

Notice of Intent to prepare a Supplement to the Final Environmental Impact Statement  
for a Geologic Repository for the Disposal of Spent Nuclear Fuel and High-Level  
Radioactive Waste at Yucca Mountain, Nye County, Nevada and Rail Alignment  
Environmental Impact Statement

Scoping Comments  
Churchill County, Nevada

Churchill County places strong emphasis on the following issues and DOE's responsibility to adequately address them in the EIS.

1. DOE needs to evaluate the Mina Rail route from Hazen to Yucca Mountain as new rail line. Yucca Mountain shipments in addition to other future commercial shipments will dramatically increase the total volume of rail activity along the Mina Branch line from Hazen to Yucca Mountain. Although track currently exists from Hazen to Thorne, there has been very little rail activity in recent years. The Yucca Mountain project and shared commercial use can substantially increase rail activity beyond current baseline activity.
2. DOE needs to evaluate the future development in the Hazen area and determine specific mitigation measures to offset potential adverse impacts. Both residential and commercial development is expected in the immediate area. The EIS should evaluate potential impacts to areas where significant new development will occur and has the potential for conflicts with rail activity.
3. The Mina Route should be open to all commercial use without restrictions. The EIS needs to ensure that a broad range of uses and shipments types are evaluated in the EIS. Also, future development in the Hazen area may include an airport facility. DOE needs to disclose potential impacts to airport operations that are within close proximity to nuclear waste shipments.
4. DOE needs to evaluate cumulative impacts that could be associated with future radioactive and non-radioactive waste shipments in the corridor.
5. DOE needs to consult directly with the Department of Defense including the U.S. Naval Air Station at Fallon and the Hawthorne Army Ammunition Depot for any potential impacts to military operations in the area. Military over flights became an issue with regard to the proposed Skull Valley project.
6. The level of analysis in the EIS needs to recognize Nevada's unique role as the receiving jurisdiction. As a result, the issues evaluated and the level of analysis for the rail line in Nevada should be substantially greater than other areas of the country.
7. DOE needs to recognize that the majority of waste shipments to Yucca Mountain may now be entering the State in the north. For over 20 years, transportation elements of the Yucca Mountain program have been focused largely on southern Nevada. DOE needs to refocus its resources, institutional interactions and support to northern Nevada.

8. DOE needs to examine the cumulative impacts associated with potential truck shipments through Churchill County under the mostly rail scenario. Particularly emphasis should be given to western reactor/generator sites that will ship through Churchill County.

#### Churchill County General Comments

9. It is unrealistic for DOE to limit its truck routing options to I-15 and U.S. 95. Western generator sites will incur substantial increases in shipment miles in order to access a point of entry in southeastern Nevada on I-15. DOE needs to examine the potential number of truck shipments that will use I-80 and U.S. 50/95.

10. The period of analysis for the Mina Route should be expanded to consider a larger repository than currently envisioned (70,000 mtu), and larger potential shipment volumes associated with the increasing demand and expansion of nuclear power generation. Similarly, the affects of recycling on shipment volumes should also be discussed in the EIS.

11. There are several private crossings along the Mina Rail route in Nevada. Potential impacts and accidents need to be evaluated and safety measures should be implemented. Portions of the Mina Route (Hazen to Thorne) currently have very limited use. The Yucca Mountain project has the potential to directly and indirectly increase rail activity in the Corridor, particularly areas south of Hazen.

12. DOE needs to examine the entire Mina Rail route in more detail than the national transportation route contained in the Final Environmental Impact Statement for Yucca Mountain. The route segment from Salt Lake City to Yucca Mountain has not been evaluated in terms of risk analysis, impacts on existing rail operations, potential areas for increased accidents and derailments, etc.

13. DOE needs to fully consider the potential social, economic and environmental impacts of rail operations along the corridor in northern Nevada from Wendover to Yucca Mountain. Simply providing a radtran or other type of risk analysis is not sufficient for receiving areas.

14. The EIS needs to identify the specific generator sites that will access the Mina Rail alternative and identify the number of shipments entering the route from the west and from the east. DOE should also identify likely truck routes for non-rail shipments. There are a number of generator sites in the west that do not have direct rail access suggesting truck shipments are required. The total number of truck shipments from western reactors should be identified and impacts evaluated. Also, the location of generator sites in the west could utilize more than one route to access the Yucca Mountain rail spurs.

15. The EIS needs to contain a comparison between the Caliente Route and the Mina Route in terms of overall construction and maintenance/operation costs. Also, the EIS needs to describe the schedule for construction of both routes. The need for major

improvements such as bridges and tunnels should be identified as was as major cuts to accommodate grade requirements of nuclear waste trains. DOE also needs to identify potential replacement costs for facilities along both routes.

16. DOE needs to define and evaluate a worst-case accident location and scenario within the Mina Route Corridor. Such locations should include the area from Wendover, Nevada to Yucca Mountain.

17. The EIS needs to have a complete description of the emergency response capabilities throughout the Union Pacific route in northern Nevada. DOE needs to examine the ability to provide emergency medical services to accidents involving radiological materials. Hazardous materials response teams along the Mina Route in northern Nevada should be identified.

18. The EIS needs to evaluate whether or not the Mina Route will result in Yucca Mountain shipments avoiding the Las Vegas and Salt Lake City areas.

19. The no-action alternative needs to describe how western generator sites will ship to Yucca Mountain and disclose potential impacts to the routes. DOE should not simply fall back to the I-15 corridor through Las Vegas to access Yucca Mountain particularly when such a route is not the shortest and safest route to Yucca Mountain for many western generator sites.

20. DOE needs to describe how many rail shipments will occur on the northern Union Pacific under the Caliente option (shipments from west to east). Although certain routing options may not be completely known at this time, an estimate of shipments should be made in the EIS.

21. The EIS needs to disclose the potential impacts to hydrologic resources along the rail route in northern Nevada. The EIS should disclose the probability of an accident and the potential for release and the impact it might have on water resources. Potential mitigation and responsibility of clean up should be identified.

22. DOE needs to provide detailed information on events that have historically interrupted train operations on the northern corridor of the UP mainline through Nevada and describe how nuclear waste train shipment would be handled (i.e. derailments, floods, track washouts, etc.).

23. DOE needs to describe the estimated operating costs for Caliente and Mina operations with and without shared commercial use.

24. DOE needs to conduct a risk assessment for potential accident consequences from Hazen south.

25. DOE needs to evaluate potential social and economic benefits associated with construction and operations of the Mina Branch line. Support facilities should be

identified. Construction related impacts should be analyzed to determine both positive and negative aspects associated with rail construction and operations.

26. During storage in spent fuel pools at nuclear reactor sites, spent fuel becomes considerably less radioactive than it was at the time of removal from the core. However, even after a ten-year cool down period, spent nuclear fuel emits dangerous levels of gamma, beta and neutron radiation. After ten years of storage in a spent fuel pool, about one-half of the fission activity is generated by cesium-137. DOE needs to describe the age of fuel to be shipped and the potential for volatile cesium.

27. A study by the US Department of Energy's Pacific Northwest Laboratory measured 9.9% of the cesium created during reactor operation as present in the gap. In the event of an accident in which the fuel cladding and cask body or cask seal is breached, this volatile and mobile cesium will be available to be dispersed to the surrounding environment. The cesium would travel in whichever direction the wind is blowing to contaminate areas surrounding the accident site. Cesium is a strong gamma emitter. Because of its long half-life, it will be hazardous for several hundred years.

28. The amount of cesium in any one shipment will differ due to the type, age and amounts of fuel. Given this radionuclide's longevity, volatility and mobility it's presence in the fuel and in the fuel rod gap poses a concern.

29. Sometimes in reactor water, there are metal chips or debris, for example from a rusted pipe. These can cause damage to the fuel cladding. Cladding can corrode and become embrittled. It can crack, pit and thin. Ironically, these problems may mean less volatile cesium available to be released during transit (because it's already been released either in the reactor or the spent fuel pool.). DOE needs to evaluate the potential for damage to fuel cladding.

30. If the fuel cladding has been weakened before encountering the possible shocks and vibrations expected during transit on the nation's highways and railroads, the potential for further fuel rod degradation is real. The integrity of the second barrier, the fuel rod barrier, is a cause for concern. The potential for this to occur should be disclosed in the EIS.

31. Fires that involve chemicals can rage for long periods and produce higher temperatures than a fire that involves diesel fuel alone. DOE needs to evaluate the potential for accidents with chemical shipments and the potential for higher temperature and long duration fires that could lead to a release.

31. In the incident-free-scenario, the latent cancer fatality (LCF) is fairly low. The LCF, however, is considerable in the event of a severe accident. DOE needs to provide estimates of latent cancer fatalities in the UP corridor in Northern Nevada from incident free and accident scenarios.

32. DOE needs to identify all associated transportation support facilities that will be required and can be located in Nevada. Alternative sites for the support facilities should be identified and evaluated.

33. DOE should consider an intermodal facility to serve Yucca Mountain as an alternative.

34. DOE should again evaluate the Mina 6A route in the Corridor and Rail Alignment EIS.

#### Churchill County Specific Comments

35. Churchill County has a substantial amount of data related to existing conditions. The County also maintains GIS for most areas of the County. DOE is encouraged to contact our Yucca Mountain staff representatives and the Planning Department to evaluate available information.

36. The Mina Route from Hazen to Yucca Mountain should be considered as new construction and should require a review of specific impacts. The only user of the route is currently the U.S. Army who conducts a limited number of shipments per year. Yucca Mountain operations will substantially increase the use of this route over its current baseline conditions. Upgrades and improvements will need to be made due to the increase in traffic (Yucca Mountain and Non-Yucca Mountain waste shipments) along this route.

37. Yucca Mountain rail operations have the potential to create future cumulative impacts associated with non-Yucca Mountain shipments. The impacts of said operations need to be evaluated along the entire rail route through Churchill County, particularly from Hazen south to Yucca Mountain.

38. The rail crossing at U.S. 50 and Silver Springs needs to be evaluated in terms of its projected future use and the potential to widen U.S. 50 to 4 or more lanes. NDOT should be consulted with respect to this crossing (NDOT District II Engineer). The current crossing is an at-grade rail crossing. DOE needs to describe current and well as future conditions at the crossing including highway traffic using the crossing.

39. DOE needs to examine and identify all the rail crossings from Hazen south to Yucca Mountain. Because the rail line currently has limited uses, there are a number of crossings along the entire track. These crossings pose potential danger as the number of shipments will continue to increase.

40. DOE needs to recognize the potential for new development along the Mina Rail line from Hazen to Yucca Mountain. Specific areas associated with large-scale developments or planned areas for growth should be identified. In Churchill County, the Mathews Ranch Development at Hazen consists of approximately 2,300 acres of commercial, industrial and residential planned development. DOE should also analyze the potential

affects to property values and perceptions that nuclear waste shipments will diminish these areas as places to live and work. North of U.S. near Hazen may be considered for a future airport facility.

41. With respect to economic impacts, DOE needs to evaluate whether or not Yucca Mountain train operations will impact the Lahontan Reservoir recreation area. The State Park and associated facilities attracts nearly 400,000 visitors each year. DOE needs to evaluate whether or not the presence of nuclear waste trains would have an impact on visitors.

42. DOE needs to describe the potential switching movements and train operations in the immediate Hazen area and how such movements will be coordinated with regular train traffic. Additionally, the Fallon Branch is anticipated see increased use due to projected increases in rail customers from Hazen to Fallon. Also, Churchill County is in the process of developing a new rail park area approximately 7 miles from Hazen. The EIS should describe any possible delays in Yucca Mountain train shipments in the Hazen area as rail service in the Fallon/Hazen area increases.

43. DOE needs to describe how trains will cross U.S. 50 at Hazen. NDOT is planning to expand the Highway to four lanes.

44. DOE also needs to recognize that most first responders in rural areas will be local law enforcement. DOE needs to evaluate the potential impact to local law enforcement. DOE must evaluate the availability of security forces and military resources that could provide for security of Yucca Mountain shipments.

45. Understanding that regular freight is currently being transported on the existing Union Pacific Line, what restrictions, if any, will be imposed on commercial uses of the track during the approximately 24 year period when radioactive materials shipments are envisioned? What assurances can be provided to local industries that their regular rail shipments will not be delayed if trains carrying radioactive waste are given priority or are guaranteed expedited service? We are looking for assurance that current and future local industries' levels of rail service are not sacrificed because the corridor is shared by trains carrying radioactive waste. Future new industrial development off the UP line in Churchill County will require addition of new main line turnouts and we have concern that there will be reluctance by the railroad to take on additional industrial switching, as it will become more critical than ever to reduce any more rail traffic on the mainline for switching moves.

46. We are concerned that the railroad's freight rates will be increased if the radioactive transport trains run through Churchill County, meaning the operational challenges to handle regular freight concurrently, may make the railroad less inclined to provide service to new customers in this corridor.

47. If facilities need to be constructed, rehabilitated, maintained or inspected during the period of use, to what extent will this create local civilian jobs? Will local business hiring goals or set-asides be used?

48. Some areas planned for future commercial / industrial development that are not presently developed but will be under development during the time the route would be used for radioactive material transport. In DOE's assessment of impacts and mitigations, we want to make sure that these planned/soon-to-be-developed areas are given consideration even though they are not developed already at the time the supplementary EIS investigation is done. The County has expended planning and marketing resources to lay the groundwork and it is crucial that this effort is not wasted and that this future development comes to fruition.

49. The Hazen area is planned for industrial growth stemming from its location, close proximity to transportation infrastructure, and local geothermal resources. How will rail access be preserved to access new industries and new industrial parks without impacts from the possible nuclear materials transport? Future users may have varying needs for rail service: some may need just a few rail cars delivered on a more infrequent business and others may require more frequent delivery of a greater number of rail cars. Service to all types of potential users shall be provided without impacts from the transport of radioactive materials.

50. The County has a growing workforce and need to develop new jobs. Transport through the County creates traffic without local economic gain. If radioactive transport were done in the County, we would like to see the investment made in infrastructure to create jobs and to provide training opportunities to our citizenry, to the extent possible. The projection of number of local jobs, average pay scale and duration of jobs during construction of new facilities will assist in understanding the extent to which the project will offer employment benefit to the local community. Planned requirements to encourage the use of the local workforce, what training opportunities, and whether jobs will be union/non-union is of interest as well. The development of an approach for how the local community college can serve as a resource for a skill base of personnel for infrastructure work resulting if rail transport on the Mina Route is ultimately implemented would be something we request be investigated.

51. The EIS should identify construction materials and skills utilized for the Mina Route. DOE should analyze the potential for local economic benefits and participation in the project by local firms.

52. DOE needs to compare and contrast the ability to use local firms and equipment supplies to construct the Mina Route as compared to the Caliente Route.

53. Estimates of secondary employment (offering local services and goods during the 24 year period of possible use of the Mina Route is also of interest to the County.

54. Protecting property values, continuing to attract visitors, protection and enhancement of property tax revenues are critical issues in counties along the Mina Route. Addressing impacts and mitigations to this concern must be examined in the expanded scope.

55. The local community is sensitive to projected additional costs to the local community, such as additional costs to pay for more emergency response professionals who may be needed if the Mina Route is selected. The expanded scope should address what additional local expenses and staffing are foreseen and how these will be funded with funds other than local funds.

56. What operating parameters will be imposed on the railroad handling the transportation of radioactive waste? What limitations and requirements will be imposed regarding train operating speed, total timeframes for transport, dwell time in yards or on sidings, etc? What is the safety trade-off between using slower operating speeds (and having prolonged exposure times to radioactive materials) versus faster operating speeds (and shorter exposure times)? How will operating parameters imposed by the Department of Energy on the hauling railroad be monitored and enforced for compliance? What penalties will there be for non-compliance?

57. In the expanded evaluation of the Mina Route, we are interested in reviewing the cumulative numbers of existing intermodal trains, manifest trains, chemical trains and auto trains; and future projected regular manifest, intermodal, auto and chemical train trips separately from the additional train trips resulting from the transport of radioactive materials by rail. Similarly, we are interested in the truck (hazardous materials and non-hazardous materials, separately) and auto breakdowns in the investigation of traffic impacts. Loaded and empty trains should be itemized separately.

58. Nationwide, existing railroad main lines are operating at maximum capacity with many corridors being double and triple tracked by the Class 1 railroads. Please address the need for double tracking in portions of the Mina Route where there is existing track as a means to provide safe train passing and not impede existing and projected regular railroad freight transport.

59. Various at-grade crossings are present along the Mina Route, where railroad track and public or private roads cross. One existing crossing (the Highway 50 - railroad crossing) is currently slated for grade separation. The expanded scope should evaluate all other existing crossings for grade separation to assure safety. Vehicular and rail traffic should be reviewed not only in terms of total vehicles and total trains, but include counts of commercial hazardous vehicles and trains, bike safety and pedestrian safety.

60. For any existing at-grade crossings not warranting grade separation, what at-grade crossing protection (signalization, signage, crossing panel improvements, driving surface improvements, striping, line-of-sight improvements) will be required and provided to enhance safety of local citizenry?

61. The document needs to address a detailed assessment of the existing track and identify where modifications will need to be made for the track to meet FRA criteria for the required FRA track Class and running speed; and where each type of modification needs to be made.

62. Are new rail transport support facilities anticipated to be needed if the Mina Route is used? When comparing rail options, does the Mina route pose any need for new crew change facilities, fueling facilities, special security facilities or other facilities apart from just new track infrastructure? The facilities should be evaluated and alternative sites analyzed.

63. If about 170 train shipments per year are anticipated for 24 years, how will the timing and frequency relate to the daily, weekly and seasonal peak traffic volumes at crossings?

64. In the EIS previous study of alternative rail alignments, there is little detail about the specifics of the proposed track geometry, layout and profile of the alignments. A

statement was made that additional field surveys, environmental and engineering analysis was required to evaluate the specific alignment. For alternatives evaluated along the Mina Route, we will be interested in the results of these kinds of additional field surveys, environmental and engineering analyses that will dictate such parameters as feasibility, the maximum profile slopes, degrees of curvature and track geometry of the various options evaluated.

65. Some portions of the existing railroad right-of-way in the area serve dual purpose as pipeline rights-of-way for jet fuel to Fallon Naval Air Station, gas transmission and fiber optics, and similar underground infrastructure vital to users. The expanded EIS shall explore the compatibility of continued shared use or how shared use will be affected if the route is used for radioactive material transport. For example, what contingency plans would need to be put in place, to handle a fuel leak concurrent with rail traffic. What special provisions or easements may need to be maintained for public safety and serviceable infrastructure?

66. In past investigations of alternative routes, analysis of worst-case mishap scenarios were completed. We will be interested to see similar scenarios that will be analyzed as part of the expanded scope of this project, with consideration of conditions on alternative alignments on the Mina Route.

67. Various past studies have included radiation exposure calculations. We will be interested to see similar scenarios analyzed as part of the expanded scope, especially given proximity of existing and planned commercial/residential development on the Mina Route.

68. The expanded scope will need to address the process for funding required for all associated infrastructure modifications because the local community has no excess funds available to take on infrastructure improvements associated with transportation of hazardous materials.

69. A significant portion of the existing and projected future truck traffic in the area involves transport of fuel, flammable or otherwise hazardous materials. Due to concern over increase train traffic interfacing with hazardous truck traffic, identification of mitigations to eliminate the potential for accidents will be an important part of the study.

70. To prevent conflicts or schedule impacts to train transport of commercial or radioactive loads, what provisions for new sidings adjacent to the mainline are proposed. How would sidings be secured, guarded and what would be their locations and lengths? Describe any planned use for existing sidings, frequency of use and what modifications would be made to enhance existing unsecured sidings.

71. What criteria will be applied to plan for, design, construct and maintain special security hardware, facilities, surveillance and security staffing during and between shipments of radioactive materials?

72. What security-enhancing infrastructure and personnel will be proposed? How will the need for safe havens be identified and where will any safe havens be situated?

73. In case of incident, threat, spill, or derailment, what training, funding, expectations on local agency emergency response officials is anticipated. How would evacuations be implemented, how will training be handled and costs for lost time in the event of false

alarm –or an actual emergency event - be reimbursed. The costs for potential evacuations – whether resulting from actual mishap or concern of mishap – could be significant. What is the plan for cost reimbursement to the local community?

74. The EIS should compare and contrast the potential of conflicts with military over flights and training along the Caliente route and the Mina Route.

75. In the past several years, significant weather-caused damage (floods, landslides, etc) plagued western the railroads and train traffic nationwide was slowed and completely stopped in some cases. In the event of a track outage in the U.S. rail system (not on the Mina route); requiring that trains be re-routed to the Mina route, how much would the numbers of trains per day increase? In the event of track outage outside of Churchill County, what number of trains might be stranded in Churchill County?

76. The number of trains per day carrying one or more railcars of radioactive waste would be greatly impacted by the choice of whether dedicated trains are used or not. Please review all traffic impacts in terms of the numbers of trips with and without the use of dedicated trains. What will be the maximum and minimum numbers of railcars of radioactive materials per train and what will be maximum and minimum train lengths?

77. Hazen, Nevada seems to be located such that radioactive waste from California points of origin will mix with radioactive waste from east coast and Midwestern points of origin. The expanded scope should include consideration of infrastructure needs at this interchange point.

78. From a nationwide transportation perspective, the requirements for interchanging the freight from the east coast railroad to the west coast railroads is critical in terms on reducing dwell time and thus the time that people might be in proximity or exposed to the radioactive freight, whether inside or outside the bounds of Churchill County itself. What provisions will protect people from getting in proximity to these areas?

79. Explain the process for providing advance notice to the County regarding the schedule for rail shipments of radioactive waste. What will be the method and timing of this advance noticing?

80. There are multiple drainage and watercourses crossing and in proximity to the existing main line. Lahontan Reservoir is an important recreational and water resource in western Nevada. Consider what alignment changes are necessary near the Lahontan Reservoir and/or what watercourse or water facility modifications will be needed. What emergency spill response procedures will be implemented for accidental spill near watercourses?

81. Floodplain areas prevalent along the Mina Route. The alternatives study needs to address a track alignment that is relocated around or protected from flooding or how track will be raised above flood levels. Both new infrastructure and on-going maintenance issues to protect against flooding need to be addressed.

82. There is concern over taking of properties via eminent domain in order to control and secure buffer zones on both sides of the alternative rail alignments. The broadened scope should evaluate the financial impacts to local residents if eminent domain is used. Similarly, if new easements need to be created, their locations, widths and methods for procurement need to be explored and explained.

83. Planned additional railroad right-of-ways need to be identified in the expanded EIS scope. Identification of right-of-way to be acquired, ownership, and/or any relinquishment of existing rail right-of-way shall be reviewed in detail.

84. The expanded EIS shall demonstrate how alignments planned will avoid existing and planned residential and commercial facilities in Churchill County. Where alignments are within general proximity to existing and planned residential and commercial facilities, evaluation of mitigations shall be compared.