# Eureka County
# Hazardous Materials Emergency Response

# Hazardous Materials Team Requirements
# and
# Evacuation Planning

prepared for

The Board of Eureka County Commissioners
Eureka, Nevada

and

Abigail C. Johnson Consulting
Carson City, Nevada

prepared by

Richard C. Moore, P.E.
2523 Dover Drive
Laramie, WY 82072
(307) 742-8197
Rmoore@wyoming.com

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# Executive Summary

The U.S. Department of Energy (DOE) has proposed a geologic repository at Yucca Mountain, Nevada for the permanent disposal of spent nuclear fuel (SNF) and high–level radioactive waste (HLW). DOE is currently considering several alternatives for transportation of SNF and HLW, including the construction of a rail line between the mainline of the Union Pacific Railroad (UPRR) and Yucca Mountain. One option for the route for this proposed rail line is the Carlin Route. This route originates in Eureka County near Beowawe and passes through Crescent Valley. Construction of the proposed rail line through Eureka County would result in very significant increases in the quantities of hazardous materials shipped through the County.

Eureka County prepared an "Impact Assessment Report" on the impacts to the County resulting from the Yucca Mountain repository and its transportation. The County concluded that there are significant public health and safety issues to the County from this project which must be addressed. The County's primary responsibility to its residents is to protect their health, safety, and welfare. The County currently does not have the capability to respond to a transportation accident involving SNF or HLW. If the Carlin rail line is constructed, the County must have a hazardous materials emergency response program. The County has proposed that a "strike force" be located at Beowawe and operated under the direction of the affected local governments to mitigate the health and safety risk (Eureka, 2001). The purpose of this report is to describe the mission, concept of operations, training, and equipment needed to develop this capability.

The health, safety and welfare of County residents is also dependent upon adequate sheltering and evacuation plans in the event of an incident resulting in the release of radioactive materials. This report, as part of the description of the emergency planning process, will also address sheltering and evacuation planning.

For almost any incident involving the release of hazardous materials, the County's First Responders will be on their own during the initial stages of the response. Therefore, the County needs to develop and maintain a continuous preparedness program. The creation of a hazardous materials response team should be conducted through a comprehensive hazardous materials emergency planning process. This process should include a review of existing plans, a hazards analysis, a capability assessment, environmental modeling, development of a hazardous materials response plan, implementation of the plan, and testing the plan. Through this process, the County can develop accurate assessments of the amount and type of equipment needed, the human resources needed to implement the plan, and the training required for firefighters, emergency medical services personnel, and full–time County employees.

A hazards analysis should be completed that includes both hazardous materials located at fixed facilities within the County and the transportation of hazardous materials through the County by rail, truck and pipeline. With an accurate knowledge of present and future hazards most likely to

be encountered, the Fire Departments can equip and train for these hazards. The County can also plan containment, sheltering, and evacuation strategies in advance for the most likely hazards.

A vulnerability analysis should be completed to provide an estimate of the vulnerable zone for each facility and transportation corridor identified in the hazards analysis step. A vulnerable zone is a geographic area around a facility or transportation corridor that has the potential of a release of hazardous materials at concentrations that would pose a threat to public health and safety if released though a spill. The estimated concentration is estimated based upon an estimated release, the rate of release, and the dispersion. Through environmental modeling, vulnerable zones can be estimated for all of the identified hazards in the County.

The County's Geographic Information System (GIS) and other computer tools can be used for both hazardous materials response planning and during actual responses to releases. The GIS is ideally suited for maintaining an inventory of facilities where hazardous materials are used and for mapping transportation corridors. The GIS can also be used to maintain an inventory emergency response equipment and where the equipment is stored.

The estimation of vulnerable zones can be completed and maintained through the GIS and related models. The topographic layers developed for the GIS can be used for the topographic input into dispersion models. Demographic factors such as total population within a vulnerable zone and persons needing special services can be mapped with the GIS. The location of essential service facilities in relationship to the vulnerable areas can also be determined.

During an actual release, the system could be used to model the dispersion of the release, providing estimates of the vulnerable zone that might need evacuated. Evacuation routes and evacuation centers can be mapped, providing tools for the emergency responders working on the evacuation and information for potential evacuees. As evacuation of areas are completed, they can be noted within the system, providing emergency response personnel with data on areas where evacuation has been completed and areas where evacuation still needs to be conducted.

An assessment of existing capabilities should include industrial facility resources, transporter resources, community resources, State and Federal resources, and other resources through local mutual aid agreements. A detailed capability assessment has not been conducted for this report. A general overview of the existing capability is provided.

When the hazards analysis, capability assessment and response area modeling are completed, the County can then begin the process of developing a hazardous materials emergency response plan. The principal elements of the plan and issues that each element should address are described in this report.

An orderly evacuation in Eureka County will be very difficult due to the limitation of available resources. Decisions on whether or not to evacuate are incident specific and must be made at the time of the incident. The on–scene Incident Commander is responsible for making decisions

regarding evacuation of a hazard area. Under Eureka County's current Hazardous Materials Response Plan, the Sheriff's Office is the Incident Commander until a hazardous materials qualified incident commander arrives on scene and accepts command. The Sheriff's Office is responsible for evacuation operations. For populations in the hazard area, a decision must be made either to evacuate or to shelter in place. Shelter in place means to advise people to stay indoors in homes, schools, businesses, or public buildings. This report contains a description of the tasks involved in conducting an evacuation.

The U.S. Occupational Health and Safety Administration (OSHA) has established minimum requirements for training for emergency response personnel responding to an incident involving hazardous materials. These requirements are contained in 29 CFR 1910.120. For fire departments, these regulations establish specific training requirements for each level of response required when responding to a hazardous materials incident. The required training levels, available training programs and the concept of operations for a response to a hazardous materials incident are described in this report.

A list of recommended equipment for the hazardous materials response team is included in Appendix A. This list of equipment is based upon the draft "Hazardous Material Spill Incident Response Equipment List" developed by the State of Nevada, equipment currently used by other communities' hazardous materials response teams, and the National Fire Protection Association. The estimated cost of obtaining the equipment listed is approximately $100,000, based upon the cost of outfitting hazardous materials teams in other communities of similar size. This is the startup cost only, and does not consider existing equipment that the County currently owns, or the cost of replacement equipment.

Eureka County has determined that they do not want volunteers to respond to a hazardous materials incident involving spent nuclear fuel or high–level radioactive waste. The County's preferred approach is to have full–time personnel respond. Two options are available to the County to meet this objective. The first option is a full– time department. The second option is a full– time cadre of hazardous materials technicians who would make up the entry team and the emergency medical services personnel operating in the warm zone. Volunteers would be used for the standby team, the decontamination team and other functions on scene.

For a full–time department, approximately 35 people are required to meet the staffing demand on a 24–hour, 365 days per year basis. The makeup of the department should include a fire chief, an assistant fire chief, and 33 firefighters. At least two of the firefighters should be trained as hazardous materials training officers. All firefighters should be trained to at least the operational level, and at least 12 should be trained to the technician level. The goal for the department should be to train all firefighters to the technician level to provide operational flexibility. The budget for personnel for a full time department of this size is estimated at $1,645,000 year. Equipment costs would be $100,000 for the first year, and then $10,000 per year for subsequent years.

Under the option for full–time hazardous materials technicians with volunteer support, a full–time cadre of hazardous materials technicians who would make up the entry team and the emergency medical services personnel operating in the warm zone. With four responders on duty at all times, it would take approximately 18 people to staff the full–time positions. Two of the full–time personnel would serve as hazardous materials trainers.

The full–time personnel would conduct all activities in the "hot zone," including rescue and spill control. Initial response to an incident would be limited until such time as the volunteers could respond to serve as the standby team and to set up the decontamination facilities. Volunteers would be responsible for decontamination and other functions on scene.

All full–time personnel should be trained to the technician level. All volunteers should be trained to the awareness level, twenty–five to thirty volunteers should be trained to the operations level, and at least 12 volunteers should be trained to the technician level. The goal for the department should be to train all firefighters to the operations level to provide operational flexibility. The budget for personnel for a this option is estimated at $846,000 year. Equipment costs would be $100,000 for the first year, and then $10,000 per year for subsequent years.

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## Introduction

The U.S. Department of Energy (DOE) has proposed a geologic repository at Yucca Mountain, Nevada for the permanent disposal of spent nuclear fuel (SNF) and high–level radioactive waste (HLW). DOE is currently considering several alternatives for transportation of SNF and HLW, including the construction of a rail line between the mainline of the Union Pacific Railroad (UPRR) and Yucca Mountain. One option for the route for this proposed rail line is the Carlin Route. This route originates in Eureka County near Beowawe and passes through Crescent Valley.

The State of Nevada estimates that if a new rail line is constructed, there will be over 14,100 rail shipments and 26,000 truck shipments to Yucca Mountain over a 38 year period. In its environmental impact analysis, DOE estimated that there would by 450 rail shipments per year and 110 truck shipments per year for their "mostly rail" scenario (Eureka County, 2001). Construction of the proposed rail line through Eureka County would result in very significant increases in the quantities of hazardous materials shipped through the County.

Even if the Carlin Route is not selected, a significant number of shipments would pass through the County on the UPRR's mainline tracks. Most of these shipments would originate at nuclear power plants and DOE facilities in the Pacific Northwest and Northern California. If no new rail line is constructed, there will be over 96,000 truck shipments to the repository. Many of these shipments would pass through Eureka County on Interstate 80.

Eureka County prepared an "Impact Assessment Report" on the impacts to the County resulting from the Yucca Mountain repository and its transportation. The County concluded that there are significant public health and safety issues to the County from this project which must be addressed. The County's primary responsibility to its residents is to protect their health, safety, and welfare. The County currently does not have the capability to respond to a transportation accident involving SNF or HLW. If the Carlin rail line is constructed, the County must have a hazardous materials emergency response program. The County has proposed that a "strike force" be located at Beowawe and operated under the direction of the affected local governments to mitigate the health and safety risk (Eureka, 2001). The purpose of this report is to describe the mission, concept of operations, training, and equipment needed to develop this capability.

The health, safety and welfare of County residents is also dependent upon adequate sheltering and evacuation plans in the event of an incident resulting in the release of radioactive materials. This report, as part of the description of the emergency planning process, will also address sheltering and evacuation planning.

## Setting

Eureka County, located in north central Nevada, has a large area (4,176 square miles) and small population. The population for the 2000 Census was 1,651. The Nevada State Demographer estimates that the current population is 1,962. The people of Eureka County reside primarily in

the unincorporated towns of Eureka (1,102), Crescent Valley (429), and Beowawe (53) (Johnson, 2002).

Total employment within the County is 3,810. Most of this employment is in the mining sector (3,450). The major employers are Newmont Gold Company, Barrick Goldstrike Mines, Inc., and various employers in the oil and gas industry.

The Fire Departments in Eureka County are all volunteer departments. Volunteer Fire Departments are located at Eureka, Diamond Valley, Pine Valley, Dunphy, Beowawe, and Crescent Valley. Fire engines located at these stations are typical of those found in rural volunteer fire departments. Each station has self– contained breathing apparatus for fire fighters. The County has hazardous materials response equipment located in the Sheriff's Office in Eureka. This equipment includes two Class A Hazardous Materials suits, decontamination equipment, and various supplies for reducing or controlling a release of hazardous materials. As discussed later in this report, a hazardous materials response requires two responders to enter a scene, with a minimum of two responders standing by for rescue, if needed. Both the entry team and the standby team should have the same level of personal protection. Therefore, Eureka County Fire Departments do not have adequate equipment to respond to an event which requires Class A Hazardous Materials suits. Any response requiring this level of personal protection should be limited to controlling access to the scene until additional equipment can be brought to the scene.

## Hazardous Materials Emergency Response Planning

There is a significant risk of incidents involving hazardous materials. This risk will increase if shipments of SNF and HLW pass through the County. For almost any incident involving the release of hazardous materials, the County's First Responders will be on their own during the initial stages of the response. Therefore, the County needs to maintain a continuous preparedness program.

The creation of a hazardous materials response team should be conducted through a comprehensive hazardous materials emergency planning process. This process should include a review of existing plans, a hazards analysis, a capability assessment, environmental modeling of response time and area, development of a specific hazardous materials response plan, and implementation of the plan. Through this process, the County can develop accurate assessments of the amount and type of equipment needed, the human resources needed to implement the plan, and the training required for firefighters, emergency medical services personnel, and full–time County employees.

**Hazards Analysis**

The hazards analysis should include both hazardous materials located at fixed facilities within the County and the transportation of hazardous materials through the County by rail, truck and pipeline. With an accurate knowledge of hazards most likely to be encountered, the Fire Departments can equip and train for these hazards. The County can also plan containment, sheltering, and evacuation strategies in advance for the most likely hazards.

The U.S. Environmental Protection Agency's (EPA) Risk Management Program and the Emergency Planning and Community Right–to–Know Act provide mechanisms for Local Emergency Planning Committees (LEPC) and Fire Departments to obtain information regarding the types and quantities of hazardous materials used at fixed facilities. Businesses are required to provide lists of hazardous substances used at their facilities on Material Safety Data Sheets (MSDS). Businesses are also required to develop emergency response plans specifically for fixed facilities that utilize hazardous materials. The Fire Departments should be involved in the development of these emergency response plans.

Hard rock mining and milling is the predominant industry in Eureka County. These types of operations typically use large quantities of blasting materials (Hazard Class 1–Explosives), acids (Hazard Class 8–Corrosives) and arsenic (Hazard Class 6–Toxics, Hazard Class 8–Corrosives). The oil and gas sector frequently uses small quantities of radioactive materials for well logging activities (Hazard Class 7–Radioactive).

Transient hazards from transportation of hazardous materials must also be included in the risk assessment. Frequently, the risk to a community from accidents during transportation of hazardous materials is higher than those posed by fixed facilities. With both Interstate 80 and the Union Pacific main line crossing the County, this is certainly the case for Eureka County, both currently and in the future if the proposed repository is constructed. The risk associated with pipelines also should be considered.

Although it is not possible to know in advance all of the hazardous materials that may pass through the community, the County should be aware of the typical hazardous materials. Responders can then be briefed and trained on the appropriate response for the most likely incidents. There are several sources of data available to communities on quantities of hazardous materials transported. The U.S. Department of Transportation (DOT) Bureau of Transportation Statistics publishes a commodity flow survey every four years. This report provides detailed information on all commodities transported within the United States. Separate reports are available for state specific commodity flows and for hazardous materials transportation. These reports are available at www.bts.gov/ntda/cfs/prod.html.

The transportation hazard analysis can be greatly simplified by using qualitative methods instead of quantitative methods. The qualitative method is based on judgement rather than measurement of quantitative data. For small communities in particular, the Fire Departments will have a good

idea of the types of materials transported that present the greatest risk (National Response Team, 2001). A U.S. DOT Research and Special Programs Administration (U.S. DOT, 2002) report provides information that can be used as a starting point for such a qualitative assessment. Nationally, trucks carry 79 percent by weight of the hazardous materials transported, and railroads carry 12 percent. The ratio is much closer when ton–miles are used, with trucks carrying 34 percent and rail carrying 35 percent. Broken down by hazard class, almost all of the hazardous materials transported by truck are Class 3, Flammable Liquids. For rail, the predominant classes transported include Class 2, Gases; Class 3, Flammable Liquids; Class 8, Corrosives; and Class 9, Miscellaneous (U.S. DOT, 2002).

Using qualitative assessment methods for fixed facilities and for transported materials for current conditions, Eureka County's hazardous materials planning process should address Class 2, Gases; Class 3, Flammable Liquids; Class 6, Toxics; Class 8, Corrosives; and Class 9, Miscellaneous. Preparedness, however, cannot be limited to just these classes. With major transportation facilities for both highway and rail crossing Eureka County, all hazard classes can be expected. The Rock Springs, Wyoming Fire Chief noted that in an informal survey, he observed all nine hazard classes on Interstate 80 in a 20 minute period. If the proposed repository is constructed and the Carlin rail line is constructed; Class 7, Radiological Materials will become the dominant hazard class transported across Eureka County.

**Vulnerability Analysis**

A vulnerability analysis is the next step after fixed facilities and transportation corridors have been identified. This analysis provides an estimation of the vulnerable zone for each facility and transportation corridor identified in the hazards analysis step. A vulnerable zone is a geographic area around a facility that has the potential to release hazardous materials subject to concentrations of hazardous materials that would pose a threat to public health and safety if released though a spill. The estimated concentration is estimated based upon an estimated release, the rate of release, and the dispersion. Through environmental modeling, vulnerable zones can be estimated for all of the identified hazards in the County.

Since wind and atmospheric conditions at the time of a spill cannot be predicted, estimated vulnerable zones should be calculated for all wind directions. These estimated zones will be circular around fixed facilities, and a broad corridor along transportation routes. The size of a vulnerable zone depends upon the quantity of hazardous material released, the physical state of the material (solid, liquid, gas), the conditions in which the material is stored (temperature, pressure), meteorological conditions and topography. Wind speed and atmospheric conditions have the greatest effect. Various computer modeling systems are available to predict dispersion for a hazardous materials release.

The estimated vulnerable zones are used for initial screening of facilities that might adversely effect population in the County. With the estimated vulnerable zones and population distribution

data, emergency responders can begin the process of preplanning response actions and evacuations.

Actual vulnerable zones are based upon the wind and atmospheric conditions at the time of a release. With data gathered during the planning process described above, and adequately calibrated dispersion models, the population at risk where evacuation may be needed can be readily identified.

**Use of Computerized Systems for Planning and Response**

The County's Geographic Information System (GIS) and other computer tools can be used for both hazardous materials response planning and during actual responses to releases. The GIS is ideally suited for maintaining an inventory of facilities where hazardous materials are used and for mapping transportation corridors. The GIS can also be used to maintain an inventory emergency response equipment and where the equipment is stored.

The estimation of vulnerable zones can be completed and maintained through the GIS and related models. The topographic layers developed for the GIS can be used for the topographic input into dispersion models. Demographic factors such as total population within a vulnerable zone and persons needing special services can be mapped with the GIS. The location of essential service facilities in relationship to the vulnerable areas can also be determined.

During an actual release, the system could be used to model the dispersion of the release, providing estimates of the vulnerable zone that might need evacuated. Evacuation routes and evacuation centers can be mapped, providing tools for the emergency responders working on the evacuation and information for potential evacuees. As evacuation of areas are completed, they can be noted within the system, providing emergency response personnel with data on areas where evacuation has been completed and areas where evacuation still needs to be conducted.

## Capability Assessment

An assessment of existing capabilities should include industrial facility resources, transporter resources, community resources, State and Federal resources, and other resources through local mutual aid agreements. A detailed capability assessment has not been conducted for this report. A general overview of the existing capability is provided. For each category of resource, the County may want to determine the personnel and equipment that is currently available.

The industrial facilities in Eureka County consist primarily of mining operations. Onsite emergency response equipment for each of the major facilities should be determined. Emergency response equipment includes firefighting equipment, personal protective equipment, communications equipment and heavy equipment, such as earth moving equipment or cranes, that could be used at an emergency scene. The personnel trained in hazardous materials emergency response should also be determined.

Transporter resources are more difficult to determine, unless a single company is making numerous shipments through the community. Generally, all transporters of hazardous materials are required to have a contractor available to contain and cleanup spills of hazardous materials. These contractors, however, will generally not be available during the initial response phases. Community resources include fire departments, law enforcement agencies, emergency medical services, clinics, public works departments, school districts and volunteer organizations such as the Red Cross. For each agency, the area of responsibility and primary contact should be listed. Equipment, trained personnel, and other resources that the agency can provide should also be listed.

Any mutual aid agreements with neighboring counties should be included in the capability assessment. The same information as described for community resources should be listed. The availability of assistance from State agencies should also be assessed. The Nevada Highway Patrol will have trained hazardous materials responders that may be available for transportation incidents. For radiological incidents, the State Health Department can provide technical assistance.

Finally, assistance available from federal agencies should also be assessed. The Department of Energy provides assistance for radiological incidents, and can provide a radiological response team under its Radiological Assistance Program. For extreme cases of hazardous materials incidents, additional federal resources can be made available. Over 95 percent of all incidents, however, are handled at the State and local level (NRT, 2001).

For Eureka County, the existing capability for responding to a hazmat incident is very low. As discussed in the next section, any response to a hazardous materials incident requires a minimum number of trained and equipped personnel. Until the minimum number of adequately trained and equipped personnel are available, response actions should be governed by guidance provided in the Emergency Response Guidebook for first responders during the initial phase of an incident (DOT, 2000).

## Hazardous Materials Emergency Response Plan

When the hazards analysis, capability assessment and response area modeling are completed, the County can then begin the process of developing a hazardous materials emergency response plan. The plan may either be an appendix to a multihazard plan or a stand alone single–hazard plan. It is usually preferable to write the plan as an appendix to an emergency operations plan. The same first responders (law enforcement, fire, emergency medical services) usually respond to an incident regardless of the hazard. Also, incidents frequently involve more than one hazard (*e.g.* fire, hazardous materials). A multihazard emergency operations plan focuses upon the general properties of all hazards first and then looks at the unique aspects of different hazards avoids creating different response structures for different hazards. Developing a single–hazard emergency response plan requires less time and resources (NRT 1, 2001). Therefore, it may be the preferable option when there are insufficient resources to develop a multihazard plan or to

update an existing multihazard emergency operations plan to include a hazardous materials emergency operations plan.

A sample format for an emergency operations plan is provided in the *State and Local Guide (SLG) 101: Guide for All–Hazard Emergency Operations Planning* (FEMA, September 1996). Using this format, the basic elements of the plan should include:

*Introductory Material*
*Purpose*
*Situation and Assumptions*
*Concept of Operations*
*Organization and Assignment of Responsibilities*
*Administration and Logistics*
*Plan Development and Maintenance*
*Authorities and References*

Sample outlines for a hazardous materials emergency response plan are included in Appendix B.

The principal elements of the plan and issues that each element should address are described below:

**Initial Notification**

The plan should clearly delineate which agencies are notified when a hazardous materials incident is reported. This includes local response agencies and appropriate state authorities. The plan should also provide the method of notifying nearby communities if the initial assessment indicates that a spill or release may affect these communities. Specific methods of notifying volunteers and off–duty personnel should be addressed, particularly for those personnel who have specific training and/or responsibilities for hazardous materials emergency response.

**Response Levels**

The plan may include an incident response classification system. The incident levels are based upon both the incident conditions and the risk or hazard posed by the incident. An example for classifying incidents is a three tier incident classification system, with Level 1 being the lowest and Level 3 the highest. Level 1 incidents are generally small containers, low fire or explosion potential, on a small release, and no life threatening situation. Level 3 is a large container, high fire or explosion potential, release not controllable, and severe life safety threat.

**Site Safety**

The Hazardous Waste Operations and Emergency Response Standard (29 CFR 1910) requires that an incident command system be implemented for the emergency response actions for all

hazardous materials incidents. An Incident Command should control all emergency response actions. All response actions should follow written standard operating procedures (NFPA 471, 2002).

The incident management system must include a system to maintain accountability for all personnel performing activities at the scene of the incident. The system should account for all personnel entering and leaving the contaminated area where personal protective equipment is required.

The response plan developed for an incident should also include consideration of adequate rest and rehabilitation for responders performing activities at the scene. Medical evaluation, adequate food and fluids, and climatic conditions should be included when developing response plans for an incident.

**Control Zones**

Control zones should be established as soon as possible during an incident. Control zones normally include the Hot Zone, Warm Zone, and Cold Zone. The Hot Zone includes the contaminated area and extends far enough away from the hazard to prevent adverse effects on personnel. The Warm Zone is where the control point for access to the contaminated area is established, and is where decontamination takes place. The Cold Zone includes the command post, support facilities, and staging areas.

**Communications**

Effective communications systems must be established for personnel working in the hot zone. When radios are used, the equipment must be selected based upon the respiratory protection required at the scene. Radios should use a dedicated frequency and should not be on a frequency used by other agencies. Back up communication systems, such as hand signals, should also be established.

**Monitoring Equipment**

Appropriate monitoring equipment for the hazards encountered should be used. A maintenance and calibration schedule for all monitoring equipment should be developed. Examples of monitoring equipment include (NFPA 471, 2002):

Oxygen meters
Combustible gas indicator
Carbon monoxide meter
pH meter
Radiation detection instruments
Colorimetric detector tubes

Organic vapor analyzer
Photo ionization meter
Air sampling devices
Chlorine meter
Hydrogen sulfide meter

**Personal Protective Equipment**

Personal protective equipment should be available to protect against all hazards likely to be encountered, considering chemical, thermal, and physical hazards. OSHA requires that a written program for personal protective equipment be established (29 CFR 1910). The written program should cover selection, use, storage, maintenance and training. Personal protective equipment includes respiratory protection, chemical–protective clothing, and thermal protection.

Protective clothing is classified by level of protection. Level A equipment protects skin, respiration and eyes. It includes a pressure–demand full face piece, self–contained breathing apparatus (SCBA) and vapor–protective suit. Level B equipment is used when highest level of respiratory protection is needed, but less protection of the skin is required. It includes a pressure–demand full face piece, SCBA, and hooded chemical resistant clothing. Level C is used only when the type and concentration of hazardous material is known, and is within the limits for air purifying respirators. It includes air purifying respirators and hooded chemical resistant clothing. Level D offers only minimal protection, and consists basically of coveralls.

**Incident Mitigation**

Confinement and containment of a spill is the first line of defense. Confinement and/or containment are used in the early stages of response to an incident when confinement and/or containment can reduce the risk to personnel and the environment. Physical and chemical methods may be used at this stage of the response. Physical methods include the use absorptive materials, covering the hazardous material, dilution, overpacking, plugging, venting, and dikes or dams to retain or divert the spill. Chemical methods include adsorption; controlled burning; neutralization; solidification; and vapor suppression.

A hazardous materials response team should be equipped with materials to implement incident mitigation. It is not feasible to carry all the materials that might be needed. Therefore, it is preferable to carry materials, such as booms, that can be used to contain or confine a wide variety of materials.

**Decontamination**

Every hazardous materials incident poses the threat of contamination to the public, first responders and the environment. It is essential that planning for decontamination begin early during the incident. Except for the rescue of injured, first responders should not enter a

contaminated area unless decontamination is available. The goal of decontamination is to contain the hazard in the hot zone and the decontamination corridor in the warm zone without posing a threat to the first responders.

The decontamination process reduces and controls the spread of contamination by physically or chemically removing contamination. The first step in decontamination is prevention. Work in contaminated areas should be minimized to the extent possible. Disposable protective equipment and clothing can be used where appropriate to avoid having to decontaminate the equipment.

Decontamination personnel should wear the same level of personal protective equipment as required for entry into the hot zone. Physical methods of decontamination include removal of contaminated clothing, absorption, brushing, and washing. Proper removal of contaminated protective clothing is essential to prevent spreading the contamination to the responder. Materials used for decontamination, especially liquids, must be contained to avoid spreading contamination. Chemical methods are available to decontaminate equipment. Proper monitoring is necessary to ensure that the decontamination is complete. Decontamination equipment usually includes tarps, pools, brushes, soaps, sponges, spray bottles, and towels (NPFA 471, 2002)

For contaminated personnel not wearing personal protective equipment, such as the general public contaminated by the incident, field decontamination should be considered "contamination reduction." Decontamination should be completed for these personnel at a medical facility Which has the resources for complete decontamination of the affected people. Arrangements should be made in advance with the appropriate facilities.

## Evacuation

**Background**

Evacuation planning depends first and foremost on the unknown human factor. (Cutter, 1984) The range of response by the public to an event may be largely unknown, and is difficult to incorporate into evacuation plans. While panic may not ensue, citizens may not follow evacuation orders, either the suggested time frames for evacuation or the suggested routes.

Selective evacuation based upon plume direction or contaminated areas also does not work well. It is difficult to accurately describe the area to be evacuated so that people understand, although environmental modeling will help predict plume dispersion and response areas. One also cannot assume that people not in the area described for evacuation will stay in place. Therefore, evacuation planning must be broad enough to accommodate a much larger population than just the targeted population to be evacuated.

The behavior of residents of an area during evacuations is well known. The decision to stay or evacuate, and the timing of departure varies significantly with the demographic attributes of the

residents. (Zalinksky, 1991) Women are more likely to evacuate than men; younger people are more likely than older people. Most families with small children will evacuate. Families with income higher than average evacuate in greater number. Pregnant women evacuate at a much higher rate than any other category, particularly when the cause of the evacuation is the release or potential release of a toxic chemical. Less educated evacuate at lower rates than the educated. Lower income families evacuate at a lower rate than average income.

The public response to the accident at the Three Mile Island Nuclear Power Plant clearly demonstrates that people will react much differently to a nuclear accident. In response to the incident at Three Mile Island, residents evacuated spontaneously with little official direction. Some left within hours of hearing of the event. Over 144,000 persons, or 39% of the population within 15 miles of the plant evacuated. (Zalinksky, 1991) Although estimates of the total number of evacuees vary, it is generally agreed that over 200,000 people evacuated the area. One of the most striking attributes of this evacuation compared to other non-nuclear evacuations is that the number of evacuees and their geographic range far exceeded expectations. Although an evacuation advisory for children and pregnant women was issued, no formal evacuation order was given. The high rate of evacuation in this event is attributed to the public's heightened awareness and fear of radiation plus the uncertainties of an unfamiliar hazard, one that could not be seen, heard, smelled, felt, or otherwise sensed. (Zalinksky, 1991; Cutter, 1984) A similar spontaneous evacuation would undoubtedly occur in response to nuclear accidents described in Eureka County. The attempt by people unaffected by the accident to evacuate would further complicate the situation.

**Vulnerable Zones**

Although not necessary as part of evacuation plan development, Eureka County may wish to conduct a vulnerability analysis for facilities in the county that handle hazardous materials and for transportation routes where hazardous materials are transported. Areas where a vulnerability analysis could be conducted are determined by the hazards analysis discussed above.

A vulnerability analysis provides an estimate of the vulnerable zone around each facility that uses hazardous materials and along transportation corridors. It identifies the population within each vulnerable zone by numbers and types. Sensitive populations such as schools and day care centers are identified. Essential service facilities such as medical clinics, sheriff and fire stations, emergency response centers, and communications facilities are also identified.

At the time of a release, the vulnerable area will generally be downwind only. Since wind direction is variable, the vulnerability analysis should consider all possible plume paths. For fixed facilities, the vulnerable zone will be a circle around the facility. For transportation facilities, the vulnerable zone will be a corridor on each side of the highway or railroad.

Determining the size of the vulnerable zone is complex, depending on factors such as quantity of material released, the state of the material (gas or liquid), conditions at the time of release (temp,

pressure) and meteorological conditions (wind speed, atmospheric stability). For transportation facilities, the vulnerable zone is usually a band approximately one mile wide.

**Evacuation Considerations**

An orderly evacuation in Eureka County will be very difficult due to the limitation of available resources. Decisions on whether or not to evacuate are incident specific and must be made at the time of the incident. Also, the evacuation distance around the incident to evacuate must be incident specific. The estimated vulnerable zone, if previously calculated, should not automatically be used. Variable factors to be considered include wind speed and direction, temperature, humidity, atmospheric dispersion conditions, and time of day. For a given incident, the evacuation zone is the pathway through which the plume might move given the above considerations. The zone may change during the course of the evacuation if wind direction or other conditions change.

The on–scene Incident Commander is responsible for making decisions regarding evacuation of a hazard area. Under Eureka County's Hazardous Materials Response Plan, the Sheriff's Office is the Incident Commander until a hazardous materials qualified incident commander arrives on scene and accepts command. The Sheriff's Office is responsible for evacuation operations. Making a decision to evacuate requires a comprehensive effort to identify the hazard, its effect on people, and the nature and circumstance of the spill. The Emergency Response Guidebook provides some guidance on initial evacuation distances. For example, for radiological materials, the initial evacuation distance is 1000 meters (330 feet). If fire is involved, the initial evacuation distance is 300 meters (1000 feet). These evacuation distances should be considered valid for the first 30 minutes of an event only. After that, evacuation distances must be based upon the incident specific conditions.

Factors the Incident Commander should consider before ordering an evacuation include the amount of material spilled, the chemical and physical properties of the spill, the health hazards, dispersion, atmospheric conditions, the rate of release of material, and the expected duration of the release. Life safety factors should also be considered, including whether an area is currently in the hazard area, or is only threatened.

For populations in the hazard area, a decision must be made either to evacuate or to shelter in place. Shelter in place means to advise people to stay indoors in homes, schools, businesses, or public buildings. It includes precautions such as closing all doors and windows and shutting off air conditioners and ventilation systems. It is used when there is little time to react to an incident, and it would be more dangerous to be outside trying to evacuate that it would be to stay indoors. Rescue from a hazard area may require providing personal protection equipment to the people being rescued.

For populations in a threatened area, the Incident Commander should consider whether or not the evacuation can be completed before the hazard reaches the area. It must be kept in mind at all times that evacuation requires significant lead time and significant resources.

**Evacuation Planning**

If the Incident Commander makes a decision to evacuate, the Sheriff's Office must develop an evacuation plan for the incident. The first task is to identify the people to be evacuated, including the number to be evacuated, where they are located; and if there are people who need special consideration, such as elderly, children, the handicapped, and prisoners.

The resources needed to conduct the evacuation also need to be identified, including personnel and vehicles. Prior arrangements should be made for using specially equipped vehicles such as lift equipped bans. In some cases, personal protection equipment for personnel providing evacuation notifications, evacuation assistance, and for evacuees will be needed. Evacuation tags will be needed to mark buildings where evacuation has been complete. Evacuation planning must also include the adequate provision of shelters and supplies for the evacuees.

**Evacuation Tasks**

The Sheriff's Office should give specific instructions to evacuation assistance personnel. The instructions include the specific area to be evacuated, the protective gear to be worn, communications procedures, instructions to evacuees, and shelter locations. Specific tasks include transportation, assistance to special populations, emergency medical care, security, and traffic control.

**Evacuation Procedures**

Example evacuation procedures are included in Appendix D. These procedures could be adopted by Eureka County as part of its Emergency Operations Plan.

## Hazardous Materials Team Requirements

The U.S. Occupational Health and Safety Administration (OSHA) has established minimum requirements for training for emergency response personnel responding to an incident involving hazardous materials. These requirements are contained in 29 CFR 1910.120. For fire departments, these regulations establish specific training requirements for each level of response required when responding to a hazardous materials incident. These training levels Awareness Level, Operational Level, and Hazardous Materials Technician Level. At the technician level, personnel may also receive additional training in particular specialties. The National Fire Protection Association recognizes Tank Car Specialty, Cargo Tank Specialty, Intermodal Tank

Specialty, Flammable Liquids Bulk Storage Specialty, and Radioactive Material Specialty (NFPA 472, 2002).

In addition, the NFPA recommends additional competencies for specific members of the Incident Command system involved in a hazardous materials response. Additional competencies in the area of hazardous materials response are recommended for the Incident Commander, the Hazardous Materials Branch Officer, and the Hazardous Materials Branch Safety Officer.

Any response by Eureka County emergency personnel must be by emergency responders adequately trained to the appropriate responder level. The competencies and response actions for each level are briefly described below.

**First Responder Awareness Level**

The emergency responders trained to the awareness level must be capable of analyzing the incident to determine the hazards present. They must be qualified to take the appropriate actions based on standard operating procedures and to implement the response guidance for each hazard present as provided in the Emergency Response Guidebook. Responders should initiate protective actions as appropriate, and initiate the notification process.

**First Responder Operational Level**

First responders at the operational level must be trained to meet all the requirements of the awareness level. At the operational level, first responders must also be able to analyze the hazardous materials incident to determine the extent of the incident and likely outcomes. This analysis includes surveying the incident to determine whether or not a spill has occurred, the extent of any spill, the surrounding conditions, the hazard posed by the material, the extent of breach of the container, and the potential hazard to first responders and citizens.

Operational level responders must be able to plan an initial response based upon the capabilities of personnel present and personal protective equipment available. These responders may initiate "defensive" actions identified in their emergency response plan to limit the spread of contamination. Defensive actions may include use of absorption materials, dams or dikes to limit spread of contamination, and control of vapors or wind blown dispersion by covering the material.

Operational level responders must also be capable of conducting emergency decontamination at the scene. Emergency decontamination is the process of conducting immediate contamination reduction without first establishing a decontamination corridor and setting up a formal decontamination area.

**First Responder Technician Level**

First responders at the technician level must be trained to meet all the requirements of the awareness level and the technician level. In addition, at the technician level, first responders must be capable of conducting surveys to determine the level and extent of contamination present, to plan and implement a response that will stop or reduce the release of hazardous materials through the use of patches, plugs, and other means.

The Hazardous Materials Technician must also be capable of setting up a decontamination area and conducting the appropriate decontamination of personnel and personal protective equipment based upon the hazards present.

**Hazardous Materials Incident Commander**

An Incident Commander at a hazardous materials incident should be trained to at least the operational level and should also be fully trained in the incident command system. The incident commander should be capable of interpreting the hazard and response information collected at the scene, projecting potential outcomes of various actions, planning and implementing a response, evaluating progress, determining when to terminate an incident, conducting a debriefing and critique of the response, and documenting the incident.

**Hazardous Materials Branch Officer**

The Hazardous Materials Branch Officer should be trained to the technician level. Additional training requirements include applicable Department of Transportation, Environmental Protection Agency, OSHA, and other state and local regulatory requirements. The Hazardous Materials Branch Officer should also be trained in the incident command system.

**Hazardous Materials Branch Safety Officer**

The Hazardous Materials Branch Safety Officer should be trained to the technician level. Additional training requirements include applicable Department of Transportation, Environmental Protection Agency, OSHA, and other state and local regulatory requirements. The Safety Officer must be capable of analyzing the incident to ensure that safe practices are followed. The safety officer reviews the selection of personal protective equipment and the proposed decontamination plan, ensures adequate emergency medical services are available, conducts safety briefings, and monitors the safety of response personnel.

**Tank Car Specialty Technician**

The Tank Car Specialty Technician should be trained to the technician level. Additional training provides in–depth knowledge of tank cars and railroad operations, including the ability to assess the extent of damage to tank cars, the likely behavior of a tank car and its contents, and the

appropriate response actions that can be taken to stop or reduce the release of hazardous materials.

**Radioactive Material Specialty Technician**

The Radioactive Material Specialty Technician should be trained to the technician level. Additional training provides in–depth knowledge of radioactive materials, radiological survey equipment, dosimeters, dose rates, and signs and symptoms of exposure to radioactive materials. Knowledge in the use of survey instruments should include beta and gamma meters (dose rate and count rate) and alpha meters (count rate). The Radioactive Material Specialty Technician should be capable of determining the locations of control zones based upon both the radioactive material present and radiation surveys, and should understand allowable exposure limits, exposure control and contamination control.

**Emergency Medical Services**

The National Fire Protection Association recommends that emergency medical services personnel responding to a hazardous materials incident be trained to requirements for Hazardous Materials (HM) Level 1 Responders and Hazardous Materials Level 2 Responders. The recommended training requirements combine knowledge required for both emergency medical services and for hazardous materials response (NFPA 473, *Standard Competiencies for EMS Personnel Responding to Hazardous Materials Incidents*, 2002).

**HM Level 1 Responders** should have, at a minimum, their Basic Life Support or Advanced Life Support certification and first responder awareness level training. HM Level 1 Responders do not enter the "warm" or "hot" zones, but will be required to treat contaminated patients in the cold zone, and transport the patient as appropriate. They also provide medical support for the other emergency response personnel working the incident. HM Level 1 Responders need additional knowledge in the biological effects of hazardous materials on patients and response personnel, package and transport of contaminated patients, and medical monitoring of response personnel.

**HM Level 2 Responders** should be certified at the Emergency Medical Technician–Ambulance (EMT–A) and have, at a minimum, first responder awareness level training. The HM Level 2 Responders need the knowledge and skills to provide medical care of contaminated patients in the "warm" zone and to provide medical support for emergency response personnel in the warm zone. The Level 2 Responder needs to be able to conduct patient decontamination in the warm zone.

**Public Information Officer**

The Public Information Officer (PIO) for a hazardous materials incident needs to be able to communicate information about the hazards involved to the public in a clear and concise manner.

The PIO should have, at a minimum, first responder awareness level training. In addition, the PIO should also receive training in risk communication, the incident command system, and the County's emergency operations plan.

## Concept of Operations

Any response to a hazardous materials incident must be based upon the health and safety requirements of 29 CFR 1910.120. In order to ensure the safety of the emergency responders, a minimum number of personnel are required at each phase of the incident.

One key to safe operations is the "Buddy System," which is defined as "a system of organizing employees into work groups in such a manner that each employee of the work group is designated to be observed by at least one other employee in the work group. The purpose of the buddy system is to provide rapid assistance to employees in the event of an emergency." (29 CFR 191.120(a)(1)(iii))

Operations must also be limited to those that can be conducted safely with the personnel available at the scene. The minimum number must be determined based upon staffing key positions in the incident command system, maintaining a rapid intervention team for rescuing personnel operating in the hazard area, providing adequate personnel for a decontamination team, and providing emergency medical care and medical monitoring for emergency response personnel.

Whenever a team enters the hazard area, there must be at least two standby members available at all times to be able to rescue the team in the hazard area if required. The rapid intervention team must be equipped, at a minimum, with the same level of personal protective equipment required for entry into the hazard area.

The highest level of emergency medical care and medical monitoring team for emergency response personnel should be standing by prior to entry into a hazard area. This team should, at a minimum, have medical equipment and transportation capabilities necessary to provide basic life support. The purpose of this team is to provide emergency medical care for emergency responders and to conduct medical monitoring of all emergency response personnel.

Decontamination capability should be in place prior to any entry into the hazard area except for rescue as described in the Emergency Response Guidebook for the hazardous material involved. The decontamination team will, at a minimum, consist of enough team members to conduct decontamination of personnel and equipment, and to monitor the results of the decontamination process. This will usually require a minimum of four people, two to conduct the decontamination process and two to conduct the monitoring process. It must also be recognized that the decontamination team may also require decontamination.

Minimum staffing and training requirements for entry into a hazardous materials scene to conduct rescue of the injured and offensive operations with the goal of stopping the leak are shown in the table below. It should be noted that although the EMS personnel are shown to need awareness training as a minimum, they also need to have additional training in the emergency medicine area of hazardous materials. Emergency medical personnel working in the "warm zone" should have EMS HazMat Level II training, and those working in the "cold zone" receiving contaminated patients should have EMS HazMat Level I training.

| Hazardous Materials Response Training and Staffing Levels | | | |
|---|---|---|---|
| | Awareness | Operations | Technician |
| Incident Commander | | 1 | |
| HazMat Branch Officer | | | 1 |
| Safety Officer | | | 1 |
| Entry Team | | | 2 |
| Rapid Intervention Team | | | 2 |
| Decontamination Team | | 2 | |
| Contamination Monitoring Team | | 2 | |
| EMS Warm Zone | 2 | | |
| EMS Cold Zone | 2 | | |
| EMS Standby and Medical Monitoring | 2 | | |
| Public Information Officer | 1 | | |

## Hazardous Materials Training

The best long term approach to training is to develop training expertise within the local fire departments. At least two trainers are needed to deliver hazardous materials training and to ensure long term capability. The personnel designated as trainers should be full–time employees. They should be trained to the hazardous materials technician level with specialities. Based upon the risk analysis for Eureka County, it is recommended that one trainer obtain specialty training as a tank car specialty technician and the other obtain specialty training as a radioactive material specialty technician. These technicians would also serve as the HazMat Branch Officer during an actual response. In addition, at least one emergency medical services Emergency Medical Technician should also obtain training as a HazMat Level 2 emergency medical services responder.

Many of the training opportunities discussed below offer train–the–trainer programs as well as general training. During the initial development of the hazardous materials response team, programs that offer on–site training should be utilized to quickly provide training to the maximum number of personnel within the fire departments. Once local trainers have received train–the–trainer training, the hazardous materials training can be integrated into the regular training schedule for the department.

All fire department and emergency medical services personnel should receive at least awareness level hazardous materials training. To maximize flexibility for a response to a hazardous materials incident, it is recommended that as many personnel as possible with the fire departments receive training to the hazardous materials technician level. If possible, all personnel should be trained to at least the operations level.

Some of the training programs available to local fire departments are discussed below:

**State of Nevada Division of Emergency Management**

The State of Nevada Division of Emergency Management is developing an integrated hazardous materials course. The course is expected to cover the materials most likely to be encountered in Nevada, including explosives, biological agents, and radiological materials. The course will be a 24 hour operations level course, and will be provided to Nevada Highway Patrol officers and county emergency responders. The course is designed recognizing limited resources available in rural Nevada counties, and will focus on managing an event. Key points covered will include isolation of the area, rescue of injured as equipped and trained, and containment of the spill within capabilities.

The State recommends that at least three responders in each county be trained to the technician level. Although it would not be possible to take offensive actions with this limited number of personnel, they would have the expertise to provide training within the county and to manage an incident. If rescue operations are necessary, a team could potentially be assembled from adequately trained and equipped personnel in adjoining counties and from the Nevada Highway Patrol.

**International Association of Fire Fighters**

The International Association of Fire Fighters (IAFF) provides on–site training, train–the–trainer training, and self–paced training. The self–paced training is available on CD ROM and as a web based online resource. Instructor training is provided at various locations around the country. Scholarships are available to help defray the cost of training.

**Rocky Mountain Hazardous Materials Association**

The Rocky Mountain Hazardous Materials Association offers a full array of hazardous materials training programs. Courses are usually taught at the Fire Academy in Denver, Colorado. Training at the Academy is also usually provided at no cost. Examples of courses available include Hazardous Materials Train the Trainer, Hazardous Materials Technician, Hazardous Materials Operations, and Hazardous Materials Emergency Medical Services.

**DOE Transportation Emergency Preparedness Program**

The DOE Transportation Emergency Preparedness Program (TEPP) provides Modular Emergency Response Radiological Transportation Training (MERRTT). The MERRTT program is specifically designed to provide radiological training to first responders who have already received other hazardous materials training. The MERRTT program has a modular design with 16 modules grouped into 8 blocks. The blocks correspond with the awareness, operations, technician, and incident command hazardous materials training requirements. The program includes materials for facilitated, instructor led training or self–paced training. There is also one block of training for public information officers.

MERRTT Train–the–Trainer programs are conducted within each of the DOE regions. Eureka County is located in DOE Region 7.

**Federal Emergency Management Agency Emergency Management Institute**

The Federal Emergency Management Agency (FEMA) Emergency Management Institute (EMI) provides many courses for hazardous materials response and radiological materials response. Examples of courses offered include Advanced Public Information Officers, Radiological Emergency Response Operations (RERO), Advanced Radiation Incident Operations (ARIO), Radiological Emergency Preparedness Exercise Evaluation, Radiological Emergency Preparedness Planning Course, Radiological Accident Assessment Concepts, and Radiological Series Train–the–Trainer. The courses are usually provided at no cost to the attendees, but attendance must be coordinated through the State Emergency Management Agency.

## Equipment Requirements

A list of recommended equipment for the hazardous materials response team is included in Appendix A. This list of equipment is based upon the draft "Hazardous Material Spill Incident Response Equipment List" developed by the State of Nevada, equipment currently used by other communities' hazardous materials response teams, and the National Fire Protection Association (NPFA 471).

The recommended equipment list is broken down into the following categories: spill containment/reduction, contamination reduction/decontamination, monitoring, personal protection, and scene protection. The categories, however, are not always mutually exclusive. For example, benches used for people waiting for decontamination could also be used by the standby team.

The recommended equipment list does not include specific numbers of the various kinds of suits required. The final number of each kind of suit should be based upon the number of responders trained to the operational and technician level, and their body sizes. The objective should be to have at least as many suits available in the appropriate sizes for all entry teams and standby teams, with adequate reserves in case of damage to a suit. Based upon the concept of operations discussed above, a minimum of eight Level A and eight Level B suits should be acquired.

The estimated cost of obtaining the equipment listed is approximately $100,000, based upon the cost of outfitting hazardous materials teams in other communities of similar size. This is the startup cost only, and does not consider existing equipment that the County currently owns, or the cost of replacement equipment.

## Other Community Approaches

The hazardous materials response programs in two other communities were evaluated to provide examples of different approaches to implementing a team. Communities to be evaluated were selected based upon size, proximity to Eureka County, and comparable risks.

**Nye County, Nevada**

Nye County, Nevada operates volunteer departments. Volunteer fire departments are located in Amargosa Valley, Beatty, Crystal, and Pahrump Valley. The hazardous materials response team draws upon volunteers from all of the fire departments. The Nye County hazardous materials response team has between 25 and 35 people on the roster trained to at least the operations level. Nye County feels that they need this many people trained in order to have a sufficient number of people respond to a call. There is a Team Leader and three assistant Team Leaders, who receive $15 per hour pay when on call.

Nye County has two hazardous materials trainers who are full–time employees. The salary for these trainers is approximately $25,000 per year, plus benefits. They currently provide most of the hazardous materials training within the County, and also provide training to other counties in Nevada.

Nye County took three to four years to develop their hazardous materials response capability at a cost of approximately $100,000. Funding for equipment came from the County and the State of Nevada Emergency Response Commission.

Ongoing costs for training is provided by the County through the budget for the Volunteer Fire Departments. Nye County has been successful in recovering the actual costs of responding to a hazardous materials spill from the responsible party.

**Rock Springs, Wyoming**

Rock Springs is located in Sweetwater County, Wyoming. Mining and oil and gas development and operations are the main source of employment in Sweetwater County. Interstate 80 and the Union Pacific mainline both pass through the County. Therefore, the County has very similar hazardous materials risks as Eureka County.

Rock Springs operates a full time fire department, with 33 firefighters, one Fire Chief, one Assistant Fire Chief, and an administrative assistant. The department maintains three fire stations in the community. The total budget for the department is approximately $3 million per year. Salary, overtime and benefits amount to approximately $2.6 million. New and replacement equipment is budgeted at approximately $100,000 per year.

The department's goal is to have all firefighters trained to the technician level. New hires are trained to that level as quickly as possible. This allows the department maximum flexibility when responding to a hazardous materials incident.

Initial hazardous materials training was conducted by the State of Wyoming Fire Marshall. The department now has two full–time training officers who use the International Association of Fire Fighters training materials. The trainers received their primary training from the Rocky Mountain Hazardous Materials Academy in Denver, Colorado.

Hazardous materials response equipment was acquired gradually over time. The Fire Chief did not have an estimate of how much it cost to obtain the equipment. The equipment is stored in a hazardous materials response trailer which is towed to an incident with a 500 gallon pumper. The water in the pumper is reserved for decontamination/contamination reduction purposes.

## Recommendations

Eureka County has determined that they do not want volunteers to have to respond to a hazardous materials incident, and would prefer to have full–time personnel respond. Two options are available to the County to meet this objective. The first option is a full time department. The second option is a full time cadre of hazardous materials technicians who would make up the entry team and the emergency medical services personnel operating in the warm zone. Volunteers would be used for the standby team, the decontamination team and other functions on scene.

For purposes of estimating costs of each option, it is assumed that the average full–time salary would be approximately $35,000 per year plus $12,000 per year for benefits, or $47,000 per year

for each position. Facility and equipment requirements would be the same, regardless of the staffing method. The initial cost of equipment listed in Appendix A is approximately $100,000. Equipment replacement and maintenance would be approximately $10,000 per year. It is assumed that existing facilities would be used to house the hazardous materials response team at a similar cost to the existing budget.

**Full–Time Department**

As discussed above, a minimum number of adequately trained and equipped personnel are required in order to respond to a hazardous materials incident. Although a minimum of 12 people can respond, it is preferable to be able to fully staff the incident. This requires fifteen responders on scene if there are no injured people to rescue from the hazardous area. If the incident involves rescue, more emergency medical services staff are required.

A department of approximately 35 people is required to meet this staffing demand on a 24–hour, 365 days per year basis. The makeup of the department should include a fire chief, an assistant fire chief, and 33 firefighters. At least two of the firefighters should be trained as hazardous materials training officers. All firefighters should be trained to at least the operational level, and at least 12 should be trained to the technician level. The goal for the department should be to train all firefighters to the technician level to provide operational flexibility.

Based upon the present and future risks present in Eureka County, specialists should be trained in the hazardous materials tank car speciality and the hazardous materials radiological materials specialty. It is recommended that the two training officers be trained in the specialty areas, as well as several other technicians.

With approximately 35 full–time personnel, Eureka County could staff several fire stations in the County on a full–time basis. The hazardous materials team should be headquartered at the Beowawe Fire Station. This station should be staffed by technicians at all times, and would serve as the initial "strike team" during a hazardous materials incident. The personal protection equipment and monitoring equipment should be stored at this facility.

One of the other fire stations that is staffed on a full–time basis should serve as the contamination reduction/decontamination team. Decontamination equipment should be stored and maintained at this station. Once the strike team has sized up an incident, and determined that decontamination is, or will be needed, the decontamination team could then be dispatched to the scene. Entry into the hazard area should not occur until decontamination facilities are on–scene and set up, unless otherwise indicated by the emergency response guide.

The budget for personnel for a full time department of this size is estimated at $1,645,000 year. Equipment costs would be $100,000 for the first year, and then $10,000 per year for subsequent years.

**Full–Time Hazardous Materials Technicians with Volunteer Support**

Under this option, a full time cadre of hazardous materials technicians who would make up the entry team and the emergency medical services personnel operating in the warm zone. With four responders on duty at all times, it would take approximately 18 people to staff the full–time positions. Two of the full–time personnel would serve as hazardous materials trainers.

The full–time personnel would conduct all activities in the "hot zone," including rescue and spill control. Initial response to an incident would be limited until such time as the volunteers could respond to serve as the standby team and to set up the decontamination facilities. Volunteers would be responsible for decontamination and other functions on scene.

All full–time personnel should be trained to the technician level. All volunteers should be trained to the awareness level, twenty–five to thirty volunteers should be trained to the operations level, and at least 12 volunteers should be trained to the technician level. The goal for the department should be to train all firefighters to the operations level to provide operational flexibility.

At least two of the full–time personnel should be trained as hazardous materials training officers. Based upon the present and future risks present in Eureka County, specialists should be trained in the hazardous materials tank car speciality and the hazardous materials radiological materials specialty. It is recommended that the two training officers be trained in the specialty areas, as well as several other technicians.

The budget for personnel for a this option is estimated at $846,000 year. Equipment costs would be $100,000 for the first year, and then $10,000 per year for subsequent years.

# Appendices

## Appendix A
## Recommended Equipment

**Spill Containment/Reduction**

5 Minute Epoxy
95 Gallon Overpack Drums
Absorbent Booms
Barrel Patch Kit
Drum Patch Kit
Hacksaw Blades
Over Pack Drums
Pipe Patch Kit
Plastic Garbage Bags
Plug & Dike
Power Absorbs (PIGs)
Putty Knives
Red Salvage Cover
Sand Bags
Shovel
Small Shovel
Sweep Broom
Trash Can w/ Lid
Wire Brush
Wooden Wedges
Zip Lock Bags

**Contamination Reduction/Decontamination**

24 Inch Step Stools
40' x 40' Tarps
Ammonia
Bath Towels
Benches
Black Plastic Grates
Decon Shower w/ Curtain
Decon Soap
Decon Pools
Distilled Water
Folding Chairs
Folding Table
Ivory Soap
Liquid Tide
Plastic Sheets
Roll 50 x 300 ft. Visqueen 10 mil
Scrub Brushes (Long Handle)
Scrub Brushes (Small Handle)
Soap Spray Bottle
Sponges
Spray Wand
Stools
Tincture of Green Soap
Vionex Soap

| | |
|---|---|
| Garden Hose | Water Bottles |
| Hall Runners | Water Spray Bottles |

**Monitoring**

| | |
|---|---|
| Air Sampling Devices | Organic Vapor, Mercury and Formaldehyde Badges |
| Chlorine A Kit | Oxygen Meter |
| Combustible Gas Indicator | pH Meter |
| Dosimeters | Organic & Inorganic Gas Meter |
| Photoionization Meter | Radiological Meters with Probes |
| Gas Detectors | Carbon Monoxide and Hydrogen Sulfide Atmospheric Meter |

**Personal Protection**

| | |
|---|---|
| 45 Minute Air Pack (No Mask) | Headlamps |
| Boots, Assorted Sizes | Helmets |
| Class A Suits | Latex Gloves |
| Class B Suits | Orange Gloves |
| Cotton Glove Liners | Over Gloves (Petroflex) |
| Duct Tape | Rubber Gloves (Size 10) |
| Dust Protective Masks | Saranex Suits |
| Flash Suits | Tyvek Suits |
| HazMat Portable Radios | |

**Scene Control**

| | |
|---|---|
| Barrier Tape (Hot, Warm, Cold) | Poloroid Camera |
| Evidence Bottles | Reflective Pylons |

Fire Barrier Tape

HazMat Tape

Wind Socks

## Appendix B
## Sample Outline of Hazardous Materials Emergency Response Plan

Sample Outline of a Hazardous Materials Emergency Plan

A. Introduction
    1. Incident Information Summary
    2. Promulgation Document
    3. Legal Authority
    4. Table of Contents
    5. Assumption/Planning Factors
    6. Concept of Operations
    7. Instruction on Plan Use
B. Emergency Assistance Telephone Roster
C. Response Functions
    1. Initial Notification
    2. Direction and Control
    3. Communications among Responders
    4. Warning Systems and Emergency Public Notification
    5. Public Information
    6. Resource Management
    7. Health and Medical Services
    8. Response Personnel Safety
    9. Personal Protection of Citizens
    10. Fire and Rescue
    11. Law Enforcement
    12. Ongoing Incident Assessment
D. Containment and Clean Up
    1. Techniques for Spill Containment and Clean up
    2. Resources for Clean up and Disposal
E. Documentation and Follow–up
F. Procedures for Testing and Updating Plan
    1. Testing the Plan
    2. Updating the Plan
G. Hazards Analysis (Summary)

## Appendix C
## State of Nevada Recommended Equipment Lists

# Draft State of Nevada

Hazardous Material Spill Incident Response Equipment List
(November 14, 2002)

The following list was developed to identify equipment requirements for emergency responders operating at the awareness, operations, and technician level of hazardous materials spill incident response.

**Awareness Level Equipment List:**

-Binoculars or spotting scope with tripod -Traffic cones, barrier tape, etc.
-North American Emergency Response Guide (NAERG)
-Communications equipment (i.e. radio, cell phone, satellite phone)
-Area maps (topographical, fire run maps for use in evacuation of public)
-Reference materials (Procedural manuals, checklist, resource list)

**Operations Level Equipment List:**

(Note: This list is in addition to the equipment already identified under awareness.)

-Personal Protective Equipment (PPE), including turnout gear, self-contained breathing apparatus (SCBA), splash suits, duct tape, rubber boots, miscellaneous gloves, eye protection)
-Medical monitoring equipment (BP cup, Stethoscope, scale, Core temperature thermometer)
-Additional Traffic Control Materials (Cones, Barricades, etc.)
-Air monitors (oxygen, combustible, etc.) -Hand held weather station
-Rad Survey Meters (Geiger Mueller, Ionization Meters, and scintillation detectors)
-Contamination Reduction Equipment/Supplies/Modesty barriers
-Air Escape Devices (for victim evacuation) -Equipment/Supplies for damming and diking
-Global Positioning System (GPS) device -Digital camera
-Reference material (enhanced resource lists, equipment checklist, incident management checklists, NIOSH Guide, CHRIS Manual, CAMEO, etc.)

**Incident Commander Equipment List:**

-Enhanced Communications Capabilities -Incident Command tables and charts
-White boards and markers -Incident Command Post green light
-ICS Position Vests -Personnel Accountability System
-ICS Position Responsibility Worksheets (laminated)
-Reference materials (ICS resource manuals, enhanced resource lists)

**Radiological Equipment List:**

-Radiological survey meters (i.e. exposure rate and contamination detectors)
-Operational check sources for the instruments
-Backup equipment and spare batteries
-Pocket Dosimeters
-Appropriate resource list

**Emergency Medical Services Equipment List:**

(Note: This list is in addition to the equipment already identified under awareness.)

-Bio Hazard PPE (gloves, gowns, eye splash protection, HEPA masks)
-Patient decon kits
-Disposable jump suits (for use by those who have clothing removed during decontamination)
-Wrapping material to cover patient or ambulance for contamination control

**Dispatcher Equipment List:**

-North American Emergency Response Guide Book (NAERG)
-Procedural manuals/Incident checklist/Haz Mat Incident specific forms
-Appropriate resource list (CHEMTREC, DEM, NDEP, etc.)

**HazMat Technician Equipment List:**

Refer to Clark County Equipment List

**Hospital Equipment List:**

-Decon Area (Isolated from other treatment areas with controlled ventilation, patient washing area and contaminant containment drums, etc.)
-PPE for biological, radiological and chemical hazard
-Contamination reduction supplies
-Reference material (Hazardous material product reference books, Hawley's Chemical Dictionary, Dangerous properties of Industrial Materials, NFPA Exposure to the Human Body, etc.)
-Appropriate resource list (including 24 hour day, seven day week telephone numbers for access to medical and product specialist, i.e., Poison Control REACTS, CDC)

## Appendix D
## Evacuation Procedures

# Evacuation

This procedure provides guidelines to conduct an evacuation of citizens in a geographic area during an emergency incident. The potential for evacuation should be considered during all emergency incidents. The key to an organized and manageable evacuation is to develop an incident management system early and to initiate a plan which is continually updated.

A plan for evacuation should address the following factors:

- A command structure.
- Need for evacuation versus in-place sheltering.
- Early notification of law enforcement agencies (Sheriff's Office, NHP).
- Identification of an area to be evacuated, perimeters, etc.
- Resources needed.
- Speed of evacuation, time frames.
- Identification of shelter sites and preparation of these sites.
- Estimation of the duration of the evacuation.
- Planning the re-entry of those evacuated.
- Information about hazard and evacuation presented to evacuees.
- Follow-up with evacuees on re-entry.
- Security of the area evacuated.

Other areas which will need to be considered also include:

- Assignment of a Law Enforcement Liaison Officer
- Communications
- Public Information
- Ensuring transportation for evacuees
- Communicating evacuation plan and shelter sites to all agencies involved

**Area of Evacuation**

The area of evacuation should be identified by the Incident Commander and later by the Sheriff's Office. The evacuation boundaries should follow streets and established roadways. A map should be utilized and distributed to all officers and agencies involved. Maps need to be provided to law enforcement personnel.

In some situations, in-place sheltering can be used to protect the public rather than to initiate an evacuation. In-place sheltering can be considered during the following circumstances:

- The hazardous material has been identified as having a low or moderate level of health risk.
- The material has been released from its container and is now dissipating.

- Leaks can be controlled rapidly and before evacuation can be completed.
- Exposure to the product is expected to be short-term and of low health risk.
- The public can be adequately protected by staying indoors.

For sheltering in place, instructions should be provided to the affected public regarding the need to stay indoors and the protective measures such as shutting doors and windows and turning off air conditioning systems.

**Levels of Evacuation**

There are three levels of evacuation which require different resource commitments. They include:

1. Site Evacuation: Site evacuation involves a small number of citizens. This typically includes workers at a site and nearby homes. Evacuation holding times are typically short, generally less than an hour or two, and citizens are permitted to return to their businesses or homes.

2. Intermediate Level Evacuation: The Intermediate Level involves larger numbers of citizens and/or affects a larger area. This level affects off–site homes and businesses and normally affects fewer than 30 persons. Persons may remain out of the area for two to four hours or more. Evacuation completion times will be somewhat longer but generally rapid. Collecting, documenting and controlling the evacuees becomes more difficult. Off-site collection sites or shelter areas will need to be determined and managed. Some evacuees will leave the area on their own or be sent home by employers. Site perimeters become larger and perimeter security requires more resources. Close coordination with law enforcement and other agencies will be required.

3. Large–Scale Evacuation: A large or concentrated release of a hazardous substance may cause a large off–site evacuation. Whole communities could be evacuated. Rapid initiation of the evacuation process may be required. Evacuees may be out of their homes and businesses for many hours if not days. Evacuation completion time frames will be extended. Evacuation shelters will need to be located, opened and managed. Documentation and tracking of evacuees becomes more important as well as more difficult. Very close coordination with the law enforcement and other agencies will be required. Site and evacuation perimeters become extended and require much more resources to maintain. Security of the evacuated area is always a concern. In some cases, the Emergency Operating Center (EOC) will be opened to support the evacuation and site operations.

There are no precise parameters differentiating one level of evacuation from another. The Incident Commander must implement a Command Organization that meets the needs of each particular incident.

**Duration of Evacuation**

The evacuation should be sustained as long as the risk continues in the evacuated area. Caution should be taken when deciding to allow residents to return to the homes to ensure that the situation is truly under control. Re-evacuating is difficult to complete as many residents will not want to go a second time. It can also be extremely hazardous. Evacuees must be updated with information as soon as possible and periodically throughout the incident.

**Shelter Site**

When developing the evacuation plan, shelter sites must be identified early. Site selection must occur at the time the evacuation is ordered or very soon afterward. Command may need to send fire resources to initially open shelters until other agencies are in-place.

**Command Structure**

The Sheriff's Office is responsible for all planning associated with the evacuation. The Incident Command System should be used to manage the evacuation. The following positions in the Incident Command structure should be filled:

Operations Officer
Planning Officer
Logistics Officer
Administration Officer

Although it is preferable to staff each position, limited personnel resources may require that one person be assigned several positions.

The evacuation plan is communicated to the Incident Commander for approval or modification. The actual evacuation process would normally be managed by the Operations Officer. The Operations Officer must be provided with sufficient resources to effectively complete the task.

The Planning Officer would be responsible for developing an evacuation plan in joint cooperation with the Incident Commander. Other Officers play a supporting role in the Command Organization.

As resources become available, the following positions may also be staffed:

Evacuation Officer
Transportation Officer
Medical Officer
Shelter Officer
Staging Officer
Pubic Information Officer

**Command Responsibilities**

Command responsibilities include the following items:

- Rapidly size up the situation to determine the need to evacuate.
- Develop Evacuation Plan.
- Determine evacuation perimeters.
- Determine the number and location of shelter sites and communicate the locations to the Command organization.
- Order evacuation.
- Provide resources required.
- Develop a unified command post.
- Order the alert of other appropriate agencies.
- Expand the command organization to meet the incident/evacuation needs.
- Establish an evacuation plan and communicate the plan to branches, groups, divisions and liaison.
- Monitor, support and revise the evacuation process as necessary.
- Evacuate persons from the greatest danger first.
- Assign specific areas to evacuate in order to avoid duplication or missed areas.
- Provide the transportation necessary for evacuees.
- Provide continuing command of the evacuation, demobilization and return of evacuees.

**Law Enforcement Responsibilities**

Law Enforcement will be an integral part of the evacuation process. Law Enforcement responsibilities include:

- Provide law enforcement resources needed for evacuation.
- Provide–traffic control and traffic routing.
- Provide perimeter security.
- Provide evacuation zone security.
- Identify transportation needs.

**Public Information Officer's Responsibilities**

- Notify the news media and provide status reports and updates as necessary.
- Provide the media with consistent and accurate evacuation instructions as provided by Command.
- Utilize the media and coordinate evacuation notices through news media.
- Establish a single phone number that should be released to the public for information.

**Who Should Be Evacuated**

All residents living/working in the area identified should be evacuated. In the event that a resident decides not to evacuate, they should be specifically informed of the risk and, if they still refuse, left to stay. The Evacuation Officer is to be notified and a note of the citizen's address made for further follow-up.

**Evacuation Branch Responsibilities**

The Evacuation Officer may be either a law enforcement or fire officer. The Evacuation Officer must to closely coordinate evacuation efforts with law enforcement. An appropriate commitment of law enforcement resources must be obtained. Evacuation responsibilities include:

- Obtain resources needed to evacuate.
- Liaison with law enforcement.
- Provide objectives and specific areas to evacuate.
- Provide shelter locations and instructions.
- Provide evacuation instruction pads and written evacuation information for evacuees if possible.
- Provide private vehicle routing instructions (out of the area).
- Obtain/provide ambulances, buses or other transportation for those requiring transportation out of the area.
- Evacuate those at greatest risk first.
- Evacuate the greatest concentrated areas next (i.e., apartment complex).
- Closely document and maintain records of the evacuation process to avoid duplication or missed areas.
- Document those addresses and times for those refusing to leave.

**Information and Notification**

The law enforcement and fire departments should be used for resources/staffing to conduct a walk-through or drive-through in the area to be evacuated. Fire departments should be assigned to hazardous areas with law enforcement assigned to safe areas. The officers should provide residents with information about the situation and be told that they are being evacuated, to where, and why. It is necessary to inform the residents of shelter areas being established to minimize confusion and anxiety.

**On–site Notification to Evacuate**

Door–to–door notification is time-consuming. In many cases, adequate resources and time are not available to do this type of face–to–face notification. Use of sirens, air horns and PA

systems will speed the alert process. When making door-to-door evacuations, personnel should be in uniform

Face–to–face notification should include the following instructions:

- There is an emergency.
- You are in danger.
- Leave immediately.
- Go to shelter (location).
- Take ( ) route out of area.
- Do you need transportation?
- Give the citizen the evacuation instruction sheet.
- Consider multi–lingual needs.

Evacuees should be advised to take the following items:

- Wallet/Purse
- House and Car Keys
- Money
- Eyeglasses
- Medications
- Proper/Warm Clothing

In situations where immediate and rapid evacuation makes door–to–door notification impossible, use the following notification method:

- Use three (3) five–second blasts of the siren while on the "YELP" setting.
- Follow with the standard evacuation instruction over PA system (see instructions above).
- Use maximum volume on PA system.
- Proceed slowly to maximize notification.
- Initiate notification at the beginning of each block and each 50 yards after that.

Once each assigned grid of objectives is complete, report completion to the Evacuation Branch.

An information phone line may need to be set up to provide an information source for citizens with concerns about the incident. This information would be for family members affected by the evacuation or medical information for Haz/Mat incidents and general information about the evacuation.

**Refusal to Leave**

Some citizens may refuse to leave.

- Ask for next of kin and a phone number.
- Write the next of kin information down.
- Refusals should be noted and reported to the Evacuation Officer by radio.

Evacuations follow somewhat of a triage philosophy. We will evacuate the greatest number for the greatest benefit. Individual refusals will be left to fend for themselves. There simply may not be enough time or resources to initiate forced removal of persons from their homes. However, documentation of the refusal should be done. Write the address down (or if radio traffic permits, radio the address to the evacuation branch/group).

**Transportation Officer**

A Transportation Officer should be established under the Evacuation Officer. Ambulances and other transport vehicles and buses should be staged in the event that a citizen may need transportation to a shelter or other location. Non–ambulatory people must be located and information provided to the transportation branch/group so that they are not overlooked in the evacuation.

**Transportation Officer Responsibilities**

- Obtain buses (start with a minimum of two) and other vehicles that can be used for transportation.
- Stage all transportation resources.
- As resources allow, put one firefighter equipped with a radio (or law enforcement officer) on each vehicle.
- Coordinate with the evacuation branch the pick-up points or addresses of those citizens needing transportation.

**Emergency Operating Center (EOC) Operations**

If a significant or major evacuation occurs, the Emergency Operating Center (EOC) may go into operation. The EOC will collect department heads and senior staff from the fire, sheriff, public works and other County departments to the EOC. The EOC's objective is to use the County's resources to support the incident.

The Planning Officer should assign a Liaison in the EOC. Responsibilities of the Planning Officers EOC Liaison are:

- Obtain a radio communication link with the EOC
- Obtain a cellular telephone or other communications link with the EOC.
- Obtain an immediate status report from Command and provide that report to the EOC fire officer.
- Provide an immediate report to the EOC on any changes in plans, strategy, problems encountered, etc.
- Provide progress reports every 30 minutes unless the EOC requires more frequent reports.
- Act as the communications link from EOC to Command.
- Provide Command with direction, policy information, etc., that is communicated from the EOC.

Command will maintain an EOC liaison and a communication link with the EOC throughout the evacuations, including demobilization and return of evacuees.

**Return Evacuees**

The decision to return evacuees to their homes will be the sole responsibility of the Incident Commander when the EOC is not operating. If the EOC is operating, the decision to return evacuees will be made by the EOC staff. No other County agency will be authorized to order the return.

The Planning Officer will develop a return plan for evacuees. Returning evacuees may require some transportation be provided.

# Appendix E
# Evacuation Public Information Messages

# Home Shelter

EAS Message #l

Take Shelter EAS Announcement

The following message has been released by the
Emergency Operations Center:

1. The _____ has announced that an emergency presently exists at _____. Persons living or working within an approximate _____ mile radius of this location are requested to take sheltering actions.

2. There is no need for residents to leave the area in order to take sheltering action.

3. Persons who have taken shelter should observe the following procedures:

   A. Close all doors and windows.
   B. Disconnect air conditioners or fans.
   C. Lower the thermostat setting of any heater or turn off air conditioner/evaporative cooler to minimize the intake of external air.
   D. Keep pets inside, and to extent possible, bring farm animals under covered facilities.

4. People living, working or traveling in the following areas are affected by this request:

(Repeat the list of areas one time, then continue the message.)

5. Persons living, working or traveling in this area should take sheltering action. Persons traveling to home or work should proceed to their destination in an orderly fashion obeying all traffic regulations. Non-residents traveling in motor vehicles should clear the area in an orderly fashion.

6. All persons traveling in the area in motor vehicles should roll up windows, close air vents, and turn off air conditioners. If in an automobile, or when sheltering is not immediately available, improvised respiratory protection may be taken. Place a handkerchief, towel, or other similar item snugly over the nose and mouth until indoors.

7. You are asked not to do the following: (Read statement A., below, if school is in session.)

A. You are requested not to telephone or go to the school your children are attending. They are in a covered protected environment and will be bused home when it is safe to do so.

B. Do not telephone city, county, state or federal officials directly involved. They will keep you informed of the situation through this station. Do not use the telephone except for medical emergencies.

8. The preceding has been an announcement by the Eureka County Emergency Operations Center. It calls for all persons living or working within a _____ mile radius of _____ to take shelter. For further information, stay tuned to this station.

(Thereafter, this message shall be repeated every five minutes until the station is informed by the EOC to end transmission.)

# Evacuation

EAS MESSAGE #2

Evacuation EAS Announcement

The following message has been released by the Eureka County Emergency Operations Center:

1. The Eureka County Emergency Operations Center has announced that an emergency condition exists at _____ and recommends the evacuation of all persons living or working within an approximate _____ mile radius of this location.

2. This advisory affects persons living in the following area:

(Repeat the list of affected areas one time, then continue the message.)

3. Please use the following evacuation routes for your neighborhood. If you will need a place to stay, report to the mass care center located at _____.

(Repeat the list of affected areas one time, then continue the message.)

4. If you have housebound persons or invalids in your home and require assistance in moving them, contact the Eureka County Emergency Operations Center at _____
. .

5. Please cooperate by checking on persons who may live alone in your neighborhood. If they have no way of providing for their own transportation, please assist them if possible.

6. Persons affected by this evacuation advisory should prepare to spend a minimum of three days away from home and should have with them sufficient quantities of clothing, sleeping bags or blankets, personal care items and prescription drugs for at least this period. Persons evacuating to mass care centers will be provided with food and sanitary facilities. Pets will not be allowed inside the mass care centers.

7. Farmers/ranchers affected by this evacuation advisory should shelter their animals and contact the County USDA agricultural agent at (775) 237–5326 for further instructions regarding protection of livestock, foodstuffs, and regaining access to the evacuated area.

8. Persons planning to evacuate are reminded to take the following steps prior to leaving:

A. Secure your home and property.
B. Turn off all lights and electrical appliances.
C. Turn down any heating systems (or turn off air conditioning systems).
D. Proceed calmly to your destination, obeying all traffic laws and driving carefully.
E. Please obey law enforcement officers and others who will be directing traffic along the evacuation routes.

9. The preceding has been an announcement by the Eureka County Emergency Operations Center regarding recommendation by the _____ for the evacuation of all persons living within a _____ mile radius of _____ . For further information, please stay tuned to this station.

# School Evacuation

EAS Message #3

School Evacuation EAS Announcement

1. The following message has been released by the Eureka County Emergency Operations Center. It supplements instructions given to the public concerning the evacuation announcement for an approximate _____ mile radius of _____ .

2. Parents with children attending schools within a _____ mile radius of _____ are advised that their children are subject to a separate evacuation plan while school is in session. These schools are _____ . Children at these schools will be taken directly to shelter areas. Parents are to meet their children at these shelter areas outside the emergency zone. I repeat, children will be taken directly to areas outside the risk area where parents are to meet their children. Parents are not to report to their children's schools.

3. Children attending the schools in the risk area will be taken to the following areas where they may be picked up:

School Evacuation Area

(Repeat list one time and continue the message.)

4. Parents are urged not to telephone or to go to the schools their children attend. To do so will only create confusion. Parents are to meet their children at the previously announced evacuation areas. I repeat, parents are urged not to telephone or to go to the schools that their children attend, but to meet their children at the evacuation areas.

5. The preceding has been an announcement by the Eureka County Emergency Operations Center giving parents instructions on where to meet their children who are attending schools within an approximate _____ mile radius of _____ .

(Repeat entire message one time.)

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