April 19, 2002

Enclosure:

Specific Comments and Concerns of the Board of Eureka County Commissioners

on

FEIS for a Geologic Repository for the Disposal of Spent Nuclear Fuel and High-Level Radioactive Waste at Yucca Mountain, Nye County, Nevada (U.S. Department of Energy, February, 2002)

INTRODUCTION

This enclosure covers Eureka County's specific initial comments and concerns regarding the subject FEIS. It supplements the letter to Secretary of Energy from the Board of Eureka County Commissioners, dated April 19, 2002. Given the length of the FEIS and the *Site Recommendation Comment Summary Document* (DOE, February 2002, "SRCS"), which together total over six thousand pages, these summary comments address only the following list of priority subjects affecting Eureka County:

1. Agriculture and range management
2. Cultural resources
3. Economy
4. Emergency response and public safety
   a. Incident-free operations
   b. Accidents, incidents, and emergencies
5. Infrastructure and public finance
6. Land ownership
7. Natural resources
8. Noise
9. Water

In each subject area, the enclosure covers the following three points: Eureka County's comments on the Draft Environmental Impact Statement (DEIS); the response of the Department of Energy (DOE) in the FEIS; and the County's initial comments on the DOE response.

SPECIFIC COMMENTS AND CONCERNS

1. Agriculture and range management

Comments on DEIS. In its comments, Eureka County said the DOE must disclose anticipated impacts on agriculture from: (1) the conversion of water rights or agricultural land, (2) fragmentation of range or grazing allotments, (3) damage to forage, (4) restrictions on livestock movement, (5) loss of water supplies, or restricted access, (6) loss of livestock hit by trains or vehicles, (7) changes in the value of agricultural lands or permits, (8) changes in the costs of agricultural production, and (9) increased harassment of livestock.

Eureka County is concerned that the construction of the railroad bed, access roads, cuts, fills, and fences would destroy forage, interfere with water sources, and complicate the management of livestock. Underpasses for the movement of livestock and equipment may not be feasible, given the level terrain and high groundwater conditions in the Crescent Valley. Analysis by the County indicates that the proposed action, free from incidents, would eliminate over 1,000 acres of forage and result in the reduction of up to 400 animal unit months (AUM) annually. An accident involving a shipment of SNF or HLW through Eureka County would seriously damage range resources from loss of forage, wildfire, ground disturbance, contamination, or a combination.

DOE response. The FEIS does not specifically discuss impacts on agriculture for the proposed Carlin corridor. The FEIS says (pp. 6-76 and -77) that for all rail alternatives, there could be, during construction: difficult access to water for cattle; disruption of ranch operations and livestock rotations; livestock deaths along roads; and disruptions to use of access roads "which typically consist of two-track roads and crisscross many of the corridors."

During operations, the FEIS says that some grazing lands would be divided, with a resulting small loss in animal unit months (AUM), but would probably not affect ranch operations if there were access across the corridor. The FEIS says that the BLM indicates that dividing a grazing allotment into separate pastures could be beneficial to livestock and vegetation, if it enabled new management options. But the BLM also "acknowledges that fencing could be required along corridors . . . and that livestock could be isolated from water. Under these circumstances, water we have to be hauled to livestock or provided in some other manner." (FEIS, p. 6-77)

The DOE says (SRCS, p. 3-60) that specifications for underpasses for roads and livestock would be developed during the design phase, and that government agencies would be consulted. The DOE says (SRCS, p. 3-166), "[I]mpacts to livestock and . . . grazing allotments could be mitigated through the use of fencing, overpasses/underpasses, and could provide a water source to animals cut off from current sources. With these mitigating measures, the impacts would be lessened and considered small."

Comment on DOE response. Although the DOE expanded the disclosure of anticipated impacts on agriculture, the DOE did not give the public an opportunity to review and comment on the new information. The generic analysis, covering all the proposed rail routes, is inherently vague.

On this subject, the FEIS is insensitive to the needs and concerns of rural Nevadans. The FEIS does not address Eureka County's comments regarding the conversion of water rights or agricultural lands; changes in the value of agricultural lands or permits; or changes in the costs of agricultural production.

The impacts on agriculture in Eureka County from the proposed Carlin rail line would be significant, and DOE must identify specific, feasible mitigation at this time.

The County continues to have concerns regarding the feasibility of underpasses as mitigation measures, given that up to eight miles of the proposed rail corridor pass through the 100-year flood plain. Also, the possible disruptions to use of access roads during construction raise concerns about closures of R.S. 2477 roads, regarding which the DOE says (p. CR8-343), "It is not expected that the construction of a branch rail line would affect R.S. 2477 roads and other roads along the candidate rail corridors."

2. Cultural resources

Comments on DEIS. The DEIS fails to analyze impacts on the proposed Carlin spur on cultural resources. The proposed action would irreversibly alter historic ways of life in the rural West. Both construction and operation threaten Pleistocene fossils; sacred springs and burial sites of the Western Shoshone; and sites associated with the gold rush and westward emigration. For example, the historic Maiden's Grave is within one mile of the proposed connection of the Carlin spur and the Union Pacific tracks near Beowawe. The Carlin spur would cross the California Trail, the Pony Express Trail, and other historic roads and trails.

DOE response. The FEIS discloses impacts of the proposed Carlin corridor on cultural resources. (See pp. 6-112, -113.) The FEIS says (p. 6-112) that archeological site file searches for the overall Carlin corridor, including its variations identified 110 known sites, 47 of which are eligible or potentially eligible for inclusion in the National Register. The FEIS says (p. 6-112) the portion of the corridor north of the junction with the Caliente corridor crosses or passes through several potentially important areas for archaeological and historical sites, and that each of the valleys through which the corridor and its variations would pass has medium to high potential for prehistoric and historic Native American sites.

The FEIS says (p. 6-113) the proposed Carlin corridor intersects with the California Emigrant Trail and the Pony Express trail, both designated by Congress as National Historic Trails, and the historic Pacific Telegraph Line, Butterfield Overland Mail and Stage route, and Lincoln Highway routes. The FEIS says none of these resources has been evaluated for eligibility for the National Register, although the National Park Service has designated the segment of the Pony Express Trail intersected by the Carlin Corridor, Rye Patch alternate, and Monitor Valley option, as a high potential segment.

The FEIS says (p. 6-113) construction of the proposed Carlin spur could affect a historic Native American cemetery in the Crescent Valley, and that it passes within 2 miles of another cemetery, still in use by Western Shoshone, southeast of Beowawe. Elsewhere, the FEIS says (p. 3-154) says one of the Crescent Valley's Native American cemeteries, still in use, is about 1.6 km

(1 mile) east of the corridor, the other cemetery is "possibly located within the corridor," and Western Shoshone families use several hot springs in Crescent Valley for ceremonies. The FEIS says "additional impacts to these resources during the operation of the branch rail line would be unlikely."

The FEIS says (p. CR8-628) that the DOE has adopted a phased approach for the disclosure of cultural resources impacts. The FEIS says (p. 6-83) that systematic studies would be completed after a corridor is selected, in order to identify sites, resources or areas that might hold traditional value for Native American peoples or communities. The FEIS says (p. 6-84) that, if DOE selected a rail corridor, it would initiate engineering and environmental studies, including cultural resource surveys, and perform additional NEPA reviews as a basis for final alignment selection and construction. The DOE would address mitigation "during the identification, evaluation, and treatment planning phases of the cultural resource surveys."

Comment on DOE response. Although the DOE expanded the disclosure of anticipated impacts on cultural resources, the DOE did not give the public an opportunity to review and comment on the new information. The statement that impacts to cultural resources during the operation of the branch rail line would be unlikely is unsupported by any reason or evidence. Development and operation of the Carlin spur and all its accessory features (e.g., access roads, borrow pits, well sites) will open up remote rural areas to casual exploration and exploitation of cultural resources.

The FEIS fails to address potential impacts on resources in the vicinity of Beowawe (specifically, the Maiden's Grave and Gravelly Ford), which would be threatened by the development of terminal facilities and wye turnouts from the Union Pacific tracks. Also, the disclosure that a Native American cemetery in the Crescent Valley is "possibly" located in the rail corridor is excessively vague.

The impacts on cultural resources in Eureka County from the proposed Carlin rail line would be significant, and the DOE must identify specific, feasible mitigation measures at this time. The DOE's reliance on "paper" mitigation (i.e., identification of mitigation measures at a future date) does not qualify as adequate mitigation under NEPA.

3. Economy

Comments on DEIS. In its comments, Eureka County said the DEIS fails to address impacts on Eureka County's economy. The statement that effects would be small and mostly short-term is unsupported. The DEIS must address positive and negative impacts on the mining, service, construction, government, and agricultural sectors.

The construction and operation of the Carlin spur rail line, and associated terminal facilities at Beowawe, would create direct and indirect economic impacts. Unlike ordinary projects, the proposed action involves issues of fear and perceived risk. The DOE itself has acknowledged--for the no-action alternative as well as another DOE nuclear project--potential adverse impacts on business recruitment and expansion, residential recruitment and retention, institutional trust, tourism, aesthetics, and neighbors. (DEIS, pp. 7-1, -2) Economic impacts would include reduced economic activity and the loss of income and jobs as a result of the decline of visitors to

Nevada and the decline of commercial and residential property values along waste transportation routes. Economic sectors that would be affected by construction and operation of the rail line include mining, government, tourism, recreation, agriculture, and main-street business.

Also, economic impacts would occur on private property owners with improvements in close proximity to the rail line. Eureka County's assessor estimates that property values within three miles of the rail corridor or the Union Pacific tracks would be adversely affected, even in the absence of an accident, as soon as shipping of SNF and HLW commenced. An accident with the release of radioactivity would result in a large loss of property value--specifically, a 32 percent decrease in net property value within three miles of the Union Pacific tracks and the Carlin spur.

DOE response. The FEIS says (p. 6-115), in the analysis of socioeconomic impacts, that the proposed Carlin corridor passes through a "very small" portion of Eureka County. The FEIS (pp. CR8-641, -642, -644) says a "relatively short" section of the Carlin corridor crosses Eureka County.

The FEIS says (p. 6-115) that the DOE considered potential socioeconomic impacts in Lander County, Eureka County, and Esmeralda County collectively "as part of the Rest of Nevada, the portion of the State outside the region of influence." The FEIS says that construction-related impacts to employment, population, real disposable income, gross regional product, and state and local government expenditures for the proposed Carlin spur would be less than one percent of the applicable baselines. Similarly, impacts during operations would be less than one percent. (FEIS, pp. 6-115, -116)

The DOE says (SRCS, pp. 3-157, -158) that the DOE has reevaluated perceived risk and has concluded that: "(1) while in some instances risk perceptions could result in adverse impacts on portions of a local economy, there are no reliable quantitative methods whereby such impacts could be predicted with any degree of certainty, (2) much of the uncertainty is irreducible, and (3) based on a qualitative analysis, adverse impacts from perceptions of risk would be unlikely or relatively small." The Price-Anderson Act would mitigate any claims for liabilities arising from a nuclear accident or precautionary evacuation, as discussed in Appendix M of the FEIS.

Comment on DOE response. Although the DOE expanded the disclosure of anticipated impacts on the economy, the DOE did not give the public an opportunity to review and comment on the new information. The DOE has constrained its economic analysis to exclude major factors of concern to Eureka County. Specifically, implementation of the proposed action would cause a prolonged statewide economic downtown and, if the proposed Carlin rail spur were constructed, losses in the local mining, government, tourism, recreation, agriculture, and main-street business sectors. Eureka County does not agree that "adverse impacts from perceptions of risk would be unlikely or relatively small." Indeed, the FEIS "does not evaluate the risks of economic loss or resultant environmental consequences from potential transportation accidents that could cause releases of radioactive materials," because the DOE says information is not available. (FEIS, p. 6-63)

This "very small" and "relatively short" section of the proposed Carlin spur is over 18 miles long, and directly affects almost half of the population of Eureka County and 59 percent of its private

parcels. The references to the "small" and "short" section are irrelevant; indicate bias; and ignore the access roads, construction camps, well sites, borrow areas, disposal areas, lay down areas, road and livestock underpasses, drainage modifications, and cuts and fills that would be located in Eureka County.

The "small" and "short" references also ignore additional terminal facilities that would be constructed at Beowawe, which include: wye turnouts from the Union Pacific tracks, a crossover of the southern set of UP tracks, interchange tracks, turning tracks, emergency material storage tracks, fencing, emergency station, garage, storage building, crew station, locomotive service facilities, operations center, maintenance headquarters, automobile vehicle maintenance facility, dormitory, fueling station, and rail car repair shop. (If the DOE intends to construct such facilities in Elko County instead, neither the DEIS nor the FEIS discloses that intent.)

Further, an accident involving the release of radioactivity would have a large impact on the County's economy, based on the perception of environmental harm, and not on the length of the rail spur in Eureka County or the severity of the accident.

The economic analysis is unacceptable and needs to be re-examined. It sheds no light on the potentially large economic impacts to Eureka County. The proposed action would affect each county in Nevada differently, and Eureka County respectfully requests a comprehensive analysis that addresses economic impacts for Eureka County, specifically. Despite the DOE's assertion that a quantitative assessment of the impacts of perceived risk is impossible, Clark County has conducted just such an assessment. (Urban Environmental Research, LLC, 2000)

4. Emergency response and public safety

a. Incident-free operations

i. Comments on DEIS

Description and impacts of incident-free operations. In its comments, Eureka County said the DEIS must address hazards at rail crossings, during switching, when shipments are parked on sidings, and from train derailments. Especially regarding public health impacts from exposure to radiation, the DOE must go beyond the minimal analysis in the DEIS. How the rail lines are operated will increase or decrease the risks involved in rail transport of SNF and HLW. Procedures to ensure safety of shipments, workers, the public, and emergency response personnel must be described. These include, but are not limited to, safety and security at switching points, and safety and security for shipments parked on sidings.

The DEIS must analyze impacts on transportation systems of storage of rail cars carrying SNF and HLW on rail sidings for extended periods of time. The health and safety of various groups of individuals would be affected by their proximity to transportation routes. Such groups include: (1) members of the public along the route, (2) members of the public sharing the route, (3) members of the public during stops, (4) transportation and security workers, and (5) construction workers. Some health and safety issues are related to radiation, while others are not. In incident-free transportation, the shipping casks would still emit radiation.

Eureka County commented that the amount of radiation a person would absorb depends on their distance from a cask. The DOE estimates that radiation doses at a distance of 2 meters from the sides of the vehicles would be over half the regulatory limit. The DOE has produced a very confusing array of tables of anticipated health impacts on workers and the public. Exposure to radiation, in the absence of an accident, would cause 0.26 to 0.33 latent cancer fatalities (LCF) in transportation workers, and 0.31 to 0.36 LCF among the public, in the DOE's mostly-rail scenario over a 38-year shipping campaign, statewide. Other industrial accidents from the operation of the proposed Carlin rail line would result in 210 recordable accidents and illnesses to workers, 120 lost workday cases, 0.4 worker fatalities from operations, and 1.1 traffic fatalities during commuting. A specific class of rail transportation workers, inspectors, would absorb more radiation than other workers. The DOE says inspectors in a mostly-rail scenario would have a six percent greater likelihood of a fatal cancer than the average person (based on a 24-year shipping campaign. If administrative controls were put in place to limit the exposure of workers, individual doses would be limited to 2 rem per year.

Impacts at Beowawe, specifically. If rail cars transporting SNF or HLW were delivered to Beowawe by general freight, the public health would be affected by the parking of rail cars at Beowawe while trains bound for Yucca Mountain were made up. Analysis (Halstead, pers. comm., 2001) indicates, if a rail cask were parked at Beowawe 50 percent of the time, a person located 20 meters away would absorb an annual dose of 1,090 millirem, and a person located 100 meters away would absorb about 33 millirem. These levels of exposure would represent a significant increase above background radiation doses.

Hospitals and public facilities. Eureka County commented that the public service information in the DIES is incorrect and misleading regarding the availability and location of hospitals. There is no hospital in Eureka, Crescent Valley, Beowawe, Carlin, or Austin. The nearest hospitals are in Elko and Battle Mountain. A medical clinic serves the Town of Crescent Valley and the surrounding region. Further, the hospital information does not describe the capabilities for treating radiological or other emergency patients. If hospitals or other emergency services do not have the capability to treat patients injured in accidents involving SNF or HLW, this must be disclosed in the DEIS.

ii. DOE response

Description and impacts of incident-free operations. The FEIS (p. CR8-211) says the DOE "at present" intends to purchase service and equipment from regional contractors; that worker exposure would be the responsibility of the employer; and that system specifications would be worked out during the design phase. DOE intends to use a satellite tracking system to monitor shipments to Yucca Mountain. If approved by the NRC, DOE would provide training on, and equipment for, states and tribes to track and communicate about shipments under the NWPA (FEIS, p. CR8-517)

Impacts at Beowawe, specifically. According to the FEIS, rail cars transporting SNF or HLW would be parked at junctions (such as Beowawe) while trains bound for Yucca Mountain were made up, regardless of whether DOE used the general or dedicated freight option (FEIS, p. 2-

54). The FEIS says that impacts to individuals in Nevada who would be exposed to incident-free radiation from rail shipments along a branch rail line would be similar among all the Nevada rail alternatives, and that a resident near a rail stop would receive a dose of 0.29 rem over 24 years, whereas a railyard crew member would receive a dose of 4.2 rem, with a corresponding probability of two thousandths of becoming a latent cancer fatality. (FEIS, p. 6-84)

Hospitals and public facilities. The FEIS says that major hospitals are equipped to deal with radioactive contamination because they routinely handle medical radioisotopes. In cases where there is no training or procedures to handle a contaminated individual, assistance can be obtained from the DOE, on call 24 hours a day (FEIS, p. CR8-516).

iii. Comment on DOE response

Although the DOE expanded the disclosure of anticipated impacts on public safety from incident-free operations, the DOE did not give the public an opportunity to review and comment on the new information. Similar to the DEIS, the information in the FEIS is confusing and disjointed. The DOE's proposed reliance on regional contractors to operate the rail lines does not inspire public confidence. Further, the disclosure in the FEIS that rail cars carrying spent nuclear fuel could be parked at junctions (such as Beowawe) under either the general freight or dedicated freight scenario only heightens Eureka County's public safety concerns.

The impacts on public safety from incident-free operations of the proposed Carlin rail line in Eureka County would be significant, and the DOE must identify specific, feasible mitigation at this time. Identification of system specifications at a later date, during the design phase, does not qualify as adequate mitigation under NEPA.

b. Accidents, incidents, and emergencies

i. Comments on DEIS

Emergency operations and systems. Eureka County said the description of rail line operations (DEIS, p. 2-50) does not include operational provisions for emergency response to accidents, where local capabilities are limited or nonexistent.

Accident scenarios generally; also Beowawe and Dunphy. Eureka County commented that incidents and accidents involving military aircraft and ground transportation have occurred in Nevada in the past, and may occur in the future. The DEIS does not specifically evaluate this risk. the DEIS does not adequately consider: (1) potential cumulative public safety impacts, (2) whether transportation elements of the proposed action would adversely affect the Navy's and BLM's risk assessments, or (3) threats from military training flights associated with Fallon NAS to trucks and trains carrying SNF and HLW. The DEIS must analyze impacts upon transportation systems of an accident involving radiation release on main national routes.

In addition, Eureka County is concerned regarding the safety of rail shipments to and through Beowawe, where Duke Energy operates a bulk propane and oil dispensing facility, and at

Dunphy, about 10 miles north of Beowawe, where construction of an ethanol production facility is under consideration.

Emergency assistance. The County said that the statement that "DOE would, as requested, assist state, tribal, and local governments in several ways to reduce consequences of accidents related to transportation of [SNF and HLW]" (DEIS, p. 6-30) does not provide sufficient information regarding the adequacy of emergency response capabilities. Although DOE may provide assistance to state, local, and tribal governments, that assistance may not be adequate for necessary emergency responses. There is no guarantee or assurance that assistance from the DOE will be forthcoming, or that it will be adequate.

The County said that the statement that "[u]nder Section 180(c) of the Nuclear Waste Policy Act, the Department would provide technical assistance and funding to train state, local, and tribal public safety officials" does not completely address the need for or potential effectiveness of training for emergency responders; address whether training is even desired by all jurisdictions; make it clear that money is granted only to states; or identify an amount. Potential assistance under Section 180(c) does not constitute the universe of assistance needed to help local jurisdictions deal with transportation emergencies, and the DEIS does not analyze whether it is the only assistance needed by state, local, and tribal governments. The discussion of transportation emergencies does not fully address the local emergency response that would be expected or required, even if federal or private response resources were available and dispatched.

Emergency response capability. Eureka County commented that transportation of SNF and HLW through areas with limited emergency response capabilities, including Eureka County, increases the risks associated with transportation incidents. Risks are higher because of the lack of initial response capability and the time delay for responding personnel. The discussion of transportation emergencies does not identify constraints on local emergency response or the consequences of prolonged delays due to lack of local resources.

The County said the DEIS fails to describe baseline conditions for emergency response services, and lacks any meaningful discussion of emergency response needs or capabilities as they relate to local governments. The DEIS must address the availability and capabilities of emergency response services, existing and required. A wide range of response capabilities (i.e., personnel, training, equipment, and policies) exist along transportation routes nationally and in Nevada. There is no description of emergency response planning or capabilities nationally, statewide, or locally in regard to any alternative rail corridor or transportation route. Nevada's rural areas have extremely limited or no capability for initial response. A complete characterization of available capabilities must cover local law enforcement, fire, rescue, and emergency medical services.

Impacts on maximally exposed individuals and emergency first responders. In its comments, Eureka County said the DEIS does not adequately analyze increased exposure of and health risks to emergency first responders. Local emergency personnel are likely to be the first to respond to transportation incidents. The DOE says that an individual absorbing the maximum amount of radiation from a severe accident on the Carlin rail line would absorb a dose of 26 rem. This is far higher than the maximum recommended dose for a person who works near radiation sources, and could produce very serious effects.

The DOE says (in the DEIS) that the maximum foreseeable accident scenario on the Carlin rail line would result in 31 latent cancer fatalities among the population, and that the maximally-exposed individual would have a probability of 13 thousandths of becoming a latent cancer fatality. Wind speed and direction are key variables in estimating the severity of an accident with a release of radioactivity. More information is needed on wind speed and direction in Eureka County.

Emergency response task force. Eureka County proposes to establish a strike force, housed at Beowawe, funded by the project proponents, and controlled by the affected local governments. All necessary facilities would be constructed by the DOE and would become County property upon their completion.

Impacts on local government. Eureka County said the DEIS fails to adequately analyze potential impacts on local governments for emergency response activities related to shipments of SNF and HLW. The discussion of impacts on public services of the Nevada rail alternatives is particularly inadequate regarding emergency response services. The additional risk, costs, training, and management issues regarding emergency response must be included in the DEIS. The DEIS must evaluate fiscal impacts to local emergency response agencies, and fiscal effects of potential litigation related to Eureka County's first response, or lack thereof, to an accident.

Cost of clean-up. The County commented that the impacts on public finances from an accident involving a shipment of SNF and HLW through Eureka County would be large. The cost burden on the County would potentially be far greater than the County's ability to pay, and the revenue losses could be severe. It is not known whether the County would have any exposure to liability from the short-term or long-term consequences of an accident. In any event, the County would have legal expenses resulting from an accident of this nature. There would also be a risk of damage to or contamination of roads, highways, schools, public buildings, equipment, the Crescent Valley water system, and the Crescent Valley airport. Such damage or contamination could result from a non-radioactive spill, a release of radioactivity, a fire, emergency response activities, or a combination.

Liability and responsibility. The County commented that some jurisdictions may choose not to respond to incidents involving SNF and HLW due to financial and personnel considerations. Jurisdictions with volunteer fire departments and other volunteer emergency responders may decide not to respond to incidents in which they cannot participate safely. Local jurisdictions may choose not to respond, even if assistance and training are available. The EIS must address these scenarios.

Eureka County said that the discussion of carrier and shipper responsibilities (DEIS, p. 6-30) is vague, misleading, and inadequate. The reference to carriers' and shippers' responsibilities for preparation of an emergency response plan, provision of information and assistance to emergency responders, and resources for dealing with the consequences of an accidents fails to analyze whether these requirements would lessen the impacts of the proposed action or any of its alternatives. The DOE must hold the County harmless from any liability associated with the regional strike force facilities. Mitigation actions must also include technical and financial

assistance for all phases of emergency management, including programs, funding, and training for preparedness, response, and recovery.

ii. DOE response

Emergency operations and systems. The DOE has added appendix M, "Supplemental Transportation Information," to the FEIS. The FEIS says (p. CR8-514), if there were an accident, the first responders and response time would be the same as for any transportation accident. If a release occurred, and local officials were not prepared to deal with it, immediate assistance could be obtained from the DOE. Section 180(c) funds would help first responders prepare for this type of emergency (FEIS, p. CR8-529). Specific public health and safety issues, including emergency preparedness and response, would not be addressed until the DOE selected a single corridor and alignment within the corridor. The DOE would then initiate NEPA activities for the chosen rail corridor/alignment, initiate consultations, and evaluate these specific considerations in an attempt to mitigate as many potential impacts as possible (FEIS, p. CR8-533).

Accident scenarios generally; also Beowawe and Dunphy. Regarding safety issues at Beowawe and Dunphy, the DOE refers the reader to the discussion in the FEIS of impacts from accidents under the mostly-rail transportation scenario (SRCS, pp. 3-156 and -157). The DOE has also expanded the discussion of impacts of acts of sabotage. (See the FEIS, pp. 6-49 to -52.) Regarding possible sabotage, the FEIS says (p. 6-52):

> Because of the attacks on September 11, 2001, the Department and other agencies are reexamining the protections built into our physical security and safeguards systems for transportation shipments. As dictated by results of this reexamination, DOE would modify its methods and systems as appropriate.

The FEIS says most real-world accidents that have been postulated, including train derailments followed by fire or immersion of a cask into a river, would not likely result in release of radioactive materials from the shipping casks (FEIS, p. CR8-525).

Emergency assistance. The FEIS says that Section 180(c) of the NWPA requires DOE to provide technical assistance and funds to states for training of public safety officials of appropriate units of local governments and tribes through whose jurisdictions it would transport SNF and HLW. (Local governments would not be eligible to receive Section 180(c) grants directly. Along a specific transportation route, it would be the applicant's decision as to who received training.) DOE would determine the amount of assistance based on need, as determined using a planning grant, and based on availability of funds in annual program budgets specified by Congress. Section 180(c) funds would be made available approximately 4 years prior to shipments through a jurisdiction. Eligible state and Native American jurisdictions would receive a one-time planning grant of $150,000 to conduct an assessment of their needs for safe routine transportation and emergency response. States and tribes would be required to coordinate their planning with local jurisdictions, and indicate in their applications for Section 180(c) assistance that they have considered the needs of local public safety officials and describe

how the training assistance would be provided to local jurisdictions. (FEIS, pp. CR8-514, -528, -531, -538)

Additional technical assistance and funds for training would be provided by the DOE for local emergency responders. The DOE anticipates provide financial and technical assistance to eligible jurisdictions at least five years before the commencement of shipments to the repository. (FEIS, p. CR8-525)

The majority of commenters (on Federal Register notices) have indicated that training to the awareness-level for emergency response and inspector training for safe routine transportation is adequate preparation for shipments of SNF and HLW. (FEIS, p. CR8-528)

In the event of an accident involving radioactive materials, states, tribes, and local governments can request assistance from the federal government under the Federal Radiological Emergency Response Plan. Assistance is available from 17 different agencies. (FEIS, p. CR8-533)

The FEIS (p. CR8-533) says DOE will conduct a NEPA assessment after a corridor is selected, initiate consultation with federal, state, and tribal authorities, evaluate emergency response considerations, and attempt to mitigate as many potential impacts as possible.

Emergency response capability. The FEIS refers the reader to Appendix M, sections M.5 ("Emergency Response") and M.6 ("Technical Assistance and Funding of Emergency Response Training for Local and Native American Governments"). The DOE recognizes that emergency preparedness capabilities and needs vary from jurisdiction to jurisdiction. To assist states and tribes to determine what their needs are and where the 180(c) funds and assistance can best be applied, DOE would provide a one-time planning grant to aid in making this determination (FEIS, p. CR8-533).

Impacts on maximally exposed individuals and emergency first responders. Regarding increased exposure of and health risks to emergency first responders, the FEIS includes new information on impacts to first responders from maximum foreseeable accident scenarios (pp. 6-48 and -50) and actions that would be taken in an emergency situation (p. M-20). The DOE has reexamined its risk estimates for transportation of SNF (see p. CR8-392). The new study concludes that previous estimates, reported in the DEIS, tended to overstate the risk. The impacts to maximally exposed individuals in the general public would be very low (FEIS, p. CR8-435). The doses for a rail accident would be 29 rem, for the maximally exposed individual. The largest estimated dose for a first responder would be 0.83 rem, assuming a severe rail accident where a portion of the cask's lead shielding had been displaced (FEIS, p. CR8-535).

Emergency response task force. Pending further review of the FEIS, it does not appear that the DOE has responded to the County's comment.

Impacts on local government. DOE believes that estimating the costs associated with severe, but highly unlikely, transportation accidents requires a high degree of speculation that is not required by NEPA (FEIS, p. CR8-532).

Cost of clean-up. Appendix J of the FEIS includes a new section addressing the cost of cleanup and ecological restoration following a transportation accident. The Appendix says (FEIS, p. J-73), "Using only the estimates provided by [the studies DOE reviewed], the costs of cleanup following a severe transportation accident involving spent nuclear fuel where radioactive material was released could be in the range from $300,000 . . . to $10 billion."

Liability and responsibility. The FEIS says the DOE would be responsible for shipments of SNF and HLW during the entire shipping campaign, regardless of whether private contractors were actually conducting the shipments or operating the associated responsibilities. The Occupational Health and Safety Administration does not have jurisdiction over radiation safety. To the maximum practical extent, DOE would ensure that transport operations were conducted to reduce dose to members of the public to levels below those permitted by regulations. The USDOT is the regulatory agency responsible for establishing and enforcing the standards for transportation infrastructure. (FEIS, pp. CR8-389, -434, -435, -547)

According to the FEIS, State and local governments have the primary responsibility for determining and implementing measures to protect life, property, and the environment. Preparation and implementation of emergency response and evacuation and contingency plans are a state or tribal responsibility for land within their jurisdiction. State and tribal governments have primary responsibility to respond and to protect the public health and safety in their jurisdictions in accidents involving radioactive materials. This includes providing and managing emergency response capabilities. The Emergency Planning and Community Right-to-Know Act mandates the formation of emergency planning and response capability by states. Under this provision, emergency responders cannot simply refuse to respond to an emergency. (FEIS, pp. CR8-515, -516, -528, -531)

The FEIS (p. CR8-515, -536) and the SRCS (p. 3-67) say that first response would be the responsibility of the jurisdiction where an accident occurred, and that DOE and its contractors would be available to assist.

Each regional servicing contractor would be required to provide detailed written procedures for how it would respond to an incident and arrange for repair/replacement of equipment or recovery, as appropriate. The carrier is expected to provide appropriate resources for addressing the consequences of an accident, isolating and cleaning up contamination, and maintaining working contact with the responsible governmental authority until the latter has declared the incident to be satisfactorily resolved. Transportation contractors would be responsible for providing a transportation plan addressing, among other things, the handling and correction of off-normal events. (FEIS, pp. CR8-516, -529).

Regional servicing contractors would be required to develop an emergency response plan that addressed activities to be conducted by shippers and carriers in an accident or off-normal incident (FEIS, p. CR8-536).

The SRCS (pp. 3-159 to -162) says Price-Anderson and indemnification agreements with contractors would provide coverage. The FEIS discusses the costs of accident clean-up in Appendix J, which says the costs of cleanup following a severe transportation accident

involving SNF where radioactive material was released could be in the range from $300,000 to $10 billion. (FEIS, p. J-73) USDOT requires transporters of hazardous materials to carry insurance covering accidents. Costs associated with accidents would be borne by the transportation contractor's insurance and by coverage under the Price-Anderson Act, which provides for indemnification of liability to cover claims that might arise from an accident in which radioactive materials were released or one in which an authorized precautionary evacuation were made (FEIS, p. CR8-522). (See discussion of Price-Anderson Act at FEIS, p. CR8-546.) The liability of all responsible parties is limited to the amount of coverage provided by the Price-Anderson system. State and local governments cannot be required to provide additional compensation (FEIS, p. CR8-547).

iii. Comment on DOE response

Although the DOE expanded the disclosure on anticipated impacts on public safety from accidents, incidents, and emergencies, the DOE did not give the public an opportunity to review and comment on the new information. The FEIS does not respond to Eureka County's proposal to establish a regional emergency task force, to be located near Beowawe. Further, the FEIS dismisses impacts of emergencies on local government as "too speculative."

The impacts on public safety in Eureka County from emergencies on the proposed Carlin rail line would be significant, and the DOE must identify specific, feasible mitigation measures at this time. DOE's reliance on "paper" mitigation (i.e., encouraging local governments to work with the State of Nevada to secure funding under section 180(c) of the NWPA, for which the County itself may not even apply) does not qualify as adequate mitigation under NEPA. Thus, the responsibilities that the proposed action would impose on Eureka County constitute an unfunded federal mandate. The statement that assistance would be available from 17 different federal agencies is alarming, rather than reassuring, to the County, since it indicates that the county would have to navigate an administrative quagmire to seek relief for impacts from an emergency.

Finally, Price-Anderson indemnification excludes any accident that does not release radioactivity to the environment or require an evacuation. Eureka County is still concerned that accidents on the proposed rail line would expose the County to significant liability and legal expenses.

5. Infrastructure and public finance

Comment on DEIS. Eureka County commented that the construction of the proposed rail line and support facilities (such as those at Beowawe) would generate a significant amount of liquid and solid wastes, including waste lubricants, solvents, paints, other hazardous materials, sanitary wastes, industrial wastes, waste concrete, and scrap rails, ties, bridge timbers, and track fastenings. These wastes would constitute an additional burden on the County; may not be compatible with waste handling facilities at existing sites; and may consume all available capacity in the Eureka landfill, to which northern Eureka County exports its solid waste.

The proposed rail line would also affect the Town of Crescent Valley's airport; create unsignaled, at-grade, road crossings; degrade emergency response times; and complicate school bus routes.

In the event of an accident, there would be a risk of damage to or contamination of roads, highways, schools, public buildings, fire and emergency response equipment, and the Crescent Valley water system.

Construction and operation of the Carlin rail line would expose local governments in Eureka County to fiscal impacts, due to the need to increase government services and other factors. Categories of fiscal impacts include: (1) costs incurred for emergency management and response capabilities, (2) general government and administrative costs, (3) losses in State service due to reallocation of resources at the State level, (4) losses in visitor-related tax revenues, and (5) losses in property tax revenues. Since the proposed action would result in a statewide economic downturn, Eureka County's local governments would receive lower than normal revenues, regardless of the transportation alternative selected. If the DOE selects the Carlin rail alternative, impacts on Eureka County would be magnified. Revenues would be diminished from all sources of public revenue the County receives.

In the case of an accident, the cost burden on Eureka County would potentially be far greater than the County's ability to pay, and revenue losses could be severe.

DOE response. The FEIS says (p. 6-115) that increases in population resulting from the construction phase of the proposed Carlin spur would be small and transient, and impacts to schools or housing would be unlikely. The FEIS says (p. 6-116) that construction-related impacts to employment, population, real disposable income, gross regional product, and state and local government expenditures for the proposed Carlin spur would be less than one percent of the applicable baselines.

DOE assumes (p. 6-116) that half of the Carlin rail operational personnel (about 24 directly employed individuals) would live at each end of the branch rail line. The DOE also assumes that rail operations employees and indirectly employed individuals at the Beowawe end of the rail line would live in or near the "Town of Elko" in Elko County. The FEIS says impacts to schools and housing would be unlikely, because increases in population and employment would be small. The FEIS says the impact during operations of changes in gross regional product, real disposable income, and expenditures by state and local governments would be less than one percent.

The FEIS says (pp. 6-88, -89) construction of one of the proposed rail corridors would result in "very small" amounts of waste that would require disposal. Wastes would consist of vegetation, construction debris, such hazardous wastes as lubricants and solvents, sanitary solid waste, and sewage. The FEIS says, "The sanitary sewage could be treated in an onsite treatment facility for which the contractor had obtained the necessary permits." (FEIS, p. 6-89) The FEIS (p. CR8-661) says the DOE will identify waste disposal facilities during final design and construction.

Regarding fiscal impacts, the FEIS says (p. CR8-643) that a "relatively short" section of the Carlin corridor crosses Eureka County. The FEIS says section 180(c) of the NWPA would provide technical assistance and funds for training public safety officials through whose jurisdictions it would transport SNF and HLW.

Comment on DOE response. Although the DOE expanded the disclosure of anticipated impacts on infrastructure and public finance, the DOE did not give the public an opportunity to review and comment on the new information. The discussion of impacts on solid waste landfills is not credible, since it compares the total solid waste generation with the total capacity of Nevada's landfills. This technique is disingenuous and masks the possible impacts on a small landfill, such as Eureka's. Also, the DOE itself says, "For all waste types, DOE likely would use the nearest available authorized disposal facilities having sufficient capacity." (FEIS, p. CR8-661)

Further, the FEIS does not address four of the five fiscal impacts of concern to the County, specifically: (1) costs incurred for emergency management and response capabilities, (2) losses in State service due to reallocation of resources at the State level, (3) losses in visitor-related tax revenues, and (4) reduced property tax revenues.

The fiscal impacts on Eureka County and the County's other local governments would be significant, and the DOE must identify specific, feasible mitigation at this time. The DOE's reliance on "paper" mitigation (i.e., identifying waste disposal facilities during final design and construction; encouraging local governments to work with the State of Nevada to secure section 180(c) funds, for which it may not directly apply) does not qualify as adequate mitigation under NEPA. The fiscal impacts on Eureka County from the proposed action would constitute an unfunded federal mandate.

Finally, as discussed earlier in this document, the reference to a "relatively short" section of the Carlin corridor in Eureka County is irrelevant, indicates bias, and ignores the multitude of facilities and operations--and corresponding fiscal impacts--that would be involved with the proposed Carlin spur.

6. Land ownership

Comment on DEIS. Within Eureka County, the proposed Carlin corridor includes about 54 percent private land (for the primary option) or 59 percent private land (for the Crescent Valley option). Almost 60 percent of the assessed private parcels of land in Eureka County are within 10 miles of the proposed corridor, which would affect 1,730 acres of private land along its length.

Eureka County's master plan and its land use element identify issues of concern, including: (1) protection of private property rights and value of land assets, (2) fiscal, agricultural, and groundwater impacts from parcelization of land, and (3) the need to acquire land from the BLM for community expansion, to increase the amount of private land, and to ease restrictions on the use of federal land.

The proposed action would convert private land to public use, and an accident would force further distress sales of private property.

DOE response. The FEIS says (p. 6-106) that the "withdrawal" of land from private ownership could impact area city and county economic expansion through the loss of tax revenues. The

FEIS says (p. 6-107) that the presence of a rail line could influence future development and land use "along the railroad" in Crescent Valley, but does not mention Beowawe.

The DOE says (SRCS, p. 3-61) information on conversion of private land to public use, and subsequent impacts on taxes and the economy, is not presently available; that section 116(c) of NWPA allows governments to request assistance to mitigate impacts; and that potential land use impacts would be minimized through "judicious alignment" of the rail line within the corridor.

In response to Eureka County's comments on land use and community development, the FEIS says (pp. CR8-570 to -572), in summary, that: (1) the EIS is adequate, (2) DOE has identified mostly-rail as its preferred transportation scenario, (3) the EIS notes the branch rail lines would require conversion of land in existing grazing allotments, (4) operational impacts on grazing lands would be less than construction impacts, (5) DOE would conduct field studies of land use after the selection of a specific corridor, (6) DOE is required to use fair market value to acquire real property, and (7) adverse impacts from perceived risk would be unlikely or relatively small.

Comment on DOE response. The DOE has slightly expanded its discussion of anticipated impacts on private property, and has not given the public an opportunity to review and comment. The disclosure of these impacts is still incomplete, insensitive to the factual situation in northern Eureka County, and unrealistic in its reliance on "judicious alignment" of the rail corridor in order to avoid private property impacts. With the number of private parcels in Eureka County's 18-mile share of rail corridor, "judicious alignment" would certainly not avoid the taking of large areas of private land.

The FEIS response (pp. CR8-570 to -572) to Eureka County's comment regarding conflicts with the master plan, and its dismissal of the land uses of rural areas, is not responsive. It discusses a multitude of subjects other than land use, and does not mention the County's master plan.

Further, Eureka County has never before encountered the terminology, "withdrawal" of land from private ownership. The DOE's use of the word is, in itself, of concern. The proper term, which the DOE must acknowledge, is "taking" of private property.

The impacts on private property in Eureka County from the proposed Carlin rail line would be significant, and the DOE must identify specific, feasible mitigation at this time. The DOE's reliance on "paper" mitigation (i.e., conducting field studies of land use after a corridor is selected; relying on "judicious alignment") does not qualify as adequate mitigation under NEPA.

7. Natural resources

Comment on DEIS. The proposed rail line would result in the disturbance of up to 1,000 acres of vegetation and soils in Eureka County, including the railroad bed, access roads, work camps, the Beowawe facilities, and other areas. The flat cross-sections of the rail corridor create a demand for 1.6 million cubic yards of fill, beyond that generated by required cuts. More than 49 acres of borrow area, excavated to a depth of 20 feet, will be required in the County--not including any solid waste landfill that would be constructed.

The extensive land disturbance would produce habitat conducive to invasion by noxious weeds, and vehicles used during construction and operations would help spread weed seeds. Construction of the proposed rail line would also result in a loss of soil through wind and water erosion, and a loss of infiltration capacity through compaction. A severe accident involving a release of radioactivity would create a need to remove contaminated soils, possibly in large quantities, as well as a risk of additional soil disturbance.

The proposed rail line would also affect fish and wildlife by removing habitat, modifying habitat, and creating noise. In the event of a severe accident, the loss of habitat could be permanent. Without undisturbed access to critical habitat, wildlife may abandon large areas of year-round habitat. Operation of the rail line would reduce the value of habitat crossed by, or near to, the line. Fencing of the right-of-way would adversely affect the movement of pronghorn antelope, blocking their migration paths; impede the movement of mule deer; create a danger of mule deer entrapment; adversely affect a sage grouse strutting ground located southeast of Beowawe. The DOE itself says that fences along the right-of-way may impede movement of antelope, mountain sheep, horses, and burros.

DOE response. The FEIS says (p. 6-81) that numerous special status species occur along each of the proposed branch rail lines, and that construction would lead to habitat loss and fragmentation and mortality of individuals. However, the FEIS says (p. 6-110) that land disturbance for the Carlin corridor "would have no discernible impact on the availability of habitat for plants or animals associated with any [vegetative] cover type."

The FEIS says (p. 6-111) that at least three populations of sensitive plants occurs outside the corridor, but within 5 kilometers. DOE "anticipates no impacts to these populations because land disturbance would not extend to these areas and changes in the . . . environment in these areas as a result of construction or long-term presence of a railroad would be unlikely."

The FEIS says (p. 6-111) 14 populations of eight sensitive animal species occur within 5 km of the corridor. The DOE says these populations "would not be affected by construction activities due to their distance from the corridor."

The FEIS says (p. 6-111) there are 17 areas designated as game habitat within 5 km of the corridor. The FEIS says "[f]our of these areas are associated with sage grouse (1 nesting and 3 strutting) and probably would not be affected by construction of the rail line."

The FEIS says (p. 6-112) that the presence of soils with poor (i.e., high) shrink-swell characteristics could influence the amount of area disturbed by construction, since soils from outside areas might have to be imported for construction purposes.

The FEIS says (p. 6-81) construction activities would cross or come near areas designated as game habitat or wild horse and burro management areas, and that construction activities would result in some loss of habitat. It says the design of fences "if built along a rail corridor" would accommodate the movement of game animals and wild horses and burros, to the extent possible, with such features as underpasses.

The FEIS says (p. 6-82) that operations could lead to loss of habitat due to inadvertent fires along the right-of-way. The FEIS says that fewer large animals would be killed during operations if the corridor were fenced, but fencing would restrict animal movement and disrupt migration patterns, and would require continual surveillance to prevent individual animals or herds from being trapped. Individual animals or groups of animals could become caught inside fenced sections of the railroad and bet struck by oncoming trains.

The FEIS says (p. 6-83), "No additional habitat loss would occur during operations, although the loss of habitat could become permanent if a long-term use for the rail line became viable after completion of the repository project and operation continued."

The SRCS (pp. 3-60, -61, -166) says that the source of the large amounts of borrow material needed would be determined during the design phase.

Comment on DOE response. Although the DOE has expanded the disclosure of anticipated impacts on natural resources, the DOE did not give the public an opportunity to review and comment on the new information. The conclusion that land disturbance for the Carlin corridor would have no discernible impact on habitat for plants or animals is based on comparing disturbance in the corridor with the total statewide area for each cover type. The conclusion that sage grouse strutting areas would not be affected is completely unsupported. The DOE's conclusion that populations of sensitive plants and animals would not be affected by the rail spur is unsupported and ignores impacts of construction and use of access roads, Beowawe facilities, borrow areas, solid waste land fills, well sites, and other features of the proposed rail line.

The FEIS indicates confusion and indecision on the part of the DOE regarding the need for, and impacts of, fencing. Eureka County reiterates its comment that local governments and affected local ranchers and other persons must be consulted on the installation of fencing.

The impacts on natural resources in Eureka County from the proposed Carlin rail line would be significant, and the DOE must identify specific, feasible mitigation measures at this time. The DOE's reliance on future studies to identify impacts and mitigation measures does not qualify as adequate mitigation under NEPA.

8. Noise

Comment on DEIS. Eureka County commented that the DEIS fails to consider the impacts of the proposed action on the quality of life of Eureka County's residents. The unique values of such communities as Crescent Valley include, among many others, the quiet surroundings. The County said that noise will affect the nature of the Town of Crescent Valley and expose the community to a noticeable increase in ambient noise levels.

During the construction phase, the DEIS anticipates noise levels of 62 to 74 dBA within 150 meters of construction noise sources, and 54 to 67 dBA at a distance of 600 meters. Noise sources will exist in both the proposed corridor and on connecting roads to borrow and spoil areas. The DEIS does not say whether these are cumulative or single-event noise levels.

During the operation phase, assuming train speeds do not exceed 80 km/hr (about 47 mph), the DEIS anticipates the volume of noise from a train consisting of two locomotives and 10 cars is 51 dBA at 2000 meters and 62 dBA at 200 meters, expressed as an equivalent continuous (average) sound level.

DOE Response. The DOE identified twelve communities along the proposed Carlin corridor, including Beowawe and the Town of Crescent Valley. The FEIS says (p. 6-117) that noise from a two-locomotive train in Beowawe and Crescent Valley would not exceed the 60 dBA benchmark (i.e., standard) for residential communities during daylight hours or the 50 dBA benchmark for nighttime, but there would still be a potential for noise impacts from both construction and operations. The noise level in the Crescent Valley community from a passing train is estimated at 44 dBA. Elsewhere in the FEIS, however, the DOE says that the average sound level at 2,000 meters from a two-locomotive, 10-car train traveling at 80 km/hour would be 51 dBA, which "is near" the nighttime standard for residential areas. (FEIS, p. 6-86) (Actually, 51 dBA violates the nighttime standard.) The Crescent Valley community is 1.9 km (1900 meters) from the proposed rail line. (FEIS, p. 6-117)

Estimated noise levels for the construction phase would range from 62 to 74 dBA within 150 meters of the noise source and from 54 to 67 dBA at 600 meters. At distances up to 6 km (3.7 miles), sound could exceed levels required for solitude (20 dBA). Trips to borrow and spoil areas would be additional sources of noise. (FEIS, p. 6-86)

Comment on DOE Response. Although the DOE expanded the disclosure of anticipated noise impacts, the DOE did not give the public an opportunity to review and comment on the new information. The noise analysis presented in the FEIS is not consistent. In one place, the FEIS says train noise would violate the nighttime standard, while in another place, it says it would not.

Eureka County is concerned that noise impacts will be significant on the Town of Crescent Valley, and possibly other areas. The DOE must identify specific, feasible mitigation to reduce these impacts at this time.

9. Water

Comment on DEIS. Where the proposed Carlin corridor crosses the 100-year flood plain, the rail line would be vulnerable to damage and inundation for eight miles or more between Beowawe and the Town of Crescent Valley, and also to the southeast of the Town along Thomas Creek. Construction of the rail spur and access roads may change the boundaries of flood areas, subjecting new properties to flooding, flood damage, and higher insurance costs. A flood-related disruption of the shipping campaign would expose workers and County residents to radioactivity from parked or stalled shipments, or from any legal-weight trucks that take the place of rail cars during an extended period of flood damage repair.

Construction of the proposed rail line would potentially release surface water contaminants, including petroleum products (fuel and lubricants), antifreeze, PCBs, releases from vessel cleanouts, empty and crushed drums, sanitary wastes, drilling fluids and muds, solid wastes, construction wastes, and tires. The Humboldt River and all streams and springs in the vicinity of

construction activities would potentially be affected. Although some contaminants would become bound to soil particles before reaching groundwater or surface water, other contaminants (such as solvents) are very mobile in most soils.

Water wells installed during the construction phase could affect flows in nearby streams and springs, including the Humboldt River. The DOE says that the Carlin rail spur could impact water resources by changing infiltration rates, introducing new sources of contamination, and depleting groundwater from increased demand. Cuts, fills, and borrow areas will also have surface water impacts.

In the event of an accident, even without the release of radioactivity, there would be a risk of fuel spills and damage to water resources from personnel and equipment responding to the accident. An accident would also create a risk of wildfire, with attendant impacts on water resources.

DOE response. The FEIS says (p. 6-108) that the Monitor Valley alternative for the Carlin Corridor would increase by four the number of 100-year flood zones crossed. The FEIS says (p. 6-108) that "impacts associated with altering drainage patterns or changing erosion or sedimentation rates or locations would be minor and localized."

The FEIS says (p. 6-108) that annual demand for groundwater during construction would be a fraction of the perennial yield of most aquifers over which the rail line would pass, and 91 percent of the water withdrawn from groundwater wells along the corridor would be used for compaction of fill material. The FEIS says (p. 6-108) that use of the Monitor Valley alternative for the Carlin Corridor would decrease by 20 percent the portion of the corridor crossing designated groundwater basins.

The FEIS says (p. 6-112) that one group of springs and "three to four" stream or riparian areas are within the 400-meter corridor. The FEIS says the DOE would work with the U.S. Army Corps of Engineers to minimize impacts to these areas and would obtain "individual or regional permits if necessary."

The FEIS says (p. 6-112) that up to 60 known springs and six riparian areas occur within 5 km of the Carlin corridor and its variations. The DOE anticipates no impacts "because these areas would not be disturbed during construction or by the long-term presence of a railroad."

The FEIS says (p. 6-112) that the Monitor Valley alternative of the Carlin corridor would avoid 13 of the springs and four of the riparian areas within 5 km of the corridor.

The FEIS says (p. 6-112) that disturbance of erodible soils (which occur along much of the corridor and its variations) could lead to increased silt loads in water courses. The DOE says that erosion control during construction, and revegetation or other means of soil stabilization after construction, would "minimize these concerns."

The FEIS says (p. CR8-434) that the FEIS does not specifically analyze the possibility of a spill and potential contamination of surface water or grounder, since analyses have consistently shown that the airborne pathway has the greatest potential for exposing large numbers of people

to radioactive material in the event of a release of radioactive materials during a severe transportation accident.

Comment on DOE response. Although the DOE has expanded the disclosure of anticipated impacts on water resources, the DOE did not give the public an opportunity to review and comment on the new information. The FEIS offers no data or justification for the statement that impacts associated with altering drainage patterns or erosion rates and locations would be minor and localized. The decision not to evaluate impacts on the Humboldt River is ill-advised. Even if contamination with radiation is not likely, there are other pollutants that could be released during construction, incident-free operations, accidents, incidents, and emergencies.

The statement that there would be no impacts to springs or riparian areas because they would not be disturbed during construction or by the long-term presence of a railroad is unsupported by any reason or evidence. Development of the branch rail line and all its accessory features (e.g., access roads, borrow pits, well sites) will open up remote rural areas to casual use and disturbance of these surface water resources.

The impacts on water resources in Eureka County from the proposed Carlin rail line would be significant, and the DOE must identify specific, feasible mitigation measures at this time. The DOE's reliance on "paper" mitigation (e.g., working with the Corps of Engineers to minimize impacts on streams and riparian areas) does not qualify as adequate mitigation under NEPA.