planning, public information, emergency response training and radiological equipment will have to be concentrated.
V. Responsibilities

A. Shipper, Carrier and Licensee

The shipper, carrier and licensee must be in compliance with all Federal, State and local laws. The shipper, carrier and licensee are responsible for notifying the appropriate State and local authorities of an accident or incident involving the transportation of radioactive materials; providing expertise and shipping information to Federal, State and local emergency response personnel; providing equipment and personnel for cleanup and recovery of the accident/incident site; and reimbursing State and local emergency response agencies for all documented expenditures of all personnel time, equipment use, consumables resulting from the emergency response as well as for cleanup and recovery of the accident/incident site.

B. Local Government (Responsible Political Sub-Division)

1. The local government is defined as that responsible political sub-division which authorizes, regulates or is otherwise deemed responsible for the health, welfare and protection of citizens and property within the geographical boundaries in which a radioactive materials transportation accident has occurred.

2. Local Governmental Authorities have primary responsibility in performing emergency response functions in their respective jurisdictions. Local Emergency Management Directors/Coordinators, County Sheriffs, Police Chiefs, and Fire Marshals/Chiefs will provide their normal emergency services for a transportation accident involving radioactive materials. This includes the responsibility for having trained radiological monitors, maintaining current rosters of trained personnel and maintaining adequate radiological instruments and equipment.

3. In many cases, shippers/carriers/licensees may be unable to exercise their responsibilities quickly enough to protect the public from the consequences of a radiological accident. Local Governmental Authorities must be prepared to effectively initiate life-saving and protective measures. In functional terms related to transportation accidents involving radioactive materials, this includes:

   a. Emergency planning
   
   b. Information gathering and exchange
   
   c. Situation analysis
d. Evacuation and shelter of persons threatened

e. Rescue and medical care

f. Supporting radiological monitoring activities

g. Fire fighting

h. Area security

i. Movement control

j. Public information

k. Direct protective countermeasures and decontamination when recommended by appropriate technical authorizes.

l. Coordination of emergency operational resources

m. Alerting the Nebraska Emergency Management Agency (NEMA) and other governmental agencies.

n. Alerting volunteer and charitable organizations and requesting additional resources from the State as required.

C. State Government

1. Governor

As required by the Nebraska Emergency Management Act of 1996, as amended, the Governor is responsible “for meeting the dangers to the State and people caused by disasters, emergencies and civil defense emergencies”. In the event of a transportation accident involving radioactive materials which is beyond the control of the local government, the Governor may assume direct operational control over part or all of the emergency management functions. The governor may issue disaster proclamations and make, amend and rescind orders, rules and regulations to accomplish the objectives of the Nebraska Emergency Management Act.

2. Nebraska Adjutant General – State Emergency Management Director

The Emergency Management Act of 1996, as amended, mandates that the Nebraska Adjutant General is the State Emergency Management Director. The State Emergency Management Director is designated by the Governor to act as the Governor’s Authorized
Representative (GAR). Under the direction of the Nebraska Emergency Management Director, the Nebraska Emergency Management Agency (NEMA) is responsible for:

a. Coordinating State disaster response in support of Local Governmental Authorities.

b. Implementing programs for disaster prevention, preparedness, response and recovery, including the establishment of State Emergency Response Teams.

c. Coordinating with appropriate Federal agencies.

d. Assisting Local Governmental Authorities in emergency planning activities.

e. Coordinating disaster operation support functions to include provisions to ensure continuity of resources.

3. Nebraska Emergency Management Agency (NEMA)

NEMA has primary responsibility for the planning and response coordination of transportation accidents involving radioactive materials. NEMA will maintain a roster of other State agencies which have capabilities and assets to assist in the implementation of this plan. Should additional assistance from other States be required, NEMA will use the Emergency Management Assistance Compact (EMAC) in coordinating any supplemental support from other states. In addition, NEMA:

a. Gathers information to evaluated emergency situations and then reports to the Governor and passes the information on to the Nebraska Department of Health and Human Services, Division of Public Health (DHHS, DPH).

b. Assists the Governor in the preparation of Proclamations and requests for Federal Assistance, notifies other State, volunteer and private agencies and coordinates assistance as required.

c. Coordinates damage assessment teams. Supports evacuation, shelter and re-entry activities. Assists Local Governmental Authorities in carrying out emergency response and recovery actions.

d. Coordinates area emergency management radiological monitoring activities, if required, to support DHHS, DPH.
e. Coordinates communications support for the State Field Liaison Team. At the direction of the Governor, coordinates and disseminates warnings.

4. Nebraska Department of Health and Human Services, Division of Public Health (DHHS, DPH)

The DHHS, DPH under the authority of Re-issued Revised Statues of Nebraska (R.R.S.) §71-3513, issues regulations and recommends actions to be taken to radiological emergencies. In addition, DHHS, DPH responsibilities include:

a. Evaluating health hazards present in a radiological transportation accident/incident.

b. Recommending level of response to be initiated by the State and Local Governmental Authorities.

c. Recommending protective actions to be established for both the public and emergency workers.

d. Providing field teams to accomplish radiological monitoring. Contacts the State Emergency Operations Center (SEOC) and or the SEOC Field Liaison Team, depending on the situation and circumstances, if additional monitoring support is needed.

e. Collecting and maintaining the status of all State radiological monitoring activities throughout the duration of the event.

f. Maintaining a record of actual exposure for all agency personnel and estimated exposure for all emergency workers and persons evacuated from the radiation hazard areas.

g. After consultation with other appropriate agencies, make recommendations as to decontamination of land and other property.

h. Prior to re-entry of evacuated persons, conduct radiological survey to determine if the area is safe to resume occupancy. Maintain a monitoring and surveillance program until no further hazard exists.

i. Coordinating with appropriate Federal agencies and with health agency personnel of adjacent states.
j. Issuing individual protection information to the public in coordination with NEMA.

k. Establishing procedures for detecting contamination and dose calculation for products in the food chain. If necessary, requesting assistance from agricultural agencies for field operations.

l. Issuing protective action measures to be used for the food chain to include criteria for deciding whether dairy animals and other livestock should be put on protected (stored) feed and covered water. Coordinating the implementation of protective measures with appropriate agricultural agencies.

5. Nebraska State Patrol (NSP)

The NSP is responsible for:

a. Maintaining order and public safety.

b. Providing traffic control and area security in the radioactive material transportation accident/incident area.

c. When required, supporting ground radiological monitoring activities in conjunction with area HAZMAT Teams.

d. When required, providing aircraft to support aerial missions calling for specialized police capabilities.

e. Supporting evacuation activities. Staffing traffic control points and assisting other State agencies securing evacuated areas. Assisting Local Governmental Authorities in the notification and implementation of evacuation plans.

f. As necessary support those NSP Troopers directly working at a radiological incident/accident site with primary communications through the use of the NSP Mobile Command Post and provide secondary or back-up communications support to other State agencies, Local Governmental Authorities, and Federal agencies as needed.

g. Providing back-up law enforcement support for radiological emergency response operations in the affected areas.

h. When required, support traffic accident investigation of the mishap involving the transportation of radiological material.
i. Verifying the CVSA (Commercial Vehicle Safety Alliance) NAS (North American Standard) Level VI inspection and compliance with regulatory requirements.  

6. Nebraska Department Environmental Quality (NDEQ)

NDEQ responsibilities include, but are not limited to:

a. Consultation with United States Environmental Protection Agency and the Nebraska Department of Health and Human Services, Division of Public Health to evaluate immediate and long-term effects of radioactive material pollution on the environment.

b. Advise on appropriate disposal of radioactive debris.

c. Provide, when necessary, alerts to downstream users and recommendations for protective actions in the event an incident affects surface or ground water.

7. Nebraska Department of Transportation (NDOT)

NDOT responsibilities include, but are not limited to:

a. Provide manpower and equipment to support operations in the disaster area.

b. Support route control during evacuation operations.

c. As required, provide field radio communications support.

d. Organize and coordinate increased readiness measures directed against the seasonal impassability of roads.

8. Other State Agencies

As directed by the Governor, other Nebraska State governmental agencies shall provide assistance as required by Local Governmental Authorities involved with transportation accidents involving radioactive materials.

D. Federal Government

1. The Nuclear/Radiological Incident Annex of the National Response Framework (NRF) covers radiological emergencies that have actual, potential, or perceived radiological consequences within the U.S. that could require a response by the Federal Government. The level of the Federal response will be based on the type of incident, the amount of
radioactive material involved, the size and location of the emergency and the potential impact on the people and the environment.
2. The Department of Homeland Security (DHS), as the overall incident manager for Incidents managed by federal departments or incidents overwhelming states’ capabilities, is supported by the “Coordinating Agency” and the “Cooperating Agencies”. The “Coordinating Agency” has the primary responsibility for Federal activities related to the nuclear/radiological aspects of the incident. The “Cooperating Agencies” include other Federal agencies that provide technical and resource support to DHS and the “Coordinating Agency”. The “Coordinating Agency” is determined by the type of emergency. See Table 1.
Table 1

**IDENTIFICATION of the “COORDINATING AGENCY” for NUCLEAR / RADIOLOGICAL INCIDENTS**

<table>
<thead>
<tr>
<th>Type of Incident</th>
<th>“Coordinating Agency”</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Foreign, unknown or unlicensed material:</td>
<td></td>
</tr>
<tr>
<td>1. Incidents involving foreign or unknown sources of radioactive material in</td>
<td>(1) DHS/USCG</td>
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<tr>
<td>certain areas of the coastal zone.</td>
<td>(2) EPA</td>
</tr>
<tr>
<td>2. All Others</td>
<td></td>
</tr>
<tr>
<td>b. Nuclear weapon accident/incident (based on custody at time of event):</td>
<td>(1) DoD or DOE</td>
</tr>
<tr>
<td>c. Other types of incidents not otherwise addressed above.</td>
<td>(1) DHS designates</td>
</tr>
<tr>
<td>d. Foreign, unknown or unlicensed material:</td>
<td></td>
</tr>
<tr>
<td>3. Incidents involving foreign or unknown sources of radioactive material in</td>
<td>(3) DHS/USCG</td>
</tr>
<tr>
<td>certain areas of the coastal zone.</td>
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<td></td>
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</tr>
<tr>
<td>f. Other types of incidents not otherwise addressed above.</td>
<td>(2) DHS designates</td>
</tr>
</tbody>
</table>
3. As shown on above and on the previous two pages, the “Coordinating Agency” is the Federal agency which owns, has custody of, authorizes, regulates, or is otherwise deemed responsible for the radiological facility or activity involved in the incident. The following paragraphs identify the “Coordinating Agency” for a variety of radiological incidents.

a. Radiological Terrorism Incidents:
   
i. The “Coordinating Agency” provides technical support to the U.S. Department of Homeland Security (DHS), which has overall responsibility for domestic incident management, and to the Federal Bureau of Investigation (FBI) which has the lead responsibility for criminal investigation of terrorism acts or terrorist threats. The FBI also is responsible for coordinating activities of other members of the law enforcement community to detect, prevent, preempt, investigate and disrupt terrorist attacks against the United States, including incidents involving nuclear/radioactive materials (e.g., Radiological Dispersal Device (RDD)/Improvised Nuclear Device (IND) incidents).

ii. For radiological terrorism incidents involving material of facilities owned or opened by the Department of Defense (DoD) or the Department of Energy (DOE), DoD or DOE is the “Coordinating Agency”.

iii. For radiological terrorism incidents involving material or facilities licensed by the Nuclear Regulatory Commission (NRC) or Agreement States, the NRC is the “Coordinating Agency”.

iv. For all other radiological terrorist incidents, DOE is the “Coordinating Agency”. The “Coordinating Agency” role transitions from DOE to the Environmental Protection Agency (EPA) for environmental cleanup and site restoration at a mutually agreeable time, and after consultation with State, local and tribal government, the “Cooperating Agencies”, and the Joint Field Office (JFO) Coordination Group.

b. Nuclear Facilities:
   
i. The NRC is the “Coordinating Agency” for incidents that occur at fixed facilities or activities licensed by the NRC or an Agreement State. These include, but are not limited to, commercial nuclear power stations, fuel cycle facilities, DOE owned gaseous diffusion facilities operating under NRC
regulatory oversight, independent spent fuel storage installations, radiopharmaceutical manufacturers and research reactors.

ii. DoD or DOE is the “Coordinating Agency” for incidents that occur at facilities or vessels under their jurisdiction, custody, or control. These incidents may involve reactor operations, nuclear material, weapons production, radioactive material from nuclear weapons or munitions, or other radiological activities.

iii. EPA is the coordinating agency for incidents that occur at facilities not licensed, owned or operated by a Federal agency or an Agreement State, or currently or formerly licensed facilities for which the owner/operator is not financially viable or is otherwise unable to respond.

c. Transportation of Radiological Materials:

i. Either DoD or DOE is the “Coordinating Agency” for transportation incidents involving DoD or DOE materials, depending on which of these agencies has custody of the material at the time of the incident.

ii. The NRC is the “Coordinating Agency” for transportation incidents that involve radiological material licensed by the NRC or an Agreement State.

iii. DHS/U.S. Coast Guard (USCG) is the “Coordinating Agency” for the shipment of materials in certain areas of the coastal zone that are not licensed or owned by a Federal agency or an Agreement State.

iv. EPA is the “Coordinating Agency” for shipment of materials in other areas of the coastal zone and in the inland zone that are not licensed or owned by a Federal agency or an Agreement State.

d. Space Vehicles Containing Radioactive Materials:

i. The National Aeronautics and Space Administration (NASA) is the “Coordinating Agency” for missions involving NASA space vehicles or joint space vehicles with significant NASA involvement. DoD is the “Coordinating Agency” for missions involving DoD space vehicles or joint space vehicles with significant DoD involvement. A joint venture activity in which
the U.S. Government has provided extensive design/financial input; has provided and maintains ownership of instruments, spacecraft, or the launch vehicle; or is intimately involved in mission operations. A joint venture is not created by simply selling or supplying material to a foreign country for use in its spacecraft.

ii. DHS/USCG is the “Coordinating Agency” for space vehicles not managed by DoD or NASA impacting certain areas of the coastal zone.

iii. EPA is the “Coordinating Agency” for all other space vehicle incidents involving radioactive material.

e. Foreign, Unknown or Unlicensed Material:

EPA or DHS/USCG is the “Coordinating Agency” depending on the location of the incident. DHS/USCG is the “Coordinating Agency” for incidents involving foreign or unknown sources of radioactive material in certain areas of the coastal zone. EPA is the “Coordinating Agency” for all other incidents involving foreign, unknown, or unlicensed radiological sources that have actual, potential, or perceived radiological consequences in the United States or its territories, possessions or territorial waters. The foreign or unlicensed source may be a reactor, a spacecraft containing radioactive material, or imported radioactively contaminated material. Unknown sources of radioactive material, also termed “orphan sources”, are those materials whose origin and/or radiological nature are not yet established. These types of sources include contaminated scrap metal or abandoned radioactive material.

f. Other Types of incidents:

For incidents not covered above, DHS, in consultation with other coordinating agencies, designates a “Coordinating Agency”. DHS is responsible for overall coordination and becomes the designated “Coordinating Agency”.
VI. Concept of Operations

A. Command and Control

1. Local Government

   a. An incident commander (IC) is designated at any radioactive material transportation accident following the National Incident Management System and established procedures of Local Governmental Authorities in whose jurisdiction the accident occurs.

   b. The IC will be the point of decision for implementation of protective actions as recommended by scientific/technical advisors.

2. State

   a. The State’s initial response actions will be based on the priority needed to rapidly begin health hazard assessment by the Nebraska Department of Health and Human Services, Division of Public Health (DHHS, DPH) and the Nebraska Department of Environmental Quality (NDEQ) as required. DHHS, DPH will make early recommendations as to the potential scope of the initial State response operation and will coordinate support requirements with the Nebraska Emergency Management Agency (NEMA). Much will depend on the incident, radioactive material involved, packaging used and/or if there was a radiation or radioactive material release as well as travel time to the incident scene. Thus a wide range of response effort must be adjusted to meet the urgency of the situation.

   b. On receipt of information indicating the need for State response, the State Emergency Operations Center (SEOC) may be activated and a State Emergency Proclamation may be made by the Governor. State agencies having responsibilities under this plan will be notified and kept informed of the progress of the incident.

   c. When the SEOC is activated, ESF Coordinators will relocate to the SEOC and establish contact with their personnel in the field. If the decision is made to send a State Field Liaison Team to the accident/incident scene, the SEOC will coordinate needed support arrangements.
d. A Governor's Authorized Representative (GAR) may relocate from the SEOC to the accident/incident scene and operate with the State Field Liaison Team. If relocated, the GAR will coordinate State resources responding to the emergency based on requests from the Incident Commander (IC) or DHHS, DPH.

e. The SEOC will maintain close coordination with the State Field Liaison Team to ensure exchange of information and will be the principle point of contact with the SEOCs of adjacent states.

f. Throughout the duration of the emergency the SEOC, the State Field Liaison Team, and the local EOC will provide resources as requested by the IC and serve to coordinate those resources for the IC as needed. The SEOC or if operational, the State Field Liaison Team will be the focal point for coordination of outside assistance to the IC or local EOC depending on the requester.

g. Early efforts will be made to initiate coordination with the emergency management organization of the carrier (whether air, motor, or railroad) concerned. DHHS, DPH and if required, NDEQ personnel, will work with Local Governmental Authorities and shipper/carerriers representatives to begin orderly planning for the eventual clean-up (decontamination, removal of debris and radioactive materials, etc.) and recovery (re-entry, return area to pre-accident condition).

B. Radiological Assessments

1. Initial assessment may be conducted by local emergency response agencies involved. If radiological assessment is beyond the capabilities of the local agencies, NEMA, based on the requirements of Local Governmental Authorities, will contact DHHS, DPH and other agencies as necessary to complete a radiological survey of the incident scene. After the survey, DHHS, DPH may declare that a radiological hazard exists and may direct that a control zone be established and maintained until the hazard is removed.

2. While DHHS, DPH will provide assistance, local emergency response agencies are responsible for the control of radiation exposure to emergency first responders, including emergency medical personnel, and the general public.
C. Containment

1. Containment actions are those initial actions necessary to protect the public health, safety, welfare and the environment. Such actions include, but are not limited to:

   a. Providing first aid to the injured.
   
   b. Securing the area, keeping unauthorized personnel away from the incident to the extent possible.
   
   c. Ensuring the Incident Command Post, Staging Area, etc. are upwind of the incident/accident scene.
   
   d. Obtaining the names, addresses and telephone numbers of all persons involved.
   
   e. Detaining non-injury persons involved in the incident/accident until monitored and found free of any contamination.
   
   f. Determining if other hazardous materials are present, which hazards are greater, and taking such actions as necessary to reduce the dangers and damage presented by the greater hazards.
   
   g. Building coffer dams to prevent run-off of radioactive materials, but only if trained and qualified personnel are available.

2. If it is determined that a radiological hazard exists and based on a request from the chief executive of the local government, DHHS, DPH will oversee and coordinate all activities necessary to minimize or eliminate the hazard.

3. Additional containment actions such as patching and repackaging shall be performed by personnel from the carrier, shipper or their contractors under the direction of the Local Governmental Authorities and with the advice and consent of DHHS, DPH and NDEQ when applicable.

4. In those situations where nuclear weapons or weapons components are involved, the U.S. DOE Radiological Assistance Program (RAP) Team will provide technical support to the U.S. DOE National Nuclear Security Administration which operates and provides security for these shipments.
D. Mitigation and Recovery

1. Once the radiological hazard is secured and no further containment measures are necessary, actions will be taken to recover and dispose of the radioactive material from the affected areas. Mitigation and recovery actions shall be performed by personnel of the carrier and shipper or their contractors. Local Governmental Authorities, DHHS, DPH and as required, NDEQ, will oversee and coordinate those activities necessary to minimize or eliminate the hazard.

2. State personnel will not participate in actual mitigation and recovery activities, unless requested by Local Governmental Authorities.

3. Recovery operations will be inspected by DHHS, DPH to determine the levels of radiation reduction and radioactive contamination.

4. Once the radiological hazard has been eliminated and a determination made that no other non-radiological hazards exist, the accident scene will be declared safe by Local Governmental Authorities with advice from DHHS, DPH and as required, NDEQ.

5. Should vehicles involved in the transportation of radiological materials and were involved in the accident still be considered operational, the NSP will conduct a CVSA Level VI inspection prior to the vehicle being allowed to continue transporting any radioactive materials.

E. Radioactive Materials Transportation Accident Notification Procedure

1. Radioactive materials transportation accident notification may come from many sources. However, when the local government’s initial response agency receives a report of an accident or incident involving radioactive material, the following procedures will be implemented:

   a. Notification

      i. The first local government’s initial response agency receiving notification or becoming aware of a radioactive materials transportation accident will gather as much information as possible from the reporting party as to type of accident, injuries, road blockage, fire, spilled cargo, how it is known radioactive material is involved, on-scene point of contact, etc. for the “Radiological Transportation Accident Questionnaire”. See Attachment 1 for details.

      ii. The local government’s initial response agency will dispatch emergency response personnel and notify the Nebraska
Emergency Management Agency (NEMA) at 402-471-7421.

iii. It is **critical** that NEMA be given the *name and call-back number of* a local government **First Responder who has information** pertaining to the radiological accident/incident.

iv. The **First Responder** should be able to provide answers to the questions listed in Attachment 1 for the Health Physicist who will return the telephone call to determine if a State response is warranted and if necessary, what type of State response is necessary as well as if Federal authorities need to respond.

v. NEMA, in addition to notifying a Health Physicist with DHHS, DPH, will contact all State agencies needed to provide assistance, including but not limited to the Governor, NSP, NDEQ and NDOT. See Diagram #1. For more information on notification see paragraph VI.F.

Diagram #1 – State Notification

b. If the local government’s emergency first responder agencies dispatched to the scene do not have trained personnel and radiological detection instruments, the Incident Commander (IC), may contact either the nearest available Nebraska Hazardous Incident Team (NHIT) members through or the nearest available State Emergency Response Team (SERT) will be requested. The NHIT is requested through the NSP dispatch and the SERT is requested through Nebraska Emergency Management Agency (NEMA).
c. An alternate means of notification is through the Nebraska State Patrol to the NEMA Duty Officer. See Diagram #1 on the previous page.

2. Alerting the Public

Should it be necessary to evacuate the public or to re-route traffic, the IC may issue an Emergency Alert System (EAS) message to alert the public as to what areas are being evacuated and/or describe the route has been closed and what route to detour on.

F. Response Phases

Operation and response activities in radioactive materials incidents can be categorized into five relatively distinct phases. Each specific incident will require that knowledge, judgment and discretion to be used since all recommended actions are necessary, adequate or applicable in each case.

1. Phase I – Discovery and Notification

a. Upon notification that a radioactive materials transportation accident has occurred, the local Hazardous Materials Response Team should be activated and the Nebraska Emergency Management Agency (NEMA) notified for implementation of part or all of the State Emergency Operations Plan and this Annex, as necessary.

b. Due to the sensitive nature of the radioactive materials transportation accident which could easily cause widespread concern, public notification and warning information should be carefully prepared and be as specific as circumstances permit. Warnings should include sufficient information so the public can take appropriate protective actions. Specific hazard area limits should be given as soon as possible, and any warning information given to the public should be repeated on a periodic basis.

2. Phase II – Evaluation and Initiation of Action

a. The first emergency response agency should assume control (incident Command) over the accident area upon arrival at the scene. The Incident Commander (IC) will assess the situation and give instructions to all other emergency personnel following local response procedures and as provided by the IC’s technical training, experience and knowledge.
b. The following initial response actions should be implemented:

i. Assess the incident.

ii. Perform live-saving rescues and emergency first aid.

iii. Identify potentially contaminated individuals and control their movement.

iv. Establish control zones (e.g., hot, warm and cold) and protect the area of the incident.

v. Summon assistance (the Incident Commander [IC] will determine appropriate agency expertise required).

vi. Minimize contact with the radioactive materials.

vii. Notify a Nebraska Department of Health and Human Services, Division of Public Health (DHHS, DPH) Health Physicist through the Nebraska Emergency Management Agency (NEMA).

3. Phase III – Containment

a. The carrier and shipper shall take all appropriate and necessary initial actions to protect the public health, safety and welfare; wildlife; and the environment. Initial responders shall assess measures taken by the shipper and carrier.

b. Additional actions which may be necessary include:

i. A detailed on-site radiological assessment.

ii. Defining the area of contamination.

iii. Identifying short and long-term effects of contamination.

iv. Evaluating effectiveness of containment.
4. Phase IV – Mitigation and Recovery

a. Once the radioactive materials accident/incident area are secure and no further containment measures are necessary, actions will be taken to recover the radioactive material and to mitigate the effects of the incident. Based on a request from Nebraska Emergency Management Agency (NEMA), the Nebraska Department of Health and Human Services, Division of Public Health (DHHS, DPH) may inspect recovery and mitigation activities of the shipper and carrier, and has the right to split samples with the shipper and the carrier to ensure that proper cleanup is achieved.

b. The Mitigation and Recovery Phase shall continue until Local Governmental Authorities, in coordination with State and Federal Government as required, determine that acceptable cleanup has been achieved.

5. Phase V – Documentation and Reporting

a. Documentation of Participating Agencies’ Expenses and Losses

   i. Detailed documentation of costs incurred in radioactive materials accident/incident response is necessary for potential cost recovery and litigation purposes.

   ii. All agencies, including State and Local Governmental Authorities who respond to transportation accidents involving radioactive materials may be eligible for reimbursement of their expenses by the shipper and/or carrier. Therefore, complete and detailed documentation of all expenses incurred, actions taken at the scene and those support actions taken at the scene are required for the purpose of:

      a) Reimbursement for expenses, when applicable.

      b) Emergency response

      c) Legal claims

      d) Dose assessment

      e) Dose received

      f) Medical care
g) Accident investigation
   Statistical analysis; and

h) Planning

iii. All agencies, including State and Local Governmental Authorities who respond to transportation accidents involving radioactive materials shall submit the detailed documentation of expenses and losses to the responsible shipper and carrier and their insurance companies as applicable.

iv. The State may seek to recover response expenses from the responsible party or parties through legal procedures. All agencies incurring such expenses should contact the Nebraska State Attorney General's Office for coordination of operational and administrative cost recovery efforts.

b. Reports

i. A chronological log of events shall be provided by participating governmental agencies, both local and state, to the Director, Nebraska Emergency Management Agency (NEMA) and the Governor's Radioactive Materials Transportation Working Group (in care of the Technical Hazards Section, NEMA) within 30 days after the termination of the event. The report should also include in narrative form any pertinent information, observations, and comments on problems or recommendations for improvement and expenses incurred.

ii. The Governor’s Radioactive Materials Transportation Working Group, in conjunction with NEMA, the Nebraska State Patrol (NSP), the Nebraska Department of Health and Human Services, Division of Public Health (DHHS, DPH), the Nebraska Department of Environmental Quality (NDEQ) and any other State agency involved in the accident/incident shall convene within 30 days to review the operational incident reports to evaluate effectiveness of policies, plans and procedures for improvement purposes.

G. Response Guidance

Suggested actions for initial response, including for Local Command and Control, Containment, Mitigation and Recovery are found in Attachment 2.
H. Protective Action Guides

The U. S. Environmental Protection Agency’s (EPA) Manual of Protective Action Guides and Protective Actions for Nuclear Incidents provides protective action guides for the public and emergency first responders.

1. If there is a projected dose of 1 to 5 rem, evacuation (or, in some situations, sheltering) should normally be initiated at 1 rem.

2. The Table 2 below provides dose limit guidance for emergency first responders.

Table 2 – Guidance on Dose Limits for Workers Performing Emergency Services

<table>
<thead>
<tr>
<th>Dose Limit (rem)</th>
<th>Activity</th>
<th>Condition</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>All</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Protecting Valuable Property</td>
<td>Lower dose not practicable</td>
</tr>
<tr>
<td>25</td>
<td>Life-saving or protection of large populations</td>
<td>Lower dose not practicable</td>
</tr>
<tr>
<td>&gt;25</td>
<td>Life-saving or protection of large populations</td>
<td>Only on a voluntary basis to persons fully aware of the risks involved</td>
</tr>
</tbody>
</table>

VII. Administration and Logistics

A. Communications

1. The Incident Commander (IC) is responsible for establishing and maintaining communications with all emergency first responder agencies involved in the radioactive materials accident/incident.

2. Should State assistance be requested, the State Field Liaison Team will establish communications with the IC and coordinate communications activities of those State agencies whose assistance has been requested.
B. Equipment and Supplies

1. Initial equipment and supplies needed in an emergency response to a radioactive materials transportation incident/accident are the responsibility of emergency response agencies.

2. If demand and requirements exceed the capabilities of local governmental authorities responding to a radioactive materials transportation incident accident, including the exhaustion of mutual aide resources, requests for additional supplies and equipment will be made to the Nebraska Emergency Management Agency (NEMA) through the State Emergency Operations Center (SEOC) at 402-471-7421 or 1-877-297-2368.

C. Public Information

1. The Incident Commander (IC) is responsible for all public information released to the general public pertaining to a radioactive materials transportation accident/incident.

2. The IC may designate someone to act as the Public Information Officer (PIO) for the Incident Command Post (ICP).

3. The PIO will coordinate the release of any information through the IC.

4. The Nebraska Department of Health and Human Services, Division of Public Health (DHHS, DPH) and/or the Nebraska State Patrol (NSP) PIO in coordination with the NEMA PIO can provide assistance to the IC when requested.

VIII. Organization, Maintenance and Review

A. The organizational structure for review, revision, and distribution of this plan, as well as post-accident review shall consist of the Governor’s Radioactive Materials Transportation Action Group (RAMTAG). The Governor’s RAMTAG will meet semi-annually to review and maintain a comprehensive emergency response Radioactive Materials Transportation Accident Plan (RAMTAP), review planning guidance, review any incident which occurred since the last meeting, report resources and needs, and recommend legislation.

B. The Governor’s RAMTAG shall consist of representatives of:

1. Governor’s Policy Research Office, when participating.
2. Nebraska of Health and Human Services, Division of Public Health (DHHS, DPH), Radiation Health Experts.

3. Nebraska State Patrol (NSP), Emergency Support Function (ESF) Coordinator and Governor’s 24-Hour Warning Point Representative.

4. Nebraska Emergency Management Agency (NEMA), Planning, Training, Equipment and Governor’s Representative to the Council of State Governments, Midwestern Region (CSG-MW).

5. Nebraska Department of Environmental Quality (NDEQ), Environmental Issues as required.

6. Nebraska Department of Transportation (NDOT), Highway Issues as required.

7. Nebraska Hazardous Incident Team (NHIT), Initial State Hazardous Response Resource.

8. Public Service Commission, Rail representative when discussions of rail shipments are involved.

C. The Governor’s Radioactive Materials Transportation Action Group (RAMTAG) is responsible for updating the information and procedures outlined in this Annex. The Annex should be reviewed at least once annually.
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